



Department of Energy

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JAN 31 2001

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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-0303-01

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, S. McCracken, DOE-FEMP to P. Pardi, Ohio EPA, "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). Table A-1 has also been revised to remove the Sludge Drying Beds (HWMU #41) from the list of Hazardous Waste Management Units (HWMUs). This unit was closed under the Integrated RCRA/CERCLA process in accordance with the Certification Report for Area I, Phase II (October 2000).

Mr. Paul Pardi

- 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)
- 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

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

cc: w/enclosure
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RCRA Operating Record/28

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PART A

SECTION XII

(STORAGE CAPACITY)

000003

EPA I.D. Number (enter from page 1)

Secondary ID Number (enter from page 1)

XII. Process - Codes and Design Capacities (continued)

EXAMPLE FOR COMPLETING ITEM XII (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

Line Number	A. PROCESS CODE (from list above)			B. PROCESS DESIGN CAPACITY		C. PROCESS TOTAL NUMBER OF UNITS	FOR OFFICIAL USE ONLY					
				1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)							
X 1	S	0	2	600	G	0	0	2				
X 2	T	0	3	20	E	0	0	1				
1	S	0	1	11,724,900	G	0	0	5				
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

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NOTE: If you need to list more than 12 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for additional treatment processes in Item XIII.

XIII. Additional Treatment Processes (follow instructions from Item XII)

Line Number (enter numbers in sequence with Item XII)	A. PROCESS CODE			B. TREATMENT PROCESS DESIGN CAPACITY		C. PROCESS TOTAL NUMBER OF UNITS	D. DESCRIPTION OF PROCESS
				1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)		
	T	0	4				
	T	0	4				
	T	0	4				
	T	0	4				

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PART A

TABLE A-1

**(FEMP HAZARDOUS WASTE
MANAGEMENT UNITS)**

000005

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
 FERNALD, OHIO
 EPA ID NO. OH6890008976
 SECTION A: TABLE A-1

TABLE A-1

UNIT NO.	FEMP HAZARDOUS WASTE MANAGEMENT UNITS	TYPE OF UNIT (1)	PROCESS CODE (2)	STATUS (3)	DIMENSIONS (4)
1A	Fire Training Facility*	D	D80	2	84'8" x 68'
1B	Fire Training Facility*	D	D80	2	105' x 134'
2	Parts-Cleaner-in-Welding-Shop-(Bldg.-12) (Removed in accordance with OEPA letter of November 1, 1993)	S	S01	3	33" x 71" x 5/9"
3	Waste-Oil-Storage-in-Garage (Closed in accordance with OEPA letter of June 6, 1996)	S	S01	2	10' x 10'
4	Drum Storage Area Near Loading Dock (Lab Bldg.)	S	S01	2	40' x 76'
5	Drum Storage Area South of W-26 (Lab Bldg.)	S	S01	2	31'8" x 41'
6	Drummed-HF-Residue/Associated-Storage-Areas-Inside-Plant-4 (Closed in accordance with OEPA letter of April 28, 1995)	S	S01	3	4' x 17'
7	Drummed-HF-Residue/Associated-Storage-Areas-NW-of-Plant-4 (Closed under "Generator Closure" protocol in accordance with OEPA letter of June 13, 1996)	S	S01	3	25' x 30'
8	Drummed-HF-Residue/Associated-Storage-Areas-South-of-Geeling-Towers (Closed under "Generator Closure" protocol in accordance with OEPA letter of April 13, 1995)	S	S01	3	14' x 40' x 15'
9	Nitric-Acid-Rail-Car-and-Area (Closed in accordance with OEPA letter of April 25, 1995)	S	S01	3	10' x 40' x 15'
10	NAR System Components	S	S02	2	13,262 sq. ft.
11	Tank Farm Sump	T	T02	2	165' x 135'
12	Wheelabrator-(Bldg.-66) (Removed in accordance with OEPA letter of March 27, 1995)	S	S01	3	24' x 20'
13	Wheelabrator-Dust-Collector-(Bldg.-66) (Closed in accordance with OEPA letter of April 5, 1996)	S	S01	3	30' x 17'
14	Box Furnace	T	T03	2	14' x 18'
15	Oxidation Furnace #1	T	T03	2	85 sq. ft.
16	Primary-Gatehner (Removed in accordance with OEPA letter of July 11, 1995)	F	F03	2	13.5 ft. diam. x 40' high
17	Plant 8 East Drum Storage Pad	S	S01	2	18,330 sq. ft.
18	Plant 8 West Drum Storage Pad	S	S01	2	4,575 sq. ft.
19	CP Storage Warehouse - Bldg. 56 (Butler Bldg.)	S	S01	1	50' x 180'
20	Plant 1 Pad	S	S01	1	480,000 sq. ft.
21	Hitee-Oil-Recovery (Removed in accordance with OEPA letter of June 17, 1996)	S	S01	3	272 sq. ft.
22	Abandoned Sump West of Pilot Plant	S	S02	2	2' diam. x 14' deep

1) T = Treatment S = Storage D = Disposal
 2) Process Codes provided in Item XII of Hazardous Waste Permit Application Part A
 3) 1 = Active HWMU, Closure to be conducted under CERCLA/RCRA Integrated Process
 2 = Inactive HWMU, Closure to be conducted under CERCLA/RCRA Integrated Process
 3 = Inactive HWMU to be closed under RCRA
 4) Dimensions: width x length x height - unless otherwise indicated
 5) Waste Pit No. 4 is irregularly shaped, dimensions provided are for each side
 Unit 1 remains one unit, but is split into 2 areas (A & B) because a road divides the unit

TABLE A-1

UNIT NO.	FEMP HAZARDOUS WASTE MANAGEMENT UNITS	TYPE OF UNIT (1)	PROCESS CODE (2)	STATUS (3)	DIMENSIONS (4)
23	Well-Drilling Storage Area (Removed in accordance with OEPA letter of November 1, 1993)	S	S04		29' x 56'
24	Equipment Storage Area (Removed in accordance with OEPA letter of June 2, 1992)	S	S04		45' x 145'
25	Plant 1 Storage Bldg. (Bldg. 67) (Closed under Integrated RCRA/CERCLA process in accordance with Final Plant 1 Complex - Phase 1 Project Completion Report submitted December 31, 1997)	S	S04	2	165' x 190'
26	Detrex Still (Closed in accordance with OEPA letter of November 27, 1995)	S	S02	3	32" x 76" x 7'-6"
27	Waste Pit No. 4	D	D80	2	170' x 320' 400' x 320'
28	Trane Thermal Liquid Incinerator (Closed under Integrated RCRA/CERCLA process in accordance with Project Completion Report for the Decontamination of HWMU No. 50 - UNH Tanks, Hot Raffinate Building and HWMU No. 28 - Trane Incinerator, May 26, 1999 and Miscellaneous Small Structures Decontamination and Dismantlement Project, Task Order #432 Completion Report, October 28, 1999)	T	T03	2	50' x 52'
29	Plant 8 Warehouse (Bldg. 80)	S	S01	1	60' x 170'
30	Barium Chloride Salt Treatment Facility (Closed)	T	T04	3	50' x 75'
31	Tank for Bulk Storage of Solvents, T-5 (Closed in accordance with OEPA letter of November 29, 1996)	S	S02	3	10'-diameter
32	Tank for Bulk Storage of Solvents, T-6 (Closed in accordance with OEPA letter of November 29, 1996)	S	S02	3	10'-diameter
33	Pilot Plant Warehouse (Bldg. 68)	S	S01	1	69' x 7'-25' x 35'
34	KG-2 Warehouse (Bldg. 63) (Closed under Integrated RCRA/CERCLA process in accordance with Miscellaneous Small Structures Decontamination and Dismantlement Project, Task Order #432 Completion Report, October 28, 1999)	S	S04	4	346'-2-3/8" x 82'
35	Plant 9 Warehouse (Bldg. 81) (Closed in accordance with OEPA letter of June 8, 1998)	S	S04	4	80' x 100'
36	Storage Pad North of Plant 6	S	S01	2	8' x 40'
37	Plant 6 Warehouse (Bldg. 79)	S	S01	1	100' x 170'
38	HF Tank Car (Closed in accordance with OEPA letter of November 27, 1995)	S	S04	2	10' x 36' x 15'
39	Gleawell (Removed in accordance with OEPA letter of June 7, 1993)	T	T02		30,600 sq. ft.
40	Bio-Surge Lagoon (Removed in accordance with OEPA letter of February 14, 1995)	T	T02		160,000 sq. ft.

1) T = Treatment S = Storage D = Disposal
 2) Process Codes provided in Item XII of Hazardous Waste Permit Application Part A
 3) 1 = Active HWMU, Closure to be conducted under CERCLA/RCRA Integrated Process
 2 = Inactive HWMU, Closure to be conducted under CERCLA/RCRA Integrated Process
 3 = Inactive HWMU to be closed under RCRA
 4) Dimension 1) x length x height - unless otherwise indicated
 5) Waste Pit - irregularly shaped; dimensions provided are for each side
 Unit 1 removed from unit, but is split into 2 areas (A & B) because a road divides the unit

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TABLE A-1

UNIT NO.	FEMP HAZARDOUS WASTE MANAGEMENT UNITS	TYPE OF UNIT (1)	PROCESS CODE (2)	STATUS (3)	DIMENSIONS (4)
41	Sludge-Drying-Beds- (Closed under Integrated RCRA/CERCLA process in accordance with the Certification Report for Area 1, Phase II, October 4, 2000)	T	T02	2	79' x 92'
42	Waste Pit No. 5	T	T02	2	184,000 sq. ft.
43	Lime-Sludge-Ponds (Removed in accordance with OEPA letter of June 7, 1993)	S	S04		40,000 sq. ft.
44	Geot-Pile-Runoff-Basin (Removed in accordance with OEPA letter of June 7, 1993)	S	S04		5,778 sq. ft.
45	UST-No.-5 (Removed in accordance with OEPA letter of November 1, 1993)	S	S02		2'-6" diameter
46	Uranyl Nitrate Tanks (NFS Storage Area)	S	S02	2	61'7" x 53'9"
47	Uranyl Nitrate Tanks (North of Plant 2)	S	S02	2	63'6" x 40'6"
48	Uranyl Nitrate Tanks (Southeast of Plant 2)	S	S02	2	54'7" x 45'4"
49	Uranyl Nitrate Tanks (Digestion Area [2 locations])	S	S02	2	127' x 20' (each loc.)
50	Uranyl Nitrate Tanks (Raffinate-Building [2 locations]) (Closed under Integrated RCRA/CERCLA process in accordance with Project Completion Report for the Decontamination of HWMU No. 50 - UNH Tanks, Hot Raffinate Building and HWMU No. 28 - Trane Incinerator, May 26, 1999)	S	S02	2	14' x 50' ; 15' x 30'
51	Experimental Treatment Facility (ETF) (Removal in accordance with OEPA letter of December 6, 1995)	T	T04		20' x 48'
52	North-end-South-Solvent-Tanks (Pilot-Plant) (Closed in accordance with OEPA letter of June 24, 1996)	S	S02	3	6'-6" diam. each
53	Safe-Geometry-Digestion-Sump (Plant-1) (Closed in accordance with meeting with OEPA on March 2, 1995)	S	S02	3	8" diam. x 12" deep
54	Tank-for-Bulk-Storage-of-Thorium-Nitrate-Solution, T-2 (Closed in accordance with OEPA letter of November 23, 1998)	S	S02	3	10' diam.

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1) T = Treatment S = Storage D = Disposal
 2) Process Codes provided in Item XII of Hazardous Waste Permit Application Part A
 3) 1 = Active HWMU, Closure to be conducted under CERCLA/RCRA Integrated Process
 2 = Inactive HWMU, Closure to be conducted under CERCLA/RCRA Integrated Process
 3 = Inactive HWMU to be closed under RCRA
 4) Dimensions: width x length x height - unless otherwise indicated
 5) Waste Pit No. 4 is irregularly shaped; dimensions provided are for each side
 Unit 1 remains one unit, but is split into 2 areas (A & B) because a road divides the unit

TABLE B-1
(CONTAINER STORAGE AREAS
TO BE
PERMITTED AT THE FEMP)

SECTION B - FACILITY DESCRIPTION

TABLE B-1

CONTAINER STORAGE AREAS TO BE PERMITTED AT THE FEMP

HAZARDOUS WASTE MANAGEMENT UNIT	LOCATION OF HWMU	MAXIMUM UNIT CAPACITY
CP Storage Warehouse (Building 56, Butler Building)	Northwest corner of production area on 3rd Street	116,160 gallons
Pilot Plant Warehouse (Building 68)	Southwest corner of production area	13,200 gallons 16,500 gallons
Plant 1 Pad	Northwest section of production area, north of 2nd Street and west of E Street	11,222,200 gallons
Plant 6 Warehouse (Building 79)	Western section of production area, north of 1st Street and east of E Street	230,780 gallons
Plant 8 Warehouse (Building 80)	Western section of production area, north of 1st Street and west of B Street	139,260 gallons

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SECTION D
(PROCESS INFORMATION)

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SECTION D - PROCESS INFORMATION

**RCRA Part B Permit Application
Fernald Environmental Management Project
Fernald, Ohio**

The information provided in this section is submitted in accordance with the requirements of the Ohio Administrative Code (OAC) 3745-55-70 through 78. This information is also in accordance with Title 40 of the Code of Federal Regulations (CFR) Part 270.15-21. Other federal hazardous waste regulations addressed in this section include 40 CFR Part 264.171-175.

D-1 CONTAINERS

This section discusses the specific process information for hazardous waste container storage at the Fernald Environmental Management Project (FEMP). The units to be permitted for container storage of hazardous waste for more than ninety (90) days are:

- CP Storage Warehouse - Building 56 (Butler Building)**
- Plant 1 Pad
- Plant 8 Warehouse - Building 80**
- Pilot Plant Warehouse - Building 68**
- Plant 6 Warehouse - Building 79

** CP Storage Warehouse and the Plant 8 Warehouse and the Pilot Plant Warehouse are not currently being used for the storage of containers of hazardous wastes. ~~Samples are being staged in the Pilot Plant Warehouse under the sample exclusion in OAC 3745-51-04(D).~~

Figure D-1 shows the location of each of the above storage units at the facility. The container storage information is discussed in the following paragraphs and in Table D-1.

The Materials Control and Accountability (MC&A) Department maintains surveillance over the storage, movement, measurement, and identification of nuclear materials at the FEMP. Its mission is to control and account for nuclear materials and radioactive and mixed wastes in accordance with DOE Orders

and regulatory requirements, including the Resource Conservation and Recovery Act (RCRA) and Toxic Substances Control Act (TSCA).

Materials accountability records begin with the proper identification of the material. The materials databases are organized by lot and item number to record information about the material and its location. The FEMP lot marking system is used to assign a unique code to each item of material. Materials are grouped by material type and by enrichment class in lots consisting of one or more items. Each item within a lot is then assigned a unique item number.

The materials inventory system, which is part of the Sitewide Waste Information Forecasting and Tracking System (SWIFTS) maintains a perpetual inventory of all materials on site. Input to the MC&A system from the materials inventory system consists of the following material transactions: beginning inventory, additions, removals, adjustments, and transfer data. Source records that are generated by operations personnel are entered by Inventory Control personnel into databases.

An accurate inventory of all material in storage at the FEMP is an important part of the material control and accountability program. The beginning inventory for a reporting period is established by bringing forward the ending physical or book inventory balances from the previous report. Materials transactions of the period are used to calculate the book inventory. A book inventory can be obtained after all transactions for the day are entered.

Generators are responsible for marking and labeling their hazardous waste containers based on guidance from the Waste Characterization Department (See Section C, Waste Characterization, for additional information). Initially this includes completing the hazardous waste label and assigning a reactivity group code (RGC). The only exception to this requirement is containers of samples being staged in the Pilot Plant Warehouse (Building 68) prior to segregation under the Sample Disposition Project. RGC Codes will be applied to containers of hazardous waste samples after they have been segregated and/or consolidated under this project. All other hazardous waste data such as RCRA classification is coordinated with the Waste Characterization Group. When Waste Characterization completes a RCRA characterization of a material, the new information is keyed into the database and reports are generated to trigger relabeling or movement of containers as necessary.

Inspections of individual containers in the storage areas vary depending on the RCRA disposition of the material and the placement unit(s). Inspection forms for RCRA hazardous wastes are kept on file in the FEMP's RCRA Operating Record.

D-1a Containers With Free Liquids

D-1a(1) Description of Containers

The primary containers used at the facility include but are not limited to 55-gallon and 85-gallon drums. When overpacking of 55-gallon drums is required, 85-gallon drums are typically used. Other containers that may be used at the facility and their Department of Transportation (DOT) specification are shown in Table D-2.

Hazardous waste storage containers purchased for use at the FEMP (with the exception of steel and polyethylene portable tanks which are used solely for on-site storage) meet the DOT performance standards. These are performance-oriented standards for container usage, thus the type of container purchased will depend on the type of waste to be stored. The FEMP uses mostly mild steel drums and those containers must conform to the standards for steel drums under DOT requirements. Each of the other types of containers purchased for use at the facility will also meet DOT requirements. The FEMP has some containers that pre-date the DOT performance standards. These pre-DOT containers are inspected on the same schedule as all other containers meeting the DOT requirements to ensure their integrity. Hazardous waste is stored in portable tanks in accordance with the manufacturing specifications provided for these containers.

All containers storing hazardous waste are inspected for corrosion and other defects such as severe rusting, apparent structural defects, leaks, holes, dents, or bulges at the time they are first used. Dents that exceed one-inch in depth or 6-inches in length in any two directions render the container non-acceptable. Bulges that exceed outward from the original surface more than one-inch shall not be acceptable. Drums shall be convex-ended in order to be acceptable. The drum lid is inspected for holes, dents, and bulges. If damage exceeding the specifications is found, the container is marked unacceptable and the supervisor is notified of damaged containers. All containers are inspected a minimum of once per week as required by 40 CFR 264.174 after they are filled and placed in the

storage unit. The inspection schedule and procedures are described in Section F, Procedures to Prevent Hazards.

A hazardous waste label or the words "hazardous waste" is applied to the container at the accumulation start date. The hazardous waste label includes the facility name and address, the EPA Identification Number, EPA hazardous waste code, the accumulation start date, and/or hazardous waste determination date. Although not required by RCRA, the facility lot number, inventory number, drum number, and the gross, net and tare weights are also attached to the drum for internal tracking and inventory purposes. Also, a storage compatibility/Reactivity Group Code (RGC) is determined and applied to each container. ~~The only exception to this requirement is containers of samples being staged in the Pilot Plant Warehouse (Building 68) prior to segregation under the Sample Disposition Project. RGC Codes will be applied to containers of hazardous waste samples after they have been segregated and/or consolidated under this project.~~

D-1a(2) Container Management Practices

Various equipment is used to transport containers throughout the facility. The equipment consists of tuggers, trailers, forklifts, individual two-wheel drum dollies, riding hand-stackers, and fork-mounted drum grabs (vertical and horizontal). The fork-mounted drum grabs are used frequently to move individual drums for testing, sampling activities, and to repair leaking containers. The riding hand-stacker is used for small movements within the individual unit. All larger drum movements (i.e. from one unit to another or across the site) are accomplished by forklifts and the tuggers and trailers.

A container is inspected for dents, leaks, holes, corrosion or rust, bulges, and signs of leakage, and that they are closed and properly labeled while in storage. Prior to transport, the containers and the staging areas are inspected. Items checked include container condition, signs of leakage, and that there is accessible spill clean-up equipment. Also, records for inventory control are documented and verified before movement. FEMP procedures detail the steps taken prior to the transfer of containers. Containers moved by truck or trailer are loaded and unloaded by forklift. The containers are strapped down and transported to the storage unit, once safe conditions for movement are verified. The Team Leader is responsible for providing oversight and guidance and ensuring that the motor vehicle operators (MVOs) are trained to operate equipment used to transport hazardous waste. These training

records are maintained in the training department. The Team Leader must be notified by the MVO before movement of any containers occurs.

Containers are elevated (e.g. placed on pallets) during storage to provide protection from possible spillage. The containers are stored with markings and labels visible and legible from the aisle. A minimum aisle spacing of 24 inches will be maintained at the uncovered portions of Plant 1 Pad and a minimum of 22 inches for the covered storage units.

The number of containers and hazardous waste volume for each storage unit will vary depending on the size of container used and the applicable aisle spacing and stacking height necessary to meet additional fire protection standards required on-site. The number of containers in each RCRA storage unit must not exceed the maximum storage capacity for that unit. See Table D-1 for specific information regarding maximum stacking height and maximum capacities for each storage unit.

Containers delivered to the hazardous waste storage units are inspected according to FEMP procedures to document that the containers are acceptable for storage. An example FEMP Hazardous Waste Container Prestorage Checklist is included as Figure D-3. Once the container is verified as acceptable, the container is logged into the MC&A Material Movement Record (MMR). The minimum information recorded in this log includes the container inventory number, serial number, original location, new location, and date of movement. Figure D-4 provides a sample of this log.

Hazardous waste types are grouped together and stored according to compatibility in accordance with Reactivity Group Codes and other appropriate information. Incompatible hazardous wastes are not simultaneously stored in the same containment area. Section F, Procedures to Prevent Hazards, provides more information on the procedures used to ensure that incompatible hazardous wastes are not stored in the same containment area.

The only exception to this requirement is containers of samples being staged in the Pilot Plant Warehouse (Building 68) prior to segregation under the Sample Disposition Project. RGC Codes will be applied to containers of hazardous waste samples after they have been segregated and/or consolidated under this project. These are primarily environmental media samples and samples from

various mixed waste treatment projects. The Pilot Plant Warehouse is being used to temporarily store these containers since many of the samples are stored in glass jars and require storage in a heated building. The samples have been overpacked into larger containers filled with packing material and/or absorbent

Individual drums removed or shipped from the storage unit are documented on the MMR. Containers remain closed except when a sample must be obtained, for visual inspections as a part of the waste characterization, or during addition or removal of hazardous waste. Some containers are equipped with filtered vent plugs to prevent the build-up of pressure within the container. These vent plugs are installed to provide ventilation to containers of wastes containing free reactive uranium metal that has the potential to generate hydrogen gas. The filter vent plug contains a charcoal filter. The filter vent plug is inserted into the bung opening of the drum lid. The plugs are installed also on outer containers if the vented containers are overpacked.

D-1a(3) Secondary Containment System Design and Operation

The following RCRA storage units are designed to store hazardous waste with free liquids and provide a secondary containment system for the storage of liquids. Attachment D-1 provides information regarding floor coatings for the units. The secondary containment systems are operated according to 40 CFR 264.175 regulations and are designed to contain, at a minimum, 10 percent of the maximum storage capacity volume.

Plant 1 Pad. The Plant 1 Pad has been renovated in accordance with the Removal Action 7 Work Plan approved by the Ohio EPA on April 3, 1991, and by the U.S. EPA on August 19, 1991. The existing pad and catch basins have been upgraded in the following manner:

- Following removal of dust, loose material and other debris, the existing pad was coated with a polyethylene surface sealant/barrier prior to installing a new layer of concrete;
- A six inch concrete curb was installed as shown in Figure D-6 to provide containment as well as run on and run-off control;
- New wearing surfaces were covered with 86 mils of chemically resistant polyurethane or silicon coating; and,

- The trenches and sumps in the controlled areas were coated with an epoxy sealant.
- The containment sump and adjoining trenches in TS-6 were coated with an elastomeric lining in June 2000.

As-built drawings for the Plant 1 Pad renovation are provided as Figures D-7 through D-15. A photograph of the Plant 1 Pad is provided as Figure D-16.

Three (3) structures (TS-4, TS-5 and TS-6) are used to provide covered storage on the Plant 1 Pad. Diked areas within the three (3) structures provide concrete curb secondary containment for storage of liquids. The location of the three (3) structures is shown in Figure D-6. The three structures are labeled Structure 1, Structure 2, and Structure 3 in the Figures D-7 through D-15. Structures 1, 2 and 3 are represented in the Section D text and in the secondary containment calculations as Tension Structure 4 (TS-4), Tension Structure 5 (TS-5) and Tension Structure 6 (TS-6), respectively. The two (2) larger structures (TS-4 and TS-5) provide 70,000 square feet of storage area. Figures D-17 and D-18 provide a drum layout of the storage capacity and secondary containment dimensions of the TS-4 and TS-5 units. The third structure (TS-6) provides 22,500 square feet of storage. Figure D-7 shows the engineering details for the covered structures. The containment for each structure includes a centrally located trench drain leading to a dead end sump. These drains and sumps have no connection to site drainage systems and are intended to locally collect accumulated liquid from a leak or spill. The trench drains and sumps are sealed with a chemically resistant epoxy coating. The new concrete bases for the structures have been sealed with an 86 mil chemically resistant polyurethane wearing surface.

Currently, nine hazardous waste storage lockers are located on the Plant 1 Pad south of the tension support structures. Each locker measures 28' in length by 13' in width x 8' in height. The lockers are constructed of galvanized steel with a steel grate flooring. The flooring is elevated to prevent containers from contacting spilled materials in the secondary containment area. The secondary containment is constructed of structural steel and is sealed with a chemically-resistant epoxy coating. Each locker has at least one forklift access door on each end and two on each side. Metal ramps placed at the entrances provide access to the interior. A map indicating the location of the storage lockers is provided as Figure D-57. Engineered design drawings of the storage lockers, including the secondary containment dimensions, are provided as Figure D-58.

Plant 6 Warehouse (Building 79). The Plant 6 Warehouse consists of a steel framed, enclosed, metal building with an 8-inch thick, reinforced concrete slab and is equipped with a secondary containment system. This containment system includes six-inch by six-inch concrete dikes around the perimeter of the three containment units (Bays A, B, and C) as shown in the Foundation Plans and Details as provided in Figure D-41. Ramps are used to allow access to the containment areas. The building is fully sprinkled using a dry pipe sprinkler system and meets the standards for storage of ignitable liquids. The drum layout drawing for the Plant 6 Warehouse is included in Figure D-42. Figure D-43 includes the dimensions of the containment areas for the Plant 6 Warehouse.

CP Storage Warehouse (Building 56). The Warehouse is a pre-engineered building with ribbed metal siding and metal roofing. The upgrade project for the storage of wastes with free liquids in this storage unit was completed in January 1993. The upgrade project included the installation of six-inch by six-inch concrete dikes around the perimeter of the unit. A ramp allows access to the containment area. The secondary containment dimensions are detailed in Figure D-44. A drum layout is provided in Figure D-45. A photograph of the CP Storage Warehouse is provided in Figure D-46.

Pilot Plant Warehouse (Building 68). The Pilot Plant Warehouse is a pre-engineered metal fabricated building which is completely enclosed and covered by metal roofing. A photograph of the Pilot Plant Warehouse is provided in Figure D-47. The base of the warehouse is constructed of eight inch thick concrete with wire mesh fabric reinforcement as indicated in Figure D-48.

~~The RCRA storage area is 69 feet X 7 feet located in the center of the building. The storage area consists of a U shaped concrete dike with the end of the U shaped dike enclosed by a smaller U shaped temporary Herculite containment structure to form an impermeable barrier to contain spills of hazardous waste with and without free liquids. A layout drawing of the Pilot Plant Warehouse is provided as Figure D 49. The secondary containment dimensions are included in Figure D 50.~~

The hazardous waste storage area measures 25 feet by 35 feet and is located in the southwest corner of the building. The containment system consists of Herculite sheeting which extends up and over a dike constructed of four inch PVC piping. All seams in the dike have been sealed using an adhesive to provide an impermeable barrier to contain spills of hazardous waste. A layout drawing of the Pilot Plant Warehouse which includes the secondary containment dimensions is provided as Figure D-49.

Plant 8 Warehouse (Building 80). The Plant 8 Warehouse is a steel-framed, enclosed, metal building. The base of the unit is constructed of eight inch thick concrete with number 4 reinforcement rods at twelve inch intervals as shown in Figure D-53. The secondary containment dike is constructed of a four inch by six inch steel angle iron frame dike. Steel ramps have been constructed to allow access to the containment area. The building is fully sprinklered using a dry pipe sprinkler system and meets the standards for storage of ignitable liquids. Figure D-55 provides the secondary containment dimensions. A drum layout is provided as Figure D-56. A photograph of the Plant 8 Warehouse is provided as Figure D-52.

D-1a(3)(a) Requirement for the Base to Contain Liquids

The concrete floors of the following storage units are inspected for cracks and gaps weekly. The inspector checks the building/pad for any structural failure of the pad surface and curbing. The surrounding area is checked for signs of a release such as pooled liquids. The condition of the secondary containment is checked to ensure that all portions of the system are sealed, and free of any cracks or gaps. All drainage features including sumps, drains, and troughs are inspected to ensure there are no standing liquids. Standing liquids from a release of hazardous waste must be removed within one working day from discovery and the area re-inspected to ensure compliance. Any cracks or gaps identified will be noted on the inspection checklist. A Maintenance Work Order is written for the repair of the crack or gap. The inspector will re-inspect the area and note the conditions until the gap or crack is repaired.

Plant 1 Pad. Under the approved Removal Action 7 Work Plan as explained in D-1a(3) above, the base, catch basins, and sumps in the covered structures of the Plant 1 Pad were covered with a chemically resistant coating. The coating applied to the base of each of the structures is a polyurethane called Auto-gard II. Attachment D-1 provides information on the coating. The coating is compatible with,

and impervious to, the hazardous wastes stored at the Plant 1 Pad. In June 2000, the containment sump and adjoining trenches in TS-6 were coated with Fluorolast coatings. A twelve (12) inch concrete curb has been constructed around the perimeter of each secondary containment area for TS-4 and TS-5 and the TS-6 secondary containment area. TS-4 and TS-5 have two secondary containment areas designated as North and South within each structure. TS-6 has one secondary containment area within the structure.

The secondary containment area in each of the hazardous waste storage lockers is coated with a chemically resistant epoxy sealant, Amershield, to provide an impermeable surface. Attachment D-1 provides information regarding the coating system, including chemical resistance data.

Plant 6 Warehouse (Building 79). The floor and curbs are coated with a chemically resistant coating to create an impermeable surface. The base of the Plant 6 Warehouse was re-coated with Surtreat during December 1992. Attachment D-1 provides information regarding the coating system, including chemical resistance data.

CP Storage Warehouse (Building 56). The base of the unit is constructed of six inch-thick concrete with 6-6-6/6 wire fabric reinforcement as shown in Figure D-51. The base and the curbs of the CP Storage Warehouse were coated with Vulkem between October 1992 and January 1993. The vendor's specifications for Vulkem are provided in Attachment D-1.

~~**Pilot Plant Warehouse (Building 68).** The containers are stored within a U-shaped concrete containment area which is enclosed at the open end of the U-shaped concrete dike with a smaller U-shaped temporary Herculite containment structure. The temporary Herculite system consists of Herculite sheeting laid on the floor. A frame is constructed of four inch PVC piping with slip fitted joints. The Herculite sheeting is rolled over the pipe frame to form the containment dike. The seams are heat sealed.~~

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Pilot Plant Warehouse (Building 68). The diking for the hazardous waste storage area is constructed of four-inch PVC piping with slip-fitted joints. The Herculite sheeting is rolled over the pipe frame to form the containment dike. All seams have been sealed using an adhesive to create an impermeable surface.

Plant 8 Warehouse (Building 80). The floor and curbs are coated with a chemically resistant coating to create an impermeable surface. The base of the Plant 8 Warehouse was re-coated with Surtreat in December 1996. Attachment D-1 provides information regarding the coating system, including chemical resistance data.

D-1a(3)(b) Containment System Drainage

Plant 1 Pad. Precipitation will, for the most part, not affect hazardous waste containers in the tension support structures and the hazardous waste storage lockers because they are enclosed structures. The floors in the tension support structures are sloped toward dedicated sumps which are isolated from the site stormwater and wastewater systems and are intended to collect any released hazardous waste and rinseate in the event of a leak or spill. The floor of the storage lockers is grated and is elevated to prevent containers from contacting spilled materials in the secondary containment area. The floor grating is removable to allow access to the secondary containment area for clean up in the event of a spill. Containers stored at the Plant 1 Pad are also elevated (e.g. placed on pallets) during storage to eliminate the potential of spilled liquids coming into contact with the containers.

Plant 6 Warehouse (Building 79). Containers stored in the Plant 6 Warehouse are elevated on pallets during storage to eliminate the potential of spilled liquids coming into contact with the containers. The accumulated liquid is contained within the secondary containment system until the material is removed as described in Section D-1(a)(3)(e). Precipitation is not a factor since the storage unit is completely enclosed.

CP Storage Warehouse (Building 56). The CP Storage Warehouse is a completely enclosed structure, thus precipitation is not a factor. Containers are elevated on pallets during storage. Any accumulated liquids would be contained in the secondary containment system until removed as described in Section D-1a(3)(e).

Pilot Plant Warehouse (Building 68). The Pilot Plant Warehouse is a pre-engineered metal fabricated building which is completely enclosed and covered by metal roofing, thus precipitation is not a factor. Any liquids would accumulate in the temporary secondary containment system until the material is removed as described in D-1a(3)(e).

Plant 8 Warehouse (Building 80). Containers stored in the Plant 8 Warehouse are placed on pallets during storage to eliminate the potential of spilled liquids coming into contact with the containers. The accumulated liquid is contained within the secondary containment system until the material is removed as described in Section D-1a(3)(e). Precipitation is not a factor since the storage unit is completely enclosed.

D-1a(3)(c) Containment System Capacity

Containers stored in the following warehouses are elevated (e.g. placed on pallets) to prevent them from sitting in accumulated liquids in the event of a leak or spill. All pallets used are at least 6 inches high and provide sufficient height to protect the container if the secondary capacity is reached. Secondary containment calculations for each of the areas storing containers of hazardous waste with free liquids are provided in Attachment D-2.

Plant 1 Pad. The as-built drawings for the Plant 1 Pad renovation are provided as Figures D-7 through D-15. The location of the three covered storage areas is shown in Figure D-6. The construction drawing for the Plant 1 Pad covered structures is provided as Figure D-7. TS-4 and TS-5 are divided into containment areas shown in Figures D-17 and D-18. Each containment area is 220 feet X 80 feet with a twelve (12) inch concrete dike constructed around the perimeter. The maximum storage capacity for TS-4 is 653,840 gallons (11,888 55-gallon drum equivalents) and 657,360 gallons (12,052 55-gallon drum equivalents) for TS-5. The secondary containment system is capable of holding at least 10 percent of the maximum hazardous waste storage volume for the area. The capacity of the secondary containment areas in TS-4 is 8,815 ft³ for the North bay and 8,304 ft³ for the South bay. The secondary containment capacity for the North Bay in TS-5 is 8,507 ft³ and 8,723 ft³ for the South Bay. The containment calculations are provided in Attachment D-2.

TS-6 is constructed similar to TS-4 and TS-5, but with a single containment area. The containment area is 22,500 ft² with a twelve (12) inch concrete dike constructed around the perimeter. Its maximum storage capacity is 330,000 gallons (6,000 55-gallon drum equivalents). The containment system capacity is capable of holding at least 10 percent (or 4,411 ft³ of liquid volume) of the maximum hazardous waste storage volume of the area. The capacity of the secondary containment area in TS-6 is about 11,250 ft³.

The maximum storage capacity for each of the hazardous waste storage lockers is 2,640 gallons (48 55-gallon drums). The secondary containment capacity is 1,291 gallons which is greater than 10% of the maximum storage capacity for the unit.

Plant 6 Warehouse (Building 79). Hazardous waste containers stored in the Plant 6 Warehouse storage bays are elevated (e.g. placed on pallets) during storage. The storage and containment capacities for each bay of the Plant 6 Warehouse storage unit are discussed separately below. The secondary containment capacity calculations are provided in Attachment D-2.

- **Bay A** - The maximum storage capacity for Bay A is 82,060 gallons (1,492 55-gallon drum equivalents). A minimum containment capacity must equal or exceed 10 percent of the maximum storage volume or 1,097 ft³. The secondary containment capacity is 1,928 ft³.
- **Bay B** - The maximum storage capacity for Bay B is 79,640 gallons (1,448 55-gallon drum equivalents). A minimum containment capacity must equal or exceed 10 percent of the maximum storage volume or 1,064 ft³. The secondary containment capacity is 2,061 ft³.
- **Bay C** - The maximum storage capacity for Bay C is 69,080 gallons (1,256 55-gallon drum equivalents). A minimum containment capacity must equal or exceed 10 percent of the maximum storage volume or 923 ft³. The secondary containment capacity is 1,940 ft³.

CP Storage Warehouse (Building 56). Containers of hazardous waste stored in the CP Storage Warehouse are elevated (placed on pallets) during storage. The maximum storage capacity is 116,160 gallons (2,112 55-gallon drum equivalents). The minimum containment capacity must equal or exceed 10 percent of the maximum storage volume or 1,552 ft³. The secondary containment capacity is 3,499 ft³.

Pilot Plant Warehouse (Building 68). Containers of hazardous waste stored in the Pilot Plant Warehouse are elevated (e.g. placed on pallets) during storage. ~~The drummed containers are placed on pallets and the white metal boxes are stored on cross sections of 4 inch by 4 inch wood beams. The maximum storage capacity of the warehouse storage area is 13,200 gallons (240 55-gallon drum equivalents). The minimum containment capacity must equal or exceed 10 percent of the maximum storage volume or 176.47 ft³. The secondary containment capacity is 197.34 ft³. The maximum storage capacity of the warehouse storage area is 16,500 gallons (300 55-gallon drum equivalents). The minimum containment capacity must equal or exceed 10 percent of the maximum storage volume or 215 ft³. The secondary containment capacity is 260 ft³.~~

Plant 8 Warehouse (Building 80). Containers of hazardous waste stored in the Plant 8 Warehouse are elevated (e.g. placed on pallets) during storage. The maximum storage capacity is 139,260 gallons (2,532 55-gallon drum equivalents). The minimum containment capacity must equal or exceed 10 percent of the maximum storage volume or 1,862 ft³. The secondary containment capacity is 3,808 ft³.

D-1a(3)(d) Control of Run-On

Plant 1 Pad. The covered structures (tension support structures and hazardous waste storage lockers) provide run-on control for the storage of containers with free liquids. The tension support structures are constructed upon a 12 inch concrete dike to prevent run-on from entering the storage areas. Precipitation is prevented from entering the tension support structures and the hazardous waste storage lockers since these areas are completely covered and enclosed on all sides.

Plant 6 Warehouse (Building 79). Precipitation is prevented from entering the storage unit since this area is completely covered and enclosed on all sides. To further prevent run-on, the topography around the warehouse is sloped away from the building.

CP Storage Warehouse (Building 56). The storage unit is a pre-engineered, ribbed building covered by metal roofing as shown in Figure D-46. The topography around the building is sloped away from the building to prevent run-on and a ramp is used to access the building.

Pilot Plant Warehouse (Building 68). The storage area is confined to the middle southwest corner of an entirely covered and enclosed structure. The drummed containers are stored on pallets and the white metal box containers are stored on wooden beams. The topography around the building is sloped away from the building to prevent run-on.

Plant 8 Warehouse (Building 80). Precipitation is prevented from entering the Plant 8 Warehouse since this area is completely covered and enclosed on all sides. The area around the warehouse is sloped away from the building to further prevent run-on.

D-1a(3)(e) Removal of Liquids from Containment System

Spills and leaks are contained within the diked containment area. Spills and leaks are remediated as follows:

Steps will be taken to mitigate the release as soon as practicable. Absorbent "pigs", or equivalent, are used to contain and/or absorb the spilled material within the immediate area. The characteristics of the spilled material are established from the container identification if possible. The spill may then be cleaned up by absorption. If an acid or a base, a neutralizing agent is used as necessary to reduce or eliminate the hazardous properties of the spill before absorption. Saturated sorbent material is placed in a compatible container for proper disposal. A pumping system may be used to remove larger spills. Spilled material will be pumped out of the secondary containment system within one working day from discovery of the incident.

If spilled material is not identifiable, samples are analyzed for hazardous characteristics in accordance with the FEMP Waste Analysis Plan and the Waste Determination Plan. The container is properly labeled. Storage and disposal is performed in accordance with applicable regulatory requirements. Equipment and materials used are decontaminated or disposed of properly.

D-1b Containers Without Free Liquids

The Plant 1 Pad Tension Support Structures and the hazardous waste storage lockers are designed to store hazardous waste with or without free liquids. The other areas of the Plant 1 Pad provide storage for hazardous waste without free liquids. Also, the Plant 6 Warehouse, the Plant 9 Warehouse, the

CP Storage Warehouse, the Plant 8 Warehouse and the Pilot Plant Warehouse are designed for the storage of hazardous waste with and without free liquids.

D-1b(1) Test for Free Liquids

The chemical and physical characteristics of the hazardous waste placed in the storage units are determined by visual inspection, specific material data, documented criteria, and/or process knowledge. The visual inspection includes checking the container contents visually for any free standing liquids. The waste characterization process is described further in Section C, Waste Characteristics.

D-1b(2) Description of Containers

The hazardous waste container storage areas accept and store wastes in containers meeting RCRA specifications as delineated in OAC 3745-55-71 and 40 CFR Parts 264.171 and 264.172. A thorough description of containers is presented in D-1a(1).

D-1b(3) Container Management Practices

A thorough description of container management practices on-site is presented in D-1a(2).

D-1b(4) Container Storage Area Drainage

The containers in each of the following RCRA storage units are elevated (e.g. placed on pallets) during storage to eliminate the potential of spilled liquids coming into contact with the containers.

Plant 1 Pad. The base of the Plant 1 Pad is sloped toward catch basins to remove precipitation. The Plant 1 Pad drainage is shown in Figure D-15. The catch basins (manholes) in the uncovered areas of Plant 1 Pad are connected to the stormwater management system. The covered structures are equipped with dedicated sumps. The floor of the hazardous waste storage lockers is grated and is elevated to prevent containers from coming into contact with the spilled material.

CP Storage Warehouse (Building 56). The CP Storage Warehouse is a completely enclosed structure. Therefore, precipitation cannot enter this building. The topography around the storage unit slopes away from the building to prevent run-on. Containers stored in the CP Storage Warehouse are elevated to prevent contact with any accumulated liquids.

Plant 8 Warehouse (Building 80). A photograph of the Plant 8 Warehouse is provided as Figure D-52. Figure D-53 shows the plan view of the Plant 8 Warehouse with construction details. The base of the unit is constructed of eight inch thick concrete with number 4 reinforcement rods at twelve inch intervals. Since the Plant 8 Warehouse is a completely enclosed structure, run-on and precipitation is not a concern.

Pilot Plant Warehouse (Building 68). The Pilot Plant Warehouse is a pre-engineered metal fabricated building which is completely enclosed and covered by metal roofing. Thus, precipitation and run-on is not a factor.

~~The RCRA storage area is 69 feet X 7 feet located in the center of the building. The storage area consists of a U shaped concrete dike with the end of the U shaped dike enclosed by a smaller U shaped temporary Herculite containment structure to form an impermeable barrier to contain spills of hazardous waste with and without free liquids.~~ ~~The hazardous waste storage area measures 25 feet by 35 feet and is located in the southwest corner of the building. The storage area consists of Herculite sheeting which extends up and over a dike constructed of four inch PVC piping. All seams have been sealed with an adhesive to provide an impermeable barrier to contain spills of hazardous waste with and without free liquids.~~ A layout drawing of the Pilot Plant Warehouse is provided as Figure D-49.

Plant 6 Warehouse (Building 79). The Plant 6 Warehouse is a pre-engineered, ribbed, unheated building covered by metal roofing. Since this unit is completely enclosed, precipitation is not a factor. A photograph of the Plant 6 Warehouse is provided as Figure D-54. The storage unit is divided into three (3) diked bays with access ramps provided for access to the enclosed areas as shown in Figure D-41. As indicated, the base is constructed of eight inch concrete with number 4 reinforcement rods at 12 inch intervals. Containers stored in the Plant 6 Warehouse are elevated (e.g. placed on pallets) during storage to eliminate the potential of spilled liquids coming into contact with the containers.

D-2 TANKS SYSTEMS

The FEMP is not seeking a permit for a tank or tank systems, therefore, this section is not applicable.

D-3 WASTE PILES

The FEMP is not seeking a permit for a waste pile, therefore, this section is not applicable.

D-4 SURFACE IMPOUNDMENTS

The FEMP is not seeking a permit for a surface impoundment, therefore, this section is not applicable.

D-5 INCINERATORS

The FEMP is not seeking a permit for an incinerator, therefore, this section is not applicable.

D-6 LANDFILLS

The FEMP is not seeking a permit for a landfill, therefore, this section is not applicable.

D-7 LAND TREATMENT

The FEMP is not seeking a permit for a land treatment unit, therefore, this section is not applicable.

D-8 MISCELLANEOUS UNITS

The FEMP is not seeking a permit for a miscellaneous unit, therefore, this section is not applicable.

D-9 SUBPART AA

The facility has no process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping managing hazardous wastes with organic concentrations at least 10 parts per million (ppm). Therefore, the facility is not subject to the requirements of this subpart.

D-10 SUBPART BB

The facility has no equipment that contains or contacts hazardous waste with organic concentrations of at least 10 percent by weight that are managed in:

- Units that are subject to the permitting requirements of 40 CFR Part 270, or
- Hazardous waste recycling units that are located at hazardous waste management facilities otherwise subject to the permitting requirements of 40 CFR Part 270.

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Therefore, the facility is not subject to the requirements of this subpart.

D-11 SUBPART CC

Subpart CC air emission standards require facilities to control emissions of volatile organic compounds (VOC) from containers if the hazardous waste in these containers contains an average VOC concentration of greater than or equal to 100 parts per million by weight. Subpart CC emissions standards do not apply to:

- Containers which contain mixed waste;
- Containers used solely for on-site storage of hazardous waste generated from CERCLA remediation activities; or
- Containers with a capacity of less than or equal to 0.1 m3.

Hazardous wastes generated at the FEMP which are subject to Subpart CC standards are placed into DOT-approved containers which have a design capacity of less than or equal to 0.46 m3. These containers are equipped with a cover and remain closed except when adding or removing waste, sampling or conducting a visual inspection.

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TABLE D-1
(RCRA STORAGE UNITS)

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 RCRA STORAGE UNITS

TABLE D-1

RCRA STORAGE UNIT	MAXIMUM CAPACITY IN GALLONS	WITH FREE LIQUIDS OR WITHOUT FREE LIQUIDS	STORAGE OF IGNITABLE LIQUIDS	STACKING HEIGHT (55-GAL. Drum)	AISLE SPACING
1. CP Storage Warehouse - Bldg. 56	116,160	With or Without free liquids	Yes	Three High	Minimum of 22 inches
2. Plant 1 Pad	11,222,200 Total	With or Without free liquids	No	Four High	Minimum of 24 inches
TS-4	653,840	With or Without free liquids	No	Four High	Minimum of 24 inches
TS-5	657,360	With or Without free liquids	No	Four High	Minimum of 24 inches
TS-6	330,000	With or Without free liquids	No	Four High	Minimum of 24 inches
Hazardous Waste Storage Lockers	2,640	With or Without free liquids	Yes	No Stacking	Minimum of 24 22 inches
Area Outside of Structures	9,578,360	Without free liquids	No	Four High	Minimum of 24 inches
3. Plant 8 Warehouse - Bldg. 80	139,260	With or Without free liquids	No	Four High (Two High when storing ignitables)	Minimum of 22 inches
4. Pilot Plant Warehouse - Bldg. 68	13,200 16,500	With or Without free liquids Samples only	No Yes	Three High	Minimum of 22 inches

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TABLE D-1

RCRA STORAGE UNIT	MAXIMUM CAPACITY IN GALLONS	WITH FREE LIQUIDS OR WITHOUT FREE LIQUIDS	STORAGE OF IGNITABLE LIQUIDS	STACKING HEIGHT (55-GAL. DRUM)	AISLE SPACING
5. Plant 6 Warehouse - Bldg. 79	230,780	With or Without free liquids	Yes	Four High (Two High when storing ignitables)	Minimum of 22 inches
Bay A	82,060	With or Without free liquids	Yes	(Two High when storing ignitables) Four High	Minimum of 22 inches
Bay B	79,640	With or Without free liquids	Yes	(Two High when storing ignitables) Four High	Minimum of 22 inches
Bay C	69,080	With or Without free liquids	Yes	(Two High when storing ignitables)	Minimum of 22 inches

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ATTACHMENT D-2
(SECONDARY CONTAINMENT
CALCULATIONS)

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BUILDING 68 (PILOT PLANT WAREHOUSE)

Max. skid capacity = 75×4 drums / skid = Max # of 55 gal. drums = 300 drums.

Containment capacity = $801 \text{ ft}^2 \times 4.5'' = 267 \text{ ft}^3$
- 7 ft^3 of skid displacement = 260 ft^3

Max containment capacity in gallons = 260 ft^3

Max drum storage in gallons @ 55 gal/drum = $300 \times 55 = 16,500 \text{ gal.}$
 $16,500 \text{ gal.} \times 0.13 \text{ ft}^3/\text{gal.} = \underline{2145 \text{ ft}^3}$

Conclusion: The diked area of the Pilot Plant Warehouse has 260 ft^3 of diked volume available after accounting for displacement of container pallets. Thus, the diked area has sufficient capacity to contain a minimum of 10% of the volume of containers (215 ft^3).

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SECTION F

(PROCEDURES TO PREVENT HAZARDS)

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SECTION F - PROCEDURES TO PREVENT HAZARDS

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The information provided in this section is submitted in accordance with the requirements of the Ohio Administrative Code (OAC) 3745-50-44(A)(4) and Title 40 of the Code of Federal Regulations (CFR) Part 270.14(b)(4). Other regulations addressed to complete this section include OAC 3745-54-14, 3745-54-15, 3745-54-17, 3745-54-32, 3745-54-35, 3745-55-74, and 3745-55-76 (40 CFR 264.14, 264.15, 264.17, 264.32, 264.35, 264.174, and 264.176).

The FEMP is not required to comply with Federal and Ohio hazardous waste laws and hazardous waste regulations, with regard to mixed waste, where compliance will increase the risk to human safety and health or the environment, as stated in Section 3.1 of the Consent Decree and its Stipulated Amendment. In these circumstances the FEMP will, in consultation with the Ohio EPA, handle the hazardous or mixed waste in a manner protective of human health and safety and the environment as if the hazardous waste requirement had been applied.

F-1 SECURITY

F-1a Security Procedures and Equipment

General security at the Fernald Environmental Management Project (FEMP) is provided by fencing, gates, and security officers as discussed in Section F-1a(1). The following features also contribute to the safety and security of the hazardous waste storage buildings and the entire facility:

- Ample lighting is provided throughout the site.
- Communication devices are available for personnel accessing these units, for emergency notification purposes.
- Employees and contractors are required to show identification badges when reporting for work. Visitors must complete an access request form when entering the site. The request form must be signed by an authorized manager.

F-1a(1) 24-Hour Surveillance System

The FEMP is under 24 hour surveillance by security officers on mobile and foot patrols. Entry into the facility is monitored through five access points: the South Access Control Point located on the south access road, the East Access Control Point located at the east entrance to the east parking lot, Post N-45 located off of Route 126 which permits access to railyard operations and the RIMIA Building (Bldg. 82) entrance and the Haul Road located at the entrance to the On-Site Disposal Facility. The South Access Control Point serves as the site's primary access point and is manned 24 hours a day. Access is only permitted through the South Access Control Point during hours other than those hours directed by the normal first shift.

F-1a(2) Barrier and Means to Control Entry

F-1a(2)(a) Barrier

The former FEMP production area, which includes the active hazardous waste management areas, is surrounded by a physical barrier and monitored 24 hours a day by security.

The facility's primary vehicular access to the former production area is through the RIMIA entrance located at the east side of the facility.

The security check point at the South Access Control Point at the south entrance is manned 24 hours a day to control access. All other access points (East Access Control Point, RIMIA, Post N-45, and the Haul Road) are manned during normal working hours of operation to allow routine ingress and egress of employees. At the conclusion of daily operations, access points are secured and locked.

F-1a(2)(b) Means to Control Entry

The primary vehicular entrance to the former production area of the facility is the RIMIA entrance, as discussed in Section F-1a(2)(a). This entry is controlled by a security officer 10 hours a day. Personnel access is controlled through the RIMIA entrance, Post N-45, the Haul Road, and the South and East Control Points during ingress/egress directed by normal first shift working hours. Employees and contractors are required to present an identification badge when reporting to work. Visitors must sign an access sheet and obtain a visitor's pass. Visitors are permitted to enter the former production area only if escorted by facility personnel. These practices restrict unauthorized visitors from entering the main facility, and consequently the active RCRA storage areas.

F-1a(3) Warning Signs

Signs legible from a distance of 25 feet are posted at the entrance(s) to the individual hazardous waste storage units within the facility.

The signs state:

"Danger -- Authorized Personnel Only"

No languages other than English are necessary for the signs at this facility.

Additional signs are posted on the entrances and/or gates into the former production area of the facility.

F-1b Waiver

A waiver of the security procedures and equipment requirements is not requested by the FEMP at this time, therefore this section is not applicable.

F-2 INSPECTION SCHEDULE

The information provided in this section is submitted in accordance with the requirements of OAC 3745-50-44(A)(5) and 3745-54-14 and 40 CFR 270.14(b)(5) and 264.15.

The FEMP is not required to comply with Federal and Ohio hazardous waste laws and hazardous waste regulations, with regard to mixed waste, where compliance will increase the risk to human safety and health or the environment, as stated in Section 3.1 of the Consent Decree and its Stipulated Amendment. In these circumstances the FEMP will, in consultation with the Ohio EPA, handle the hazardous or mixed waste in a manner protective of human health and safety and the environment as if the hazardous waste requirement had been applied.

F-2a General Inspection Requirements

In addition to inspection of the RCRA storage units, the FEMP conducts inspections of safety and emergency equipment, operating equipment, and general conditions of the structures. An informational example of the current FEMP Inspection Schedule is provided as Attachment F-1. The Inspection Schedule is updated as needed and maintained in the FEMP's RCRA Operating Record.

Deteriorations or malfunctions revealed by the inspection are remedied as soon as possible. Where a hazard is imminent, or has already occurred, remedial action is taken immediately. If the hazard involving hazardous waste is declared to be an "Operational Emergency", as defined in the Contingency Plan, Section G of this permit application, the contingency plan is implemented.

Inspections are documented by recording results on inspection forms. The completed inspection forms are maintained for a minimum of three years from the date of inspection. Examples of the inspection forms currently in use are provided in Attachment F-2. The inspection forms are updated as needed and maintained in the FEMP's RCRA Operating Record.

F-2a(1) Types of Problems

Types of problems that may be encountered during inspections are listed on the Facility Inspection Schedule provided as an example in Attachment F-1. Generally, the inspection verifies the adequacy of emergency equipment and the operating condition of the facility as identified on the inspection schedule.

F-2a(2) Frequency of Inspections

The frequency of inspections at the FEMP is based on the rate of possible deterioration of the equipment and the probability of an environmental or human health incident if deterioration goes undetected between inspections. The frequency of inspections at the FEMP conforms to accepted industry practices, RCRA guidance information and the Consent Decree and its Stipulated Amendment. The frequency of inspection for each item can be found on the Facility Inspection Schedule (example provided as Attachment F-1).

The emergency and personnel protection equipment discussed in Section F-3 is inspected weekly. Inspection of the hazardous waste storage units takes place weekly.

In addition, hydrostatic testing of the sump in Tension Support Structure 6 is performed annually.

Until the containers on Plant 1 Pad have been determined not to contain hazardous or mixed waste and/or the containers are placed in a covered/diked storage area, the

FEMP will perform daily leakage inspections on these containers on Plant 1 Pad, and will perform weekly inspections in accordance with OAC 3745-65-15 and 3745-66-74 and 40 CFR 265.15 and 265.174 as stated in the Consent Decree and its Stipulated Amendment.

F-2b Specific Process Inspection Requirements

**F-2b(1) Container Inspection
Storage Area Inspections**

The container storage areas are inspected weekly as per the Facility Inspection Schedule (Attachment F-1). Each storage area is inspected for proper aisle spacing, stacking, pallet condition, evidence of leaks or spills and condition of the floor and dikes. The inspector immediately reports to the supervisor if a hazardous waste release is observed.

Completed inspection forms for the RCRA Storage Areas are maintained in the FEMP's RCRA Operating Record. Examples of RCRA Container Storage Area Inspection Forms are provided in Attachment F-2 and are subject to change.

Container Inspection

The containers are inspected weekly for evidence of damage or deterioration, and container labels. Examples of the RCRA Container Storage Area Inspection Forms are provided in Attachment F-2.

F-2b(2) Tank System Inspection

The FEMP is not seeking a RCRA permit to operate a hazardous waste tank.

F-2b(3) Waste Pile Inspection

The FEMP is not seeking a RCRA permit to operate a hazardous waste pile.

F-2b(4) Surface Impoundment Inspection

The FEMP is not seeking a RCRA permit to operate a hazardous waste surface impoundment.

F-2b(5) Incinerator Inspection

The FEMP is not seeking a RCRA permit to operate a hazardous waste incinerator.

F-2b(6) Landfill Inspection

The FEMP is not seeking a RCRA permit to operate a hazardous waste landfill.

F-2b(7) Land Treatment Facility Inspection

The FEMP is not seeking a RCRA permit to operate a hazardous waste land treatment facility.

F-2b(8) Miscellaneous Unit Inspection

The FEMP is not seeking a RCRA permit to operate a miscellaneous hazardous waste unit.

F-2b(9) Subpart AA Inspection

The FEMP has no process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping managing hazardous wastes with organic concentrations at least 10 parts per million (ppm). Therefore the FEMP is not subject to the requirements of this subpart.

F-2b(10) Subpart BB Inspection

The FEMP has no equipment that contains or contacts hazardous waste with organic concentrations of at least 10 percent by weight that are managed in:

- Units that are subject to the permitting requirements of 40 CFR 270, or
- Hazardous waste recycling units that are located on hazardous waste management facilities otherwise subject to the permitting requirements of 40 CFR 270.

Therefore the FEMP is not subject to the requirements of this subpart.

F-2b(11) Subpart CC Inspection

Subpart CC air emission standards require facilities to control emissions of volatile organic compounds (VOC) from containers if the hazardous waste in these containers contains an average VOC concentration of greater than or equal to 100 parts per million by weight. Subpart CC emissions standards do not apply to:

- Containers which contain mixed waste;
- Containers used solely for on-site storage of hazardous waste generated from CERCLA remediation activities; or
- Containers with a capacity of less than or equal to 0.1 m³.

Hazardous wastes generated at the FEMP which are subject to Subpart CC standards are placed into DOT-approved containers which have a design capacity of less than or

equal to 0.46 m3 (Container Level 1). Therefore, the inspection requirements in 40 CFR 264.1086(g) and (h) are not applicable.

F-2c Remedial Action

Repairs or other actions taken to remediate problems identified during an inspection are recorded on the inspection forms. Deficiencies are reported to the supervisor and arrangements for prompt, appropriate remediation of the problem are made.

Repairs are made in a timely manner so that a situation does not lead to an environmental or human health hazard. Items identified as missing or present in insufficient quantities such as emergency equipment are obtained promptly and placed in the proper location. The remedial response to deficiencies is to restore an item to proper working order, or to restock an item to ensure its availability in an emergency.

Leaking, damaged, or deteriorating containers identified during an inspection are overpacked or redrummed. Drums are overpacked by placing the leaking container into a larger-size container. Repackaging is accomplished by transferring the contents of the damaged drum into a different container. Repackaging of hazardous waste containers is conducted in Building 71 and Building 30A.

F-2d Inspection Forms

Attachment F-2 (RCRA Container Storage Area Inspection Forms) provides examples of the current inspection forms. These examples are subject to change. The inspection forms have been designed to readily identify those areas routinely checked for acceptability and highlight conditions which potentially could cause problems.

Inspection forms include at a minimum, the following information:

- Date of inspection
- Time of inspection
- Name of the inspector
- Notation of the observation(s) made
- Corrective action(s) taken
- Date corrected.

F-3 PREPAREDNESS AND PREVENTION REQUIREMENTS

The FEMP does not wish to request a waiver of the preparedness and prevention requirements under OAC 3745-54-30 (40 CFR 264 Subpart C). Requirements of this Subpart are also discussed in further detail in Section D, Process Information, and Section G, Contingency Plan, of this application.

F-3a Equipment Requirements

A detailed discussion of the FEMP emergency equipment and communications systems and the capabilities of each item is provided in Section G, Contingency Plan.

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F-3a(1) Internal Communications

Communications within a Unit

Voice communication is used within any single RCRA storage unit. Voice communication is adequate to provide immediate emergency instruction to personnel within the storage areas of the building because of the sizes and open configurations of the storage units.

Communications to the Communications Center

Communication devices are available for personnel accessing RCRA storage units for emergency notification purposes. The communication devices are used to contact:

- 1) the Communications Center,
- 2) other personnel who, in turn, can contact the Communications Center, or
- 3) the area supervisor to report any emergency.

The Communications Center summons additional on-site and off-site assistance as needed.

Signals from manual fire alarm boxes, automatic fire monitoring, and/or suppression systems located within the operating units throughout the facility are automatically transmitted to the Communications Center.

On-site Emergency Warning System

The FEMP has an extensive on-site emergency alarm and communications system for notifying employees and on-site emergency response personnel. This system provides facility-wide, building, and off-site warning systems.

The facility alarm system is controlled in the Communications Center, which operates 24 hours per day. The facility alarm system, which includes electronic alarm bells or air horn signals, can be activated from the Communications Center. A voice message, following the sounding of a warning signal, is broadcast throughout the facility to transmit appropriate instructions and other important information to FEMP personnel.

F-3a(2) External Communications

Communications Center

External communications are managed by the Communications Center which is staffed 24 hours per day. The Communications Center has the ability to summon additional emergency assistance from local police departments, fire departments, or state and local emergency response teams as needed.

The Communications Center has the following equipment for contacting off-site assistance organizations:

- Conventional and special phone systems capable of summoning off-site emergency assistance including wired phones connected to the local telephone company.
- Two-way radios capable of internal communications and direct contact with the Hamilton and Butler County Dispatch Centers, the Butler County Emergency

Management Agency (BCEMA) and the Hamilton County Emergency Management Agency (EMA).

Off-site Emergency Warning System

The off-site emergency warning system warns citizens within a two-mile radius of the site, when emergencies may affect people outside facility boundaries. Activating the sirens alerts residents to seek shelter immediately and tune to a radio or TV station for an Emergency Broadcast System message for information.

F-3a(3) Emergency Equipment

Each of the FEMP hazardous waste container storage areas is equipped with supplies, materials, and equipment for responding to emergencies (e.g. portable fire extinguishers and materials for spill response and cleanup). This equipment is inspected at least weekly. Additional fire protection, spill control, and decontamination equipment is maintained by the site Emergency Response Team. See Section F-2 for further inspection information.

The emergency equipment at the FEMP is described in detail in Section G, Contingency Plan.

Portable Fire Extinguishers

Portable fire extinguishers are located at the hazardous waste storage units.

Fire Control Equipment

All buildings storing ignitable hazardous wastes, (CP Storage Warehouse (Building 56), Plant 6 Warehouse (Building 79), and Plant 8 Warehouse (Building 80)) CP Storage Warehouse (Building 56), Plant 6 Warehouse (Building 79) and Plant 8 Warehouse (Building 80) are protected with a sprinkler system, in addition to portable fire extinguishers. The Pilot Plant Warehouse (Building 68), which is used to store hazardous waste samples, is equipped with fire extinguishers. Fire hydrants are located outside of each storage unit. Each of the hazardous waste storage lockers on Plant 1 Pad has a dry pipe sprinkler system plumbed to an outside Fire Department connection. The system can be activated by connection to one of the FEMP's fire trucks. The FEMP also maintains on-site a fully equipped Emergency Response Team, described in Section G, Contingency Plan.

Spill Control Equipment

Protective clothing, boots, gloves, respirators, and face shields are stored in a central location and are readily accessible in the event of a spill. Spill cleanup equipment and material such as shoe covers, booties, gloves, absorbent pads/"PIGS", radiological drum liner bags, caution/banner tape, duct tape, and shovels are stored in each storage unit.

Decontamination Equipment

A full complement of decontamination equipment is maintained by the site Emergency Response Team, in addition to the spill equipment. This equipment is described in detail in Section G, Contingency Plan. The Emergency Response Team can mobilize, as needed, with the Spill Response Vehicle - Haz Mat 27. The Spill Response Vehicle can pull a trailer which carries supplies used in decontamination of personnel and

equipment. In addition, the trailer has equipment to contain the rinse water used in decontamination.

Alarm Systems

The facility alarm and communications horn system is tested in accordance with NFPA-72 National Fire Alarm Code schedules. The Emergency Message System is tested daily. Failure of any component of the system results in immediate remedial action or implementation of a back-up system.

F-3a(4) Water for Fire Control

Water for fire protection is available from the following sources:

Primary

Elevated Fire Water Tank	350,000 gallons
Ground Level Fire Water Tank	400,000 gallons

Backup

Domestic Raw Water Tank	300,000 gallons
Elevated Potable Water Tank	200,000 gallons

Note that components of these systems are currently being replaced as described below.

The two systems for fire control, including the changes that will occur to these systems, are described below.

High Pressure Distribution System

The High Pressure Distribution System provides water to the high pressure hydrants, located outside each storage unit, and to building sprinkler systems. The locations of the high pressure hydrants are described in Section G, Contingency Plan. A static pressure of 114 psi (gauge) is maintained in the system by the elevated water tower. The fire pump system is activated when the pressure in the system drops. The fire pump system consists of one electric and two diesel powered pumps, each rated at 2,000 gallons per minute (gpm) (at 285 feet of head). The electric pump and the first diesel pump start automatically as the result of low water pressure. The second diesel pump is started manually by the equipment operator, if the system pressure continues to fall. The fire pumps initially obtain their water from the ground level tank, cutting off flow from the elevated water tank. This system is capable of providing sufficient water at sufficient volume and pressure for sprinkler systems.

Installation of the new Domestic and Fire Water Storage Tank and Booster Station was completed during the second quarter of FY 2000. This new water storage and pumping station will, over a period of time, replace the existing storage and pumping system. This station consists of one 400,000 gallon storage tank fed from the City Water line with redundant fire water pumping capability of 1,250 gpm at 125 psig discharge pressure. Also, this station provides the site with domestic water via three domestic water pumps rated from zero to one hundred gpm.

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Low Pressure Distribution System

The low pressure distribution system provides water to low pressure hydrants. This water is provided by the potable water system. The water in this system can be drawn upon by responding fire departments for additional fire fighting needs. The location of the low pressure hydrants is described in Section G, Contingency Plan.

Emergency Response Equipment

The facility maintains an on-site Emergency Response Team capable of responding to emergency conditions. The Emergency Response Team can respond with a fully equipped fire engine, an ambulance, a Haz Mat unit and a rescue truck as needed. The full capabilities of the Emergency Response Team are described in Section G, Contingency Plan.

F-3b Aisle Space Requirements

An aisle space of a minimum of 22 inches in covered storage areas, and 24 inches in outdoor storage areas is maintained between the rows of containers. A four foot main aisle is also provided in each area to allow the unobstructed movement of personnel, fire protection equipment, and spill control equipment.

The 22 and 24 inch minimum inspection aisle space is adequate because:

- the aisles are adequate for personnel to inspect drums for leaks and deterioration and
- a main equipment aisle is provided in each area to allow for unobstructed movement of emergency equipment.

F-4 PREVENTIVE PROCEDURES, STRUCTURES, AND EQUIPMENT

F-4a Prevent Hazards in Unloading Operations

After a hazardous waste container has been filled, labeled and closed, it is transferred to a storage area. Small containers can be moved by equipment such as, but not limited to, handcarts or handtrucks. Large containers may be moved by equipment such as, but not limited to, forklifts, trucks or trailers.

The containers can be unloaded and moved into storage using ramps and forklifts. Containers can be unloaded directly from tractor trailers using an adjustable dock and/or unloaded from small dolly trailers via fork lift equipment.

Plant 1 Pad and the Receiving and Incoming Materials Inspection Area (RIMIA) Building (Building 82) have loading docks for receiving and shipping hazardous waste. Hazardous waste may be loaded onto or unloaded from transportation vehicles, using the loading docks. A mobile dock is also available for use in loading or unloading in other areas of the facility without a dock. Hazardous waste to be shipped off-site may be staged and loaded from any of the hazardous waste storage units. The Plant 1 Pad and the RIMIA Building (Building 82) loading docks serve as the main areas for any receipt of material from off-site.

Traffic information and sample traffic patterns for the FEMP are discussed in Section B, Facility Description. Facility personnel have been instructed to notify the area supervisor and/or Communications Center, in the event of an accidental spill of hazardous waste in transport or

during loading/unloading operations. Section G, Contingency Plan, provides specific emergency notification and response procedures.

F-4b Prevention of Run-Off to Other Areas

Hazardous Wastes With Free Liquids

Hazardous wastes with free liquids are stored in diked areas capable of holding a minimum of 10 percent of the maximum storage capacity of the unit. Storage areas for hazardous waste containing free liquids are enclosed within structures or buildings preventing accumulation of precipitation within the diked areas. In accordance with the provisions of the Consent Decree and its Stipulated Amendment, if storage space which meets RCRA and Ohio hazardous waste storage requirements is not available, the FEMP will store such wastes in a manner as protective of human health and the environment as possible, will perform daily leakage inspections on these containers that are not located under cover, and will, within sixty (60) days of a determination that sufficient RCRA storage space is not available, submit a plan and schedule for OEPA approval for short-term storage of such wastes.

Hazardous Wastes Without Free Liquids

Hazardous wastes without free liquids are stored (as described in Section D) inside structures or buildings or on the Plant 1 Pad. Indoor storage areas are not subject to precipitation and therefore do not produce precipitation runoff.

Precipitation run-off which contacts containers not located under cover on Plant 1 Pad is directed into the stormwater collection system. Hazardous waste releases will be captured by the storm sewer system. Stormwater flows into the Stormwater Retention Basin (SWRB). Releases into SWRB can be treated through the Advanced Wastewater Treatment System or captured and managed accordingly.

Prevention of Flooding

Flooding created by run-on from other areas is prevented from entering the structures, buildings and concrete pads by using concrete slabs and topography which slope away from these areas.

The hazardous waste storage units are in areas outside of the 100 year flood plains for the Great Miami River and Paddy's Run.

F-4c Prevent Contamination of Water Supplies

Contamination of water supplies by hazardous wastes or hazardous waste constituents is prevented by storing the hazardous waste in enclosed structures, in buildings, or on concrete pads and by controlling run-off as described in Section F-4b. Container management practices as described in Section D, Process Information, provide an integral aspect of water supply contamination prevention.

F-4d Equipment and Power Failure

Electrical power is used primarily for lighting in the storage units except in the hazardous waste storage lockers where flashlights and natural lighting are used to see inside the unit. Battery powered lighting can be used if needed during a power failure. Powered equipment involved in handling materials includes fork lift trucks, barrel stackers and gantry cranes. Since this equipment is internally powered by electric battery or internal combustion engine, it is not subject to a site-wide power failure. A replacement is available, in the event of a mechanical failure of the fork lift and/or barrel stacker, as the facility maintains a large operating supply.

Normal operations at the RCRA storage units are suspended if there is a site-wide power outage. Portable generators are available in case of emergencies. Generators are not permitted within areas where ignitable hazardous wastes are stored, unless proper precautions are taken. Precautions may include the use of an explosion-proof generator, or placement of the generator at a safe distance or location from the ignitable hazardous wastes.

F-4e Personnel Protection Equipment

Personnel exposure to hazardous waste is minimized through the use of protective equipment, stored in each warehouse or in a central location, as well as by safe handling practices. The protective equipment appropriate for employees working in the storage building is specified by the area supervisor and health and safety personnel at the FEMP. Protective equipment can include coveralls, boots, gloves, face shields, and respirators.

Personnel involved in management of hazardous wastes receive training in the use of protective equipment and the proper handling of hazardous wastes. Annual fit-testing of respirators and RCRA refresher training are also provided, as described in Section H, Personnel Training.

F-4f Prevent Releases to Atmosphere

The FEMP is required to prevent release to the atmosphere from process vents and equipment leaks under Subpart AA and BB regulations (40 CFR 264). Currently, the FEMP has no equipment that is subject to these rules.

Hazardous wastes generated at the FEMP which are subject to Subpart CC standards are placed into DOT-approved containers which have a design capacity of less than or equal to 0.46 m³. These containers are equipped with a cover and remain closed except when adding or removing waste, sampling or conducting a visual inspection.

F-5 PREVENTION OF REACTION OF IGNITABLE, REACTIVE AND INCOMPATIBLE WASTES

F-5a Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Wastes

Containers of hazardous waste are inspected for corrosion and other defects to minimize the possibility of ignition or reaction of ignitable or reactive hazardous wastes. Stored containers remain closed except when a sample must be obtained during visual inspections as a part of waste characterization, or during addition or removal of hazardous waste. Some containers are equipped with filter vent plugs to prevent the build-up of pressure within the container. An example of a RCRA Container Storage Inspection Form is provided in Attachment F-2 and is subject to change. This form serves to guide hazardous waste handlers in the proper acceptance and storage criteria for waste containers. Hazardous wastes are acceptable if placed in compatible drums meeting DOT specifications. The FEMP has some containers that

date before the DOT specification requirements. These pre-DOT containers are inspected on the same schedule as all other containers meeting the DOT requirements to ensure their integrity.

The hazardous waste container storage areas are inspected at the frequency identified in the Facility Inspection Schedule (example provided as Attachment F-1). Any leaks or spills are cleaned up immediately, reducing the possibility of adverse reactions. Drums are overpacked to correct a leak or to improve the integrity of the container to preclude future leaks.

Prevention of Ignition

Containers that hold ignitable hazardous waste are stored in areas protected from accidental ignition sources. Smoking is not permitted in these areas. "NO SMOKING" signs are conspicuously posted.

Waste characterization as described in Section C, Waste Characteristics, is performed to provide sufficient information to select the safest hazardous waste storage containers, appropriate hazardous waste storage areas and to accurately characterize the hazardous physical and chemical properties of each waste stream.

The following precautionary measures are enforced to prevent fires and/or the release of hazardous waste constituents:

- Hazardous waste containers are identified by Reactivity Group Code (RGC) to ensure that ignitable and reactive hazardous wastes are appropriately stored. The only exception to this requirement is containers of samples being staged in the Pilot Plant Warehouse (Building 68) prior to segregation under the Sample Disposition Project. RGC Codes will be applied to containers of hazardous waste samples after they have been segregated and/or consolidated under this project.
- Approved work permits are required before welding is performed.
- Surveys for combustible gases and vapors are performed by health and safety personnel before performing certain work involving ignition sources such as open flames, and heating elements.
- "NO SMOKING" and "NO OPEN FLAME" signs are conspicuously placed at the entrances to the hazardous waste storage areas.
- Non-sparking tools are used to open and close containers which contain ignitable hazardous waste.
- Hand-held fire extinguishers are available to extinguish small fires. Sprinkler systems are installed in some areas to control the larger fires that cannot be extinguished by hand-held fire extinguishers.

Prevention of Reaction

Hazardous wastes are marked, separated and segregated according to the Reactivity Group Code (RGC) system maintained at the facility. Figure F-2 is the current RGC Hazardous Waste Compatibility Chart used to determine the segregation of incompatible hazardous waste. PCB compatibility is also provided in Figure F-2.

The only exception to this requirement is containers of samples being staged in the Pilot Plant Warehouse (Building 68) prior to segregation under the Sample Disposition Project. RGC Codes

will be applied to containers of hazardous waste samples after they have been segregated and/or consolidated under this project. These are primarily environmental media samples and samples from various mixed waste treatment projects. The Pilot Plant Warehouse is being used to temporarily store these containers since many of the samples are stored in glass jars and require storage in a heated building. The samples have been overpacked into larger containers filled with packing material and/or absorbent.

Waste characterization as described in Section C, Waste Characteristics, is performed to provide sufficient information to select the safest hazardous waste storage containers, appropriate hazardous waste storage areas and to accurately characterize the hazardous physical and chemical properties of each waste stream.

F-5b General Precautions for Handling Ignitable or Reactive Wastes and Mixing

Incompatible Wastes

Hazardous waste containers stored at the FEMP remain closed during storage and may be opened when a sample must be obtained, for visual inspection as part of the waste characterization, or during addition or removal of hazardous waste. Some containers are equipped with filter vent plugs to prevent the build-up of pressure in the container. These vent plugs are primarily installed to provide ventilation to drums of wastes containing free reactive uranium metal that has the potential to generate hydrogen gas. Vent plugs are not used when drums contain RCRA organics. The filter vent plug contains a charcoal filter. The filter vent plug is inserted into the bung opening of the drum lid. The plugs are also installed on outer drums if the vented drums are overpacked.

Accidental ignition or mixing of ignitable or incompatible hazardous waste types is unlikely.

As discussed in the previous section, the FEMP uses a Reactivity Group Code (RGC) marking system to segregate incompatible hazardous wastes. Incompatible hazardous wastes are separated by diked areas and/or stored in separate buildings. As noted above, the only exception to this requirement is containers of samples being staged in the Pilot Plant Warehouse (Building 68) prior to segregation under the Sample Disposition Project. RGC Codes will be applied to containers of hazardous waste samples after they have been segregated and/or consolidated under this project. At the present time the FEMP is not seeking a permit for any treatment processes which may require mixing of incompatible hazardous wastes.

Some examples of mixing of hazardous wastes at the FEMP are listed below:

- Consolidation of the same or similar hazardous wastes into larger containers; and
- Consolidation of lab samples into larger containers.

These practices are only allowed for hazardous wastes which are compatible.

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F-5c Management of Ignitable or Reactive Wastes in Containers

Ignitable and reactive hazardous wastes are stored at least 50 feet from the FEMP property line. Figure F-1 (Facility 50 Foot Boundary Line) shows the location of the FEMP hazardous waste storage areas relative to the property line.

The storage practices followed by the FEMP include the use of buildings, structures and pads with concrete bases. Storage areas for hazardous wastes with free liquids are designed with a secondary containment system capable of holding at least 10 percent of the maximum waste volume stored in the area. FEMP container management practices are discussed further in Section D, Process Information.

Inspections are performed at least at the frequency identified in the Inspection Schedule (Attachment F-1), to ensure the proper management of hazardous wastes. Inspection procedures are discussed in Section F-2.

A Reactivity Group Coding system (Figure F-2), has been developed to ensure the compatibility of hazardous wastes stored in the same curbed area. The system incorporates "letter code signs" in storage areas. Only drums with Reactivity Group Codes matching the "letter code signs" are permitted to be stored in that area. **As noted above, the only exception to this requirement is containers of samples being staged in the Pilot Plant Warehouse (Building 68) prior to segregation under the Sample Disposition Project. RGC Codes will be applied to containers of hazardous waste samples after they have been segregated and/or consolidated under this project.**

F-5d Management of Incompatible Wastes in Containers

Facility personnel responsible for the management, transfer and storage of hazardous waste at the FEMP are trained in proper hazardous waste handling procedures. Hazardous waste containers are approved for storage after confirmation that the containers are closed, properly labeled and are in good condition. Previously used containers are cleaned before reuse. Combining of waste from different sources into the same container is not allowed without review.

Individual storage areas are divided into separate diked areas. The types of hazardous waste to be stored in these areas are identified by RGC signs. These signs for proper placement of drums in compatible storage areas facilitate the weekly inspection process and eliminate storage of incompatible hazardous wastes within the same areas. Separation of the storage areas by curbs prevents mixing incompatible hazardous wastes if a leak or spill occurs. **The only exception to this requirement is containers of samples being staged in the Pilot Plant Warehouse (Building 68) prior to segregation under the Sample Disposition Project. RGC Codes will be applied to containers of hazardous waste samples after they have been segregated and/or consolidated under this project. As a result, RGC signs are not be required to be posted in the hazardous waste storage area in the Pilot Plant Warehouse (Building 68) since only containers of samples are stored in this area.**

F-5e Management of Ignitable or Reactive Wastes in Tank Systems

The FEMP is not seeking a RCRA permit to operate a hazardous waste tank system.

F-5f Management of Incompatible Wastes in Tank Systems

The FEMP is not seeking a RCRA permit to operate a hazardous waste tank system.

F-5g Management of Ignitable or Reactive Wastes Placed in Waste Piles

The FEMP is not seeking a RCRA permit to operate a hazardous waste pile.

F-5h Management of Incompatible Wastes Placed in Waste Piles

The FEMP is not seeking a RCRA permit to operate a hazardous waste pile.

F-5i Management of Ignitable or Reactive Wastes Placed in Surface Impoundments

The FEMP is not seeking a RCRA permit to operate a hazardous waste surface impoundment.

F-5j Management of Incompatible Wastes Placed in Surface Impoundments

The FEMP is not seeking a RCRA permit to operate a hazardous waste surface impoundment.

F-5k Management of Ignitable or Reactive Wastes Placed in Landfills

The FEMP is not seeking a RCRA permit to operate a hazardous waste landfill.

F-5l Management of Incompatible Wastes Placed in Landfills

The FEMP is not seeking a RCRA permit to operate a hazardous waste landfill.

F-5m Management of Ignitable or Reactive Wastes Placed in Land Treatment Units

The FEMP is not seeking a RCRA permit to operate a hazardous waste land treatment unit.

F-5n Management of Incompatible Wastes Placed in Land Treatment Units

The FEMP is not seeking a RCRA permit to operate a hazardous waste land treatment unit.

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**REPLACEMENT PAGES
FOR
SECTION G
(CONTINGENCY PLAN)**

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FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO
EPA ID NO. OH6890008976
SECTION G: CONTINGENCY PLAN

RCRA PART B PERMIT APPLICATION
FEMP REVISION 6.1 01/01
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SECTION G - CONTINGENCY PLAN

RCRA Part B Permit Application Fernald Environmental Management Project Fernald, Ohio

This Contingency Plan is required by Ohio Administrative Code (OAC) 3745-50-44(A)(7) and Title 40 of the Code of Federal Regulations (CFR) 270.14 (b)(7) in order to provide planned procedures to be followed in an emergency at any hazardous waste facility. This information is submitted for the Fernald Environmental Management Project (FEMP), formerly the Feed Materials Production Center (FMPC), in accordance with OAC 3745-54-50 to 56 and 40 CFR 264.50 to 56 as well as other applicable parts of the Ohio Administrative Code. This Contingency Plan addresses the actions to be taken to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

The FEMP manages both hazardous waste and mixed waste. Mixed waste is defined as waste that contains both a hazardous component regulated under RCRA and a radioactive component consisting of source, special nuclear, or by-product material regulated under the Atomic Energy Act. Any information included in this section on the radioactive portion of mixed wastes generated or stored at the FEMP is included for informational purposes only and is not intended to be part of the facility's RCRA permit.

G-1 GENERAL INFORMATION

The FEMP is a former production facility which produced uranium metal used in the fabrication of fuel cores for nuclear reactors operated by the United States Department of Energy. During production, several types of hazardous wastes were produced from virgin materials, including (but not limited to): toxic halogenated solvents (from parts cleaning), ignitable oil and lubricants (from machining operations), ignitable and metal-bearing paint residues (from drum reconditioning), corrosive acids and alkalis (from metal and ore digestion and extraction), and pyrophoric non-nuclear metals (from foundry operations). In addition, some non-hazardous materials such as cleaning rags and wastewater sump cakes were contaminated with hazardous wastes, and thus became hazardous wastes themselves.

All production activities at the facility have ended. Current activities include waste management operations, site remediation, environmental response actions, nuclear materials disposition, and miscellaneous operations such as wastewater treatment. More specifically, waste storage operations are allocated as follows:

HWMU No. 19 (CP Storage Warehouse - Bldg. 56)

Location: South of 3rd Street; West of B Street

Maximum Capacity: 116,160 gallons / 2,112 drums

Waste Types: Currently not being used for storage of hazardous wastes

HWMU No.20 (Plant 1 Pad)

Location: North of 2nd Street; West of B Street

Maximum Capacity: 11,222,200 gallons / 198,000 drums

Waste Types: Various hazard classes (including corrosives and ignitable solids (e.g. oxidizers) in the tension support structures and ignitable waste/PCBs in the hazardous waste storage lockers.

HWMU No.29 (Plant 8 Warehouse/Bldg. 80)

Location: Corner of A Street and 1st Street

Maximum Capacity: 139,260 gallons / 2532 drums

Waste Types: Currently not being used for storage of hazardous waste.

HWMU No.33 (Pilot Plant Warehouse/Bldg. 68)

Location: Southwest corner of production area

Maximum Capacity: ~~13,200 gallons / 240 drums~~ 16,500 gallons / 300 drums

Waste Types: ~~Currently not being used for storage of hazardous wastes. Samples are being staged in this unit under the sample exclusion in OAC 3745-5104(D).~~ Currently being used for the storage of hazardous waste samples. These are primarily environmental media samples but some samples may be ignitable or contain PCBs.

HWMU No.37 (Plant 6 Warehouse/Bldg. 79)

Location: E Street between 1st and 2nd Street

Maximum Capacity: 230,780 gallons / 4,196 drums

Waste Types: Combustible and flammable liquids, solids, trash, PCBs. The FEMP is also storing ignitables/PCBs in bulk tanks located outside of the Plant 6 Warehouse (Bldg. 79).

Building 60 (Quonset Hut #1)

Location: West of B Street; North of 3rd Street

Maximum Capacity: 18,500 gallons/434 containers

Waste Types: Thorium-contaminated waste

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Building 64 (Thorium Warehouse)/Building 65 (Old Plant 5 Warehouse)
Location: North of D Street curve
Maximum Capacity: 97,352 gallons/120containers
Waste Types: Thorium-contaminated waste

~~The FEMP is currently planning to remove all inventory from Buildings 60, 64 and 65 by December 31, 2000.~~

The FEMP site and mailing addresses are:

Fernald Environmental Management Project - Site Address
7400 Willey Road
Fernald, Ohio 45030
(513) 648-3000

Fernald Office - Mailing Address
U. S. Department of Energy
P.O. Box 538705
Cincinnati, Ohio 45253-8705
(513) 648-3000

Operation missions and program direction are administered through the U.S. Department of Energy (DOE) Office of Environmental Restoration and Waste Management (EM). The name, address, and telephone number of this office are:

U. S. Department of Energy
Office of Environmental Restoration and Waste Management
1000 Independence Avenue Southwest
Washington, D. C. 20585
(202) 586-5000

This plan describes the actions facility personnel must take in response to a hazardous waste event or emergency such as fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water. This plan applies to all areas of the facility where hazardous waste is being handled or stored. Therefore, in addition to the five storage units the FEMP is seeking to permit, all hazardous waste management units, less than 90 day storage areas and hazardous waste storage areas operated under the site's CERCLA remediation program, are discussed in this plan. The location of the active hazardous waste management units (HWMUs) which the FEMP is seeking to permit as RCRA storage facilities are shown in Figure G-1. A copy of this

contingency plan is located at each such unit while it is being used for storage of hazardous waste. The location of all other HWMUs is shown within Attachment G-1 on the inserted map "Location of FEMP Rally Points", located between pages 6 and 7. Since a potential incident could occur at any HWMU, Attachment G-1 describes evacuation routes for all HWMUs and fire and safety equipment available for HWMUs containing hazardous waste.

G-1a Emergency Organization

The Emergency Coordinator/AEDO may request support and allocate resources under the responsibilities of any or all of the Emergency Response Support Organizations discussed in this section. Table G-2 provides a roster of the FEMP Emergency Organization. Figure G-2 provides an organizational chart of the FEMP Emergency Response Organization.

Fernald Environmental Management Project

Emergency Management

The Emergency Director (the operating contractor President or his designee) has designated an Assistant Emergency Duty Officer (AEDO) who is responsible for emergency responses at the FEMP. The Emergency Coordinator is the primary AEDO.

The Emergency Coordinator/AEDO manages and controls the response to any event at the FEMP. A minimum of one Emergency Coordinator/AEDO is present onsite at all times. Through an extensive Emergency Duty Officer training program assembled by the Emergency Preparedness Department, the Emergency Coordinator/AEDO is knowledgeable of this Contingency Plan, operations and activities at the FEMP, the locations and characteristics of hazardous waste at the facility, the location of records within the FEMP, and the facility layout. Figure G-3.1 illustrates the range of training requirements for the Emergency Coordinator/AEDO.

The Emergency Coordinator/AEDO can activate the FEMP emergency response organizations including, but not limited to, the Emergency Response Team, Monitoring Team, medical staff,

G-4 EMERGENCY RESPONSE PROCEDURES

The following procedures are the responsibility of the Emergency Coordinator/AEDO or his designee whenever the Contingency Plan is implemented.

G-4a Notification

General Notification Activities

- 1) The Emergency Coordinator/AEDO informs Communications Center that the Contingency Plan has been implemented and is classified as an ALERT, SITE AREA EMERGENCY, or GENERAL EMERGENCY involving hazardous waste.
- 2) The Communications Center (or Emergency Coordinator (AEDO)) notifies Emergency Chief (EC) and Emergency Duty Officer (EDO) of the event categorization.
- 3) The Emergency Duty Officer notifies Emergency Director (ED) and DOE Site Manager, or designee(s), of the event categorization.
- 4) The Communications Center completes County Event Report¹ as directed by the Emergency Coordinator/AEDO.
- 5) The Communications Center Operator activates site-wide alarm system, the site-wide message system, and/or the off-site Emergency Warning System, as directed.
- 6) The Emergency Coordinator/AEDO begins identification of the character, source, amount, and extent of any released materials by observation, for example hazardous waste labels on the container, review of facility records, interaction with facility personnel, and if necessary, by chemical analyses.
- 7) Concurrently, the Emergency Coordinator/AEDO assesses possible hazards to human

¹ The County Event Report is an emergency event report form used for making notifications to both Butler and Hamilton Counties for events categorized as Alert or higher.

health and/or the environment that may result from the release, fire, or explosion. This assessment will consider both direct and indirect effects of the event.

- 8) The Communications Center Operator in coordination with the Emergency Operations Center completes all required notifications to:
- DOE-HQ EOC,
 - State of Ohio Emergency Management Agency (OEMA), who then notifies the appropriate offsite agency(ies) listed in Table G-1, according to the type of incident,
 - Butler and Hamilton counties' 24-hour notification points,
 - Director, Ohio Environmental Protection Agency
 - FEMP Release Evaluator,
 - DOE-FEMP Duty Officer,
 - Appropriate local organizations, if not notified by OEMA,
 - Federal and State regulatory agencies, if not notified by OEMA.

The first three agencies listed above are notified within 15 minutes of any hazardous waste emergency.

- 9) The DOE-FEMP Duty Officer provides FEMP Communications Center, as soon as possible, with a written record documenting that the appropriate regulatory agencies have been verbally contacted.
- 10) The DOE-FEMP Duty Officer is responsible for making and verifying any follow-up notifications communicated to them by the FEMP, Emergency Coordinator/AEDO, Emergency Duty Officer or Emergency Operations Center.

Initial Oral Notification for Hazardous Waste Emergencies

The Emergency Coordinator/AEDO or the Emergency Operations Center immediately reports to DOE-HQ when the facility has had a release, fire, or explosion which could threaten human health or the environment.

The FEMP Emergency Operations Center notifies appropriate local authorities to advise whether protective actions are required. The FEMP Emergency Operations Center provides oral notification immediately to the Ohio Emergency Management Agency. The DOE-FEMP Duty Officer will provide oral notification immediately to the Ohio EPA Emergency Response Center.

The verbal report will contain the following information²:

- name, address, and telephone number of the reporter;
- name and address of the facility;
- the time and date of the incident;
- type of incident (e.g., fire, spill, etc.);
- identification of material(s) involved to the extent known;
- quantity of each material included;
- extent of injuries, if any;
- potential hazards to human health or the environment, outside of the facility; and
- date and time that call was made and person contacted.

Local Evacuation Notices

Local agencies are responsible for protective actions required for the population surrounding the FEMP. The FEMP Communications Center will activate the Off-site Emergency Warning System for emergency events that could have significant off-site impact. The FEMP Off-Site Emergency Warning System is utilized to inform the population within a two-mile radius of the FEMP to seek shelter and tune to an Emergency Broadcast System Station for further instructions.

2 Form A (Ohio Hazardous Waste Release Fire, Explosion Report to Ohio EPA) may be used as a guideline to facilitate this verbal reporting.

Written Notification

A written report notifying Ohio EPA that this Contingency Plan was implemented is submitted to the Ohio EPA by DOE within 15 days after an occurrence of an incident that requires implementation of this Contingency Plan. The report will include the following information:

- name, address, and telephone number of the owner or operator of the facility;
- name, address, and telephone number of the facility;
- date of incident;
- time of incident;
- type of incident (e.g. fire, spill);
- type of material(s) involved;
- quantity of material(s) involved;
- the extent of injuries, if any;
- an assessment of actual or potential hazards to human health or the environment, where this is applicable;
- estimated quantity and disposition of recovered material that resulted from the incident; and
- an outline or description of procedures or measures that will be taken to prevent or mitigate such incidents in the future.

Cessation/Resumption of Activities

The Emergency Coordinator/AEDO must take the preventive measures described in Section G-4e, if the event causes the affected area of the facility to cease activities.

The equipment in the affected area of the facility will be returned to a clean and serviceable condition after an emergency. Waste generated during spill cleanup will be managed in accordance with all applicable regulatory requirements. Ohio EPA regulatory authorities will be notified by the Department of Energy of the readiness to resume hazardous waste activities.

G-4b Identification of Hazardous Materials

The Emergency Coordinator/AEDO immediately begins identification of the character, exact source, amount, and extent of the event or release.

The Emergency Coordinator/AEDO will begin identification of the hazardous material by using the following procedure:

- 1) Visual inspection of the container labeling will be the initial identification method. The labeling includes all pertinent waste characterization information.
- 2) If labels are obscured or not easily read, site records such as the Material Movement Record may be used to identify the composition and quantity of stored or released material. A detailed inventory of the location of every drum of hazardous waste is maintained and readily available from the Sitewide Waste Information, Forecasting and Tracking System (SWIFTS) Database.
- 3) Samples will be taken for analysis and characterization if the released material cannot be identified by the above methods.

G-4c Assessment

The Emergency Coordinator/AEDO will assess potential hazards to human health or the environment from the incident. The assessment will consider both direct and indirect effects of the release such as the effects of any hazardous fumes released. The Emergency Coordinator (AEDO) assesses the event by evaluating:

- The population at risk (both on- and off-site);
- The environmental conditions contributing to the seriousness of the event such as wind speed and direction, precipitation, ground moisture, and temperature;
- Potential radionuclide hazards;
- Protective Action Guide (PAG) or Emergency Response Planning Guideline (ERPG) exposure levels; and
- The capabilities of available equipment.

The existing DOE event categorization system used by the FEMP provides a uniform, shared understanding of event severity. The emergency categorization system classifies emergency events based on the potential or actual impact of the event on facility safety, facility personnel

health and safety, and on public health and safety. The site Emergency Plan provides for predetermined responses by the Emergency Coordinator/AEDO based upon the incident categorization criteria.

Categorization Systems

Events that operationally involve or affect the FEMP are grouped into four categories, by relative ranking of the assessed facility status, to ensure that the urgency of notification is readily identifiable and appropriate response actions are directed immediately. Inputs to the event categorization system include the status of systems, the observation of operating personnel, and the levels of radiological or hazardous materials in areas of the facility or in facility effluent. Incident severity defines the categorization level providing a uniform, shared understanding of event severity common to all involved groups.

The four categories in order of increasing severity are as follows: Loggable Event, Off-Normal Occurrence, Unusual Occurrence, and Operational Emergency. The Operational Emergency level has been further subdivided for hazardous material and radiological events into three classes: Alert, Site Area Emergency, and General Emergency. Each are discussed below with detailed definition, classifications of emergencies, and appropriate emergency responses to be taken provided in DOE 151.1 and in the Emergency Action Levels of the FEMP Emergency Plan.

Operational Emergency Classification

Base Program Events

Operational Emergencies are unplanned significant events of conditions that require time-urgent response from outside the immediate/affected site/facility or area of the incident. Such emergencies are caused by, involve, or affect DOE facilities, sites, or activities and represent, cause, or have the potential to cause the events or conditions describe below. Incidents that can be controlled by employees or maintenance personnel in the immediate/affected facility or area are not Operational Emergencies. Incidents that do not pose a significant hazard to safety, health, and/or the environment and that do not require a time-urgent response are not Operational Emergencies. Note that the initiating events described are not all-inclusive. Other initiating events that warrant categorization as Operational Emergencies shall be included in site/facility-specific procedures. Less severe events are reported through the Unusual

Occurrence and Off-Normal Occurrence process.

An **Operational Emergency** for a Base Program Event shall be declared when events that represent a significant degradation in the level of safety at a site/facility and that require time-urgent response efforts from outside the site/facility occur. These events do not require further classification (i.e., as Alert, Site Area Emergency, or General Emergency).

Hazardous Materials Program Events (Radiological and Non-Radiological)

Operational Emergencies for a Hazardous Materials Program Event shall be classified as either an Alert, Site Area Emergency, or General Emergency, in order of increasing severity, when events occur that represent a specific threat to workers and the public due to the release or potential release of significant quantities of radiological and non-radiological hazardous materials. Classification aids in the rapid communication of critical information and the initiation of appropriate time-urgent emergency response actions.

Alert (LEPC Level I Emergency Conditional Level): An Alert shall be declared when events are predicted, are in progress, or have occurred that result in one or more of the following:

An actual or potential substantial degradation in the level of control over hazardous materials (radiological and non-radiological).

The radiation dose from any release to the environment of radioactive material or a concentration in air of other hazardous material is expected to exceed either:

- a. The applicable Protective Action Guide or Emergency Response Planning Guideline at or beyond 30 meters from the point of release to the environment or;
- b. a site-specific criterion corresponding to a small fraction of the applicable Protective Action Guide or Emergency Response Planning Guideline at or beyond the facility boundary or exclusion zone boundary.

- c. It is not expected that the applicable Protective Action Guide or Emergency Response Planning Guideline will be exceeded at or beyond the facility boundary or exclusion zone boundary.
- d. An actual or potential substantial degradation in the level of safety or security of a facility or process that could, with further degradation, produce a Site Area Emergency or General Emergency.

Site Area Emergency (LEPC Level II Emergency Condition Level): A Site Area Emergency shall be declared when events are predicted, in progress, or have occurred that result in one or more of the following situations.

- 1. An actual or potential major failure of functions necessary for the protection of workers or the public. The radiation dose from any release of radioactive material or concentration in air from any release of other hazardous material is expected to exceed the applicable Protective Action Guide or Emergency Response Planning Guideline beyond the facility boundary or exclusion zone boundary. The Protective Action Guide or Emergency Response Planning Guideline is not expected to be exceeded at or beyond the site boundary.
- 2. Actual or potential major degradation in the level of safety or security of a facility or process that could, with further degradation, produce a General Emergency.

General Emergency (LEPC III Emergency Condition Level): A General Emergency shall be declared when events are predicted, in progress, or have occurred that result in one or more of the following situations.

Actual or imminent catastrophic reduction of facility safety or security systems with potential for the release of large quantities hazardous materials (radiological or non-radiological) to the environment. The radiation dose from any release of radioactive material or a concentration in air from any release of other hazardous material is expected to exceed the applicable

Protective Action Guide or Emergency Response Planning Guideline at or beyond the site boundary.

G-4d Control Procedures

Emergencies involving hazardous waste will fall under three general classifications for the purpose of this Contingency Plan:

- explosion
- fire
- spills or material release.

The FEMP Emergency Response Team is prepared for immediate response to fires, explosions, and spills at all times. Personal protective clothing, pumps, generators, and respiratory equipment are noted in Section G-5; containment supplies and procedures in Section G-5(b); and major self-propelled and other "heavy" equipment in Section G-5(a)(4).

The following Emergency Response Team members respond to fire alarms as needed:

- Emergency Chief with Fire & Rescue service vehicle
- Emergency Coordinator (AEDO) with vehicle
- Emergency Response Team with appropriate emergency apparatus
- Security Officer with vehicle
- Emergency Coordinator/AEDO or Emergency Chief, if required, will request Security to transport a driver from the fire scene to the heavy equipment building to obtain additional equipment (i.e., a second pumper truck).

Rescue of persons from an evacuated building or area will be undertaken only by the Emergency Response Team under the direction of the Emergency Chief.

Response procedures for the Emergency Response Team and other trained personnel are summarized below:

- 1) Immediately notify personnel to evacuate the danger area and activate the local

evacuation alarm while taking action to ensure own personal safety.

- 2) Report urgent situations directly to the Communications Center via the Emergency Phone Number 911, pull manual fire alarm, or have the report relayed to the Communications Center over the site-wide FM radio network, if a person with a portable radio is nearby. Otherwise, report information to a local supervisor who will relay the report to the Communications Center or Emergency Coordinator/AEDO.
- 3) Report the following information to the Emergency Coordinator/AEDO:
 - Location;
 - Type of emergency; fire, explosion, chemical release, and personnel, equipment, and chemicals or hazardous wastes involved and amounts if known;
 - The magnitude of the emergency, such as an estimate of the extent, size, quantity, volume, intensity, area, etc.; and
 - Emergency actions taken.
- 4) If possible, the facility personnel encountering the emergency should remain in the vicinity to direct emergency service groups to the scene.
- 5) Determine need for emergency service groups and summon them by calling 911, pulling manual fire alarms, or relaying the information to the Communications Center via the FM radio network.
- 6) Shut off all operation equipment, air, water, steam, gas, and electricity.
- 7) Remove and segregate all non-burning combustible or otherwise hazardous wastes from the vicinity of the incident, depending on the location of the incident.
- 8) Unlock all doors.
- 9) Evacuate all personnel in the vicinity of the incident not actively involved in responding

to the emergency.

- 10) Account for all personnel at location or at the Rally Point.
- 11) Assist the Emergency Coordinator/AEDO if called upon.
- 12) Assess possible human health and environmental hazards of the event and define or assess the hazard impact including:
 - Identify the involved substance and its source;
 - Determine the extent and the amount of materials involved;
- 13) Assess the emergency and establish the initial event categorization;
- 14) Authorize the request for mutual aid;
- 15) Notify the EDO of significant actions prior to EOC being declared operational;
- 16) Set up a field command post to ensure coordination of all EOC instructions. The field command post shall formulate and forward requests for additional resources.
- 17) Initiate the "All Clear" signal when the emergency is under control and/or resolved;
- 18) Initiate necessary precautions to ensure that further fires, explosions and releases do not occur, recur or spread to other hazardous waste or materials;
- 19) Initiate appropriate monitoring for leaks, pressure build up, gas generation or rupture in valves, pipes, or other equipment;
- 20) Initiate reentry activities including recovery, treatment, storage, and/or disposal of any recovered waste, contaminated soil, surface water, or other materials resulting from the emergency;

- 21) Ensure that all emergency equipment is returned to normal status when the event has been terminated.

Should the EC or Emergency Coordinator/AEDO determine that a fire is out of control and additional personnel are required, the Emergency Coordinator/AEDO will direct the Communications Operator to initiate the call-in for additional FEMP fire response personnel by activating the Group C pagers.

Fire fighting support can be requested from surrounding community fire departments. The members of the arriving mutual aid fire department will be met at a staging area or at the gate by FEMP personnel, given any pertinent instructions, supplied with Thermal Luminescent Dosimeter (TLD) badges, and escorted to the location of the fire.

The personnel responding from off-site departments will be under FEMP direction. They will be responsible for their own equipment and to their senior officer who will report to the Emergency Coordinator/AEDO for instructions.

G-4e Prevention of Recurrence or Spread of Hazardous Waste Fires, Explosions or Releases

Actions to prevent the recurrence or spread of releases or fires include immediately determining the cause of the incident, stopping of processes and operations where applicable, cleaning up all debris from the incident and maintaining good housekeeping, containing and collecting released waste, recovering and isolating affected containers, ensuring fires are completely extinguished, and decontaminating affected areas and equipment. Procedures and policies will be reviewed and revised as necessary to prevent a recurrence, upon determining the cause of the incident.

G-4f Storage and Treatment of Released Waste

The Emergency Coordinator/AEDO or his designee will immediately collect representative samples of all recovered wastes for analysis and characterization after an emergency. Waste will be placed in a compatible container. All waste materials generated during the emergency response will be handled, treated, stored, and/or disposed of in accordance with the applicable

hazardous waste regulations.

Methods for containment, cleanup, and decontamination of the affected areas are discussed in Sections G-4i, Container Spills and Leakage, and G-4j, Tank Spills and Leakage.

G-4g Incompatible Wastes

Containers and storage bays are marked with Reactivity Group Codes (RGCs) based upon the results of waste characterizations. The RGC chart is readily available in all RCRA storage units, and is provided as Figure F-2 in Section F, Procedures to Prevent Hazards. Adherence to the codes provides a convenient, reliable system to assure that incompatible wastes will be stored in separately bermed areas or in separate buildings, to prevent mixing in the event of a spill or leak. In addition, since water might commonly be used for flushing or fire suppression, waste material that is incompatible with water is clearly marked as such.

Thus, in the event of (large) spills or leaks, the Emergency Coordinator/AEDO can ensure against the mixing of incompatible substances by maintaining the integrity of the berms, or by creating temporary dikes to divert flow. As necessary, storage unit inventory records will be examined and facility owners consulted to identify released material. As described in Section G-4b, samples will be taken for analysis and characterization if identification proves impossible due to obliterated drum labels or inaccessible site records.

The recovered materials or wastes generated during cleanup will be characterized and stored in accordance with all applicable regulatory requirements.

The only exception to this requirement is containers of samples being staged in the Pilot Plant Warehouse (Building 68) prior to segregation under the Sample Disposition Project. RGC Codes will be applied to containers of hazardous waste samples after they have been segregated and/or consolidated under this project. These are primarily environmental media samples and samples from various mixed waste treatment projects. The Pilot Plant Warehouse is being used to temporarily store these containers since many of the samples are stored in glass jars and require storage in a heated building. The samples have been overpacked into larger containers filled with packing material and/or absorbent.

G-4h Post-Emergency Equipment Maintenance

Emergency equipment which has been used in the affected area will be decontaminated, cleaned and readied for its intended use before operations are resumed in the affected area(s) of the FEMP. Depleted stocks of materials will be replenished. Self-contained breathing apparatus, protective clothing, and other emergency equipment which cannot be successfully cleaned, repaired, or decontaminated will be replaced as necessary. An inspection of all safety equipment will be conducted by response personnel before operations are resumed in the affected area(s) of the facility.

The State regulatory authorities shall be notified of the readiness of the facility to resume hazardous waste operations after the equipment is returned to a clean and serviceable condition.

G-4i Container Spills and Leakage

The Emergency Coordinator/AEDO will be contacted immediately, if inspectors during the scheduled weekly container inspections or other FEMP personnel observe spills and/or leakage.

The Emergency Coordinator/AEDO will then determine which types of industrial absorbents may be used (if necessary) to stop the spread of the leak or spill. Cleanup residues, along with the original drum's contents, will be overpacked and stored in the same area. For cleanup residues where the identity or waste status is in doubt, all absorbents, washings, etc., will be drummed and transferred to an appropriate temporary holding area, pending analysis, relabeling, and re-storing in accordance with hazardous waste regulations.

Very large spills involving the release of hazardous waste are unlikely in the container storage areas. Secondary containment structures in areas storing hazardous waste with free liquids are capable of holding at least 10% of the maximum volume of hazardous waste stored in that structure. If several drums are spilled simultaneously, the spilled material will be pumped from the containment area and re-containerized to prevent overflow of the containment area before attempting to use absorbent materials. Spilled hazardous waste will be treated, stored, and disposed of in accordance with the appropriate regulatory requirements.

G-4j Tank Spills and Leakage

G-4j(1) Stopping Waste Addition

Addition of hazardous waste into a tank system or secondary containment system will be stopped immediately once a leak or spill is detected in that system. The system will be inspected to determine the cause of release.

G-4j(2) Removing Waste

Hazardous wastes are removed from a tank system by pumping, vacuuming (using a HEPA filter), or absorption using methods and spill response equipment in accordance with documented Emergency Response Team Manual Procedures. The method of removal is determined by the type and amount of hazardous waste spilled, or as directed by the Emergency Coordinator/AEDO. Removal of hazardous waste will be accomplished within 24 hours or as quickly as possible.

G-4j(3) Containment of Visible Releases

Suitable spill cleanup materials are designated for each applicable area. The material used for diking the spill is selected to be compatible with the released hazardous waste. In addition, many large tank systems are located within berms sufficient to contain most of the tanks' contents, and thus allow time for diversion of the spill, or repair and refilling of the tank. Visual examination of the spilled waste will be performed immediately. Based on results of the inspection, the appropriate methods will be selected to prevent further migration of the leak or spill. Visible contamination of soil or surface water will be cleaned up and disposed of in accordance with all applicable regulatory requirements.

G-4j(4) Notifications, Reports

All events are properly documented as directed by the Emergency Coordinator/AEDO, and/or Release Evaluator. Further information is provided in Section G-4a. Any release to the environment that exceeds a reportable quantity (RQ) under CERCLA or reported as required per RCRA will be reported to the Director of the Ohio EPA and the Regional Administrator within 24 hours of detection.

G-4j(5) Provision of Secondary Containment, Repair or Closure

Spilled hazardous wastes are prevented from entering floor drains or storm sewers by damming the spill. Released waste will be removed and repairs made as necessary before returning the system to service. The material used for diking the spill is selected to be compatible with the released material. The compatibility of the patching material with the waste will be evaluated before patching dikes or tanks.

Secondary containment will be provided if the area is designated as a storage area for hazardous waste with free liquids. Temporary diked areas constructed of Herculite material spread over plastic pipes can be used to form an impervious diked area when necessary.

If a leak to the secondary containment system is detected, the primary tank system will be repaired before returning the primary system to service. The released waste will be cleaned up and removed.

If the source of the release was a leak to the environment from a component of a tank system without secondary containment, secondary containment will be provided, unless the leak source is from an aboveground component of the tank that can be visually inspected on a daily basis.

An aboveground component leak source, which can be inspected visually, will not be returned to service without certification by a registered professional engineer that the repaired component will safely handle hazardous wastes without release for the intended life of the system.

Components replaced to comply with this subparagraph will satisfy requirements for new tank systems or components specified in 40 CFR 264.192, 264.193, OAC 3745-55-92, and OAC 3745-55-93. In addition, any portion of a component from which a leak has occurred and is not accessible for visual inspection will be provided with secondary containment for the entire component prior to return to service.

G-5 EMERGENCY SUPPORT AND EQUIPMENT

The Emergency Coordinator/AEDO when notified of an event involving hazardous waste or hazardous waste constituents, may utilize the emergency resources, support and equipment summarized below.

The facilities and equipment available for use in an emergency at the FEMP are the Emergency Operations Center (EOC), a Mobile Operations Center (MOC), the Joint Information Center (JIC) at the Delta Building, and the Communications Center. Supporting equipment and resources include warning systems (on-site and off-site), response vehicles, personnel decontamination equipment, medical support, radiological monitoring, and industrial hygiene monitoring equipment. The FEMP also maintains mutual aid agreements with local emergency response agencies as described in Section G-6.

Copies of Mutual Aid Agreements are maintained as part of the FEMP Operating Records.

Emergency Operations Center (EOC)

The EOC is located in the FEMP Administration Building. EOC staffing and responsibilities are outlined in Section G-1b. Resources available in the EOC include maps, engineering drawings, and other emergency reference materials. The EOC is equipped with an air-purification system, which can sustain air quality and a backup power generator.

A comprehensive communications system in the EOC includes telephones, telefax, computers, portable radios and a control module for the radio equipment in the Communications Center. The EOC can monitor or augment the FEMP emergency communications control system in the Communications Center. Radio and cellular telephone communications can be utilized as backup communications if telephones are not available. A VHF radio is programmed for various FEMP frequencies. A paging system links response personnel with the Communications Center. All response personnel can be alerted simultaneously or individually, in case of an event.

Computer support systems in the EOC maintain a historical record, perform meteorological and heavy gas modeling, aid in reporting current event status information to local county officials, and aid in drafting and transmitting press releases.

Mobile Operations Center

The Mobile Operations Center is designed and equipped to serve as a mobile command/communications post in the event that mobile communications are required at the site of an emergency or if the EOC is rendered unusable. The Mobile Operations Center can also be used by other organizations, such as Butler and Hamilton County officials or other DOE sites in the event they have a need for a portable command center.

The Mobile Operations Center is outfitted with similar capabilities as the FEMP-fixed EOC located in the Administrative Building.

The Mobile Operations Center is equipped with extensive communications capabilities as follows:

- A telephone key system capable of handling a maximum of twelve incoming/outgoing trunk lines and 24 extension lines. There are also provisions for a maximum of 8 external extensions.
- A VHF radio is programmed for various FEMP frequencies.
- A CB radio in the cab intended for maintaining communications with any vehicles that may accompany the Mobile Operations Center during transportation.

The Mobile Operations Center, which seats 12 people, is also equipped with office supplies, computers, FAX machine, copier, refrigerator, respirators, maps, event status pads, white boards, markers, erasers, and other items required to support the personnel responding to an emergency situation. The computer hardware has the capability to allow the FEMP to analyze the plume direction of a chemical release and predict the expected exposure. The MOC is designed to be self-contained with an independent diesel generator, heat pump for heating and cooling and an internal lighting system.

**REPLACEMENT PAGES
FOR
ATTACHMENT G-1
(EMERGENCY PROVISIONS AND
EQUIPMENT INFORMATION)**

ATTACHMENT G-1

Emergency Procedures, Site Layout and Equipment Information

Attachment G-1 contains the description of evacuation procedures, a listing of safety and emergency equipment and site layouts of the hazardous waste management units (HWMUs). Hazardous Waste Management Units for which information is presented are listed below. The listing is followed by a description of the general procedures to be implemented by FEMP personnel in the event of an explosion, fire or spill. The remainder of Attachment G-1 describes the evacuation routes from individual units to Rally Points, and safety and emergency equipment for each HWMU, Quonset Hut #1 (Building 60), Thorium Warehouse (Building 64), Old Plant 5 Warehouse (Building 65), the Liquid Mixed Waste Project Bulk Tanks, and the 90 Day Hazardous Waste Storage Locker.

90 Day Hazardous Waste Storage Locker

The 90 Day Hazardous Waste Storage Locker is used to store hazardous wastes in containers 90 days or less. Fire and safety equipment allocated to this area is described in the following pages.

Hazardous Waste Management Units

The following HWMUs are active storage units for which a permit is being applied for and that have fire and safety and emergency equipment provided at each unit:

- HWMU No. 20 - Plant 1 Pad
- HWMU No. 37 - Plant 6 Warehouse (Building 79)
- ~~HWMU No. 33 - Pilot Plant Warehouse (Building 68)~~

The Plant 8 Warehouse (Building 80), and CP Storage Warehouse (Butler Building, Building 56) are also included in the permit application for the storage of containers of hazardous waste. These units are currently not being used for hazardous waste storage so that there is minimal safety/emergency equipment identified with these units. ~~In addition, the Pilot Plant Warehouse (Building 68) is not currently being used for storage of containers of hazardous waste. However, samples are being staged in this building under the sample exclusion in OAC 3745-51-04(D).~~

The following HWMUs are units for which a permit is not being sought. They are included here to present a complete picture of all HWMUs, as discussed on page G-3. Existing fire and safety equipment is listed as available but may not be applicable to each HWMU due to the lack of hazardous waste currently in the area:

- HWMU No. 1 - Fire Training Facility
- HWMU No. 4 - Drum Storage Area Near Loading Dock (Lab Bldg)
- HWMU No. 5 - Drum Storage Area South of W-26 (Lab Bldg)
- HWMU No. 10 - NAR System Components
- HWMU No. 11 - Tank Farm Sump
- HWMU No. 14 - Box Furnace
- HWMU No. 15 - Oxidation Furnace #1
- HWMU No. 17 - Plant 8 East Drum Storage Pad
- HWMU No. 18 - Plant 8 West Drum Storage Pad
- HWMU No. 22 - Abandoned Sump West of Pilot Plant
- HWMU No. 27 - Waste Pit No. 4
- HWMU No. 36 - Storage Pad North of Plant 6
- ~~HWMU No. 41 - Sludge Drying Beds~~
- HWMU No. 42 - Waste Pit No. 5
- HWMU No. 46 - Uranyl Nitrate Tanks (NFS Storage Area)
- HWMU No. 47 - Uranyl Nitrate Tanks (North of Plant 2)
- HWMU No. 48 - Uranyl Nitrate Tanks (Southeast of Plant 2)
- HWMU No. 49 - Uranyl Nitrate Tanks (Digestion Area)

General Information

Hazardous Waste Management Unit (HWMU), Quonset Hut #1 (Building 60), Thorium Warehouse (Building 64), Old Plant 5 Warehouse (Building 65), the Liquid Mixed Waste Project Bulk Tanks, and the 90-Day Hazardous Waste Storage Locker emergency procedures are described specifically in this section. Responses to an event are identical for each unit and the details are given for the response to the three types of events:

SAFETY EQUIPMENT

HWMUs are supplied with varying levels and amounts of safety equipment depending upon the use, occupancy, and contents of the unit. The remainder of Attachment G-1 lists the locations of safety and emergency equipment designated for each HWMU. Only personnel with the appropriate training and experience shall utilize the specified safety equipment: fire extinguishers, respirators and protective clothing, and spill clean-up equipment.

QUONSET HUT #1 (BUILDING 60)

Quonset Hut #1 is a pre-engineered, single-level structure located west of the KC-2 Warehouse. It is being used for the storage of containers of thorium-contaminated mixed waste.

Personnel should evacuate to Rally Point No. 3 which is located at the intersection of 2nd Street and "C" Street. Movement is east on 3rd Street to south on "B" Street, then east on 2nd Street to the intersection of "C" Street.

The Alternate Rally Point is No. 6. Rally Point No. 6 is located north of the West Water Tower, at the Waste Pit Area access gate. Movement is west on 3rd Street to south on "A" Street, then west on 2nd Street to the rally point.

~~The FEMP is currently planning to remove all inventory from Building 60 by December 31, 2000.~~

The following is a list of safety equipment assigned to this unit:

- Eye Wash Station
 - 1) During operations, available to personnel in the area

- Spill Cleanup Equipment
 - 1) One Portable spill kit located inside the building

THORIUM WAREHOUSE (Building 64) and PLANT 5 WAREHOUSE (Building 65)

The Thorium Warehouse (Building 64) and Plant 5 Warehouse (Building 65) are single story, rectangular buildings located north of "D" Street. They are being used for the storage of containers of thorium-contaminated mixed waste.

Personnel should evacuate to Rally Point No. 3. Rally Point No. 3 is located at the intersection of 2nd Street and "C" Street. Movement is southwest to "D" Street, south on "D" Street to 2nd Street, then west on 2nd Street until the intersection at "C" Street.

The Alternate Rally Point is No. No. 5. Rally Point No. 5 is located at the intersection of 1st Street and "D" Street. Movement is south on "D" Street to the intersection of 2nd Street, east on 2nd Street to south on "E" Street, then west on 1st Street to the intersection of "D" Street.

~~The FEMP is currently planning to remove all inventory from Buildings 64 and 65 by December 31, 2000.~~

The following is a list of safety equipment assigned to these units:

- Eye Wash Station
 - 1) In Building 64, adjacent to Building 65 (Due to high radiation concerns, eyewash stations are not maintained in Building 65)
- Spill Cleanup Equipment
 - 1) In Building 64, adjacent to Building 65 (Due to high radiation concerns, eyewash stations are not maintained in Building 65)
- Manual Pull Fire Alarm
 - 1) (1) Inside, northeast wall Building 65
 - 2) (1) Inside, northeast wall Building 65
 - 3) (1) Inside, southeast wall by office in Building 64
 - 4) (1) Outside, on south wall of Building 64
 - 5) (1) Outside, on south wall of Building 65

THORIUM WAREHOUSE (Building 64) and PLANT 5 WAREHOUSE (Building 65) (cont.)

- Fire Extinguisher
 - 1) (2) Located in Building 65, on northwest wall
 - 2) (4) Inside, east wall of Building 64
 - 3) (1) Outside, southeast wall of Building 64

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3493



6

2nd Street



102nd Street

101st Street



Building 80

office

(Portable)

S



1st Street

"B" Street

8



"A" Street

PLANT 8 WAREHOUSE (BUILDING 80)

HWMU #29

S = Spill Cleanup Equipment

X = Manual Fire Alarm

 = Primary Evacuation Route

 = Alternate Evacuation Route

 = Rally Point

HWMU No. 33 - PILOT PLANT WAREHOUSE (BLDG. 68)

The Pilot Plant Warehouse is a pre-engineered fabricated building which is totally enclosed, and sided and roofed with transite. ~~There currently are no containers of hazardous waste stored in the Pilot Plant Warehouse. However, samples are being staged in this building under the sample exclusion in OAC 3745-51-04(D).~~ **This unit is used for the temporary storage of samples. These are primarily environmental media samples although some of the samples may be ignitable or contain PCBs.**

Personnel should evacuate to Rally Point No. 8. Rally Point No. 8 is located at the intersection of 1st and "B" Street. Movement is East, then north to 1st Street then proceed east to the intersection of "B" Street.

The Alternate Rally Point is No. 6. Rally Point No. 6 is located north of the West water tower, at the Waste Pit area Access Gate. Movement is west, then north to 1st Street, then east on 1st Street to "A" Street and north on "A" Street to 2nd Street, then west on 2nd Street to the gate.

The following is a list of safety equipment assigned to this unit:

- Manual Fire Alarm
 - 1) Inside door on West wall of Building #68

- Spill Cleanup Equipment
 - 1) Inside door on west wall of Building #68

- Fire Extinguishers
 - 1) Inside, west wall of building
 - 2) Inside, east wall of building

Communication devices are available for personnel accessing this unit for emergency notification purposes.

HWMU No. 41 - SLUDGE DRYING BEDS

~~The Sludge Drying Beds are surface impoundments that are part of the sanitary wastewater treatment system and are located east of the Production Area.~~

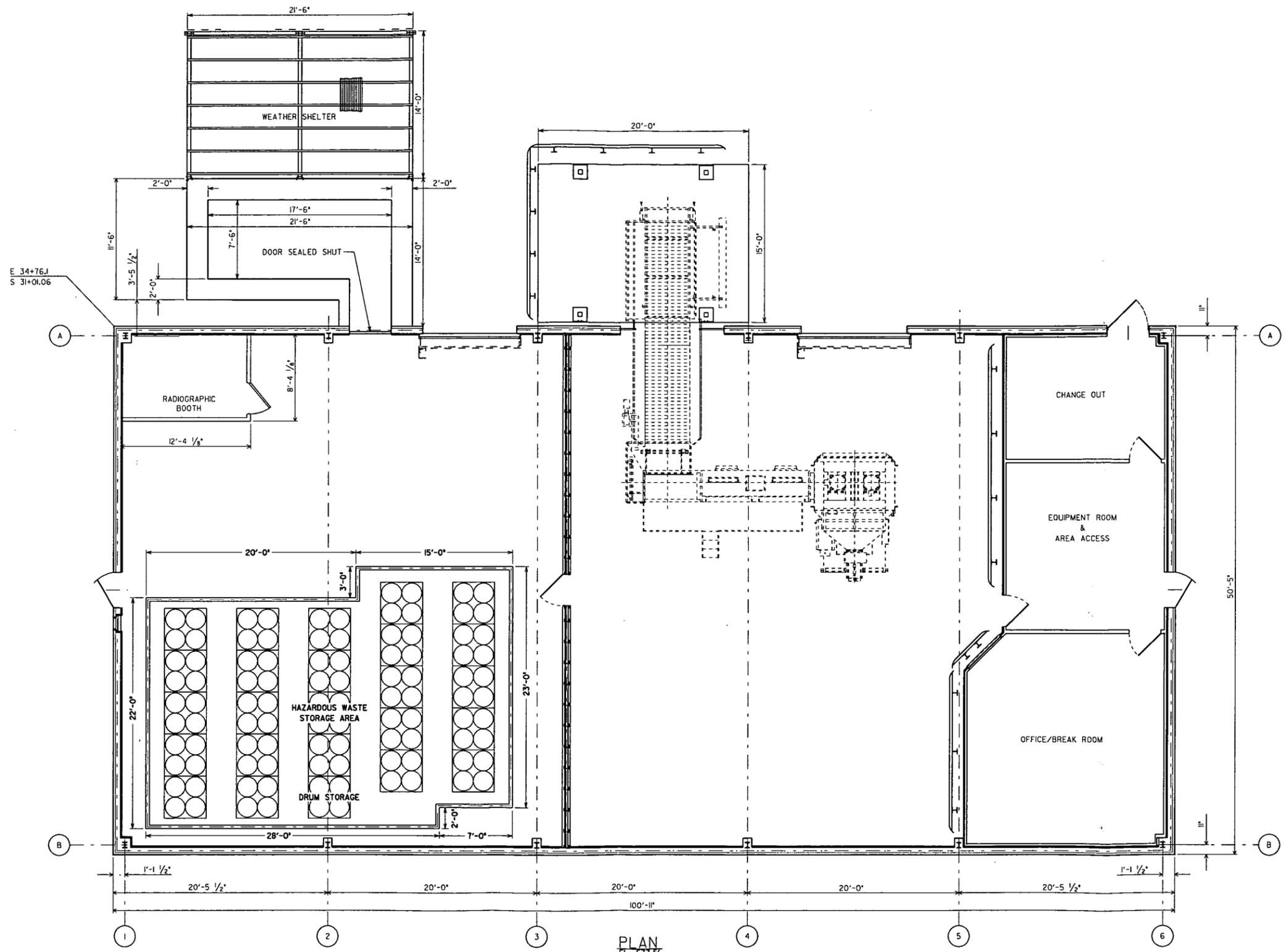
~~Personnel should evacuate to Rally Point No. 1. Rally Point No. 1 is located in the Northeast corner of the FEMP East Parking Lot. Movement is south and west on the Sewage Treatment Plant access road to the FEMP East Parking Lot, then north to Rally Point # 1.~~

~~The Alternate Rally Point is No. 2. Rally Point No. 2 is located at the West side of the FEMP West Parking Lot, just north of the Stormwater Retention Basin. Movement from Rally Point No. 1 is west through the parking lot to Rally Point No. 2.~~

~~There is no safety equipment assigned to this unit. Communication devices are available for personnel accessing this unit for emergency notification purposes.~~

FIGURE D-49

(PILOT PLANT WAREHOUSE LAYOUT)



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Fernald Environmental Management Project FLUOR FERNALD, INC.  U.S. DEPARTMENT OF ENERGY	BUILDING 68 FIRST FLOOR PLAN OLD PILOT PLANT WAREHOUSE FIGURE D-49
	DATE 1/23/01 DRAWN S.J.SMOCK
	FILE NAME: /RES3053/OIFIGD49.DGN