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**REMOVAL SITE EVALUATION RESPIRATOR  
WASHING FACILITY JANUARY 1992**

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**RSE**

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REMOVAL SITE EVALUATION  
RESPIRATOR WASHING FACILITY

**Fernald Site Office**  
**U. S. Department of Energy**

**January 1992**

INTRODUCTION

The Respirator Wash Facility currently exists in a trailer north of the Service Building. Due to the lack of room in the current temporary facility and the need to provide a permanent work area, the equipment will be moved into a new facility within the laundry room of the Service Building.

The scope of the project involves the construction of a block wall to separate the new respirator washing facility from the laundry room. Utilities, including electricity, contaminated and non-contaminated waste lines, and water will be tapped. The contaminated water generated from the cleaning process will gravitate into the existing water retention basin within the service building. The contaminated water will then be pumped to the general sump for appropriate treatment. A drywall ceiling will be installed along with doors, windows, and wall/floor finishes. To complete construction, the respirator washing equipment will be moved from the trailer and installed in the new facility.

Demolition for this project involves the removal of approximately 1.5 yd.<sup>3</sup> of concrete, 100 pounds of HVAC duct from the Service Building, 50 pounds of HVAC duct from the trailer, and 200 pounds of water recycling equipment. Construction planning calls for the concrete to be hauled to the K-65 storage area, the HVAC duct and water processing equipment will be placed in white metal boxes, and the trailer will be radiologically surveyed and possibly used as a mobile air testing trailer. All construction waste will be handled in accordance with FMPC-720, "Control of Construction Waste."

This Removal Site Evaluation (RSE) has been completed by the Department of Energy (DOE) under authorities delegated by Executive Order 12580 under section 104 of CERCLA and is consistent with Section 300.410 of the National Oil and Hazardous Substance Pollution Contingency Plan (NCP). This RSE addresses the construction and demolition of activities related to the Respirator Washing Facility at the Fernald Environmental Management Project and has been completed to support the decision as to whether the present conditions warrant a removal action.

EVALUATION OF THE MAGNITUDE OF THE POTENTIAL THREAT

A total of 43 points were surveyed on the Laundry Room floor, HVAC duct, and roof. Radiological Survey Reports show that the points for total uranium are below the site limits. The survey results for each point are included in Table 1 and 2, while frisk locations are depicted in Figure 1 and 2.

Rubble is considered uncontaminated if it meets the Category 1 limits. Metal is considered uncontaminated if 100 cm<sup>3</sup> smears from the surface of the material show removable contamination levels less than 100 dpm beta/gamma and less than 20 dpm alpha, and the average fixed and removable contamination level is less than 1000 dpm/100 cm<sup>2</sup> and less than 200 dpm alpha/100 cm<sup>2</sup>, and the maximum

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fixed and removable contamination level at any point on the surface is less than 3000 dpm/100 cm<sup>2</sup>. These limits were obtained from FMPC 720, "Control of Construction Waste."

- a. All of the probe points and smear samples on the concrete floor are non-detectable.
- b. None of the probe points or smear samples exceed the alpha and beta-gamma limits on the HVAC duct.
- c. None of the probe points or smear samples on the roof area exceed the alpha and beta gamma-limits.

Chemical Hazards are also addressed in this Removal Site Evaluation. Based on process knowledge from the RCRA Determination, it has been determined that there were no hazardous materials processed, spilled, or herbicides sprayed in the Service Building after renovation was completed in 1990. However, The HVAC duct and water processing equipment in the trailer were exposed to hazardous substances and residues could potentially remain.

The following control measures will be implemented to prevent the migration of contamination and mitigate any potential human or environmental threats to the environment.

1. Radiation Technicians will be present during demolition and excavation to monitor for possible contamination.
2. Control methods for possible fugitive emissions during demolition will include the wetting of surfaces, plastic tarps, HEPA vacuums, etc.
3. The concrete rubble, and HVAC duct will be dispositioned per FMPC 720, "Control of Construction Waste."
4. Tools and equipment will be frisked before leaving the construction area. If equipment is contaminated, it will be decontaminated at Building 69.

**ASSESSMENT OF THE NEED FOR REMOVAL ACTION**

Consistent with Section 40 CFR 300.410 of the NCP, the Department of Energy shall determine the appropriateness of a removal action. Eight factors to be considered in this determination are listed in 40 CFR 300.415 (b) (2) of the NCP. Two of these factors listed below are considered appropriate as a result of the potential exposure to, or release of hazardous waste constituents, pollutants, or contaminants where the demolition will take place:

1. Actual or potential exposure to hazardous substances or pollutants or contaminants to nearby populations, animals, or food chain.
2. Weather conditions that may cause hazardous waste constituents, pollutants or contaminants to migrate or be released.

APPROPRIATENESS OF A RESPONSE

If it is determined that a response action is appropriate due to the levels of contamination found in this construction area and the potential threat associated with the existing situation of the contaminants migrating, a removal action may be required to address the existing situation.

If a planning period of less than six months exists prior to initiation of a response action, DOE will issue an Action Memorandum. The Action Memorandum will describe the selected response and provide supporting documentation for the decision.

If it is determined that there is a planning period of greater than six months before a response action is initiated, DOE will issue an Engineering Evaluation/Cost Analysis (EE/CA) Approval Memorandum. This memorandum is to be used to document the threat to public health and the environment and to evaluate viable alternative response actions. It will also serve as a decision document to be included in the Administrative Record.

Based on the evaluation of the above factors, it has been determined that existing controls for the planned action are adequate and a removal action is not required.

TABLE 1  
CONCRETE FLOOR SURFACE

Item Number	Alpha Smear	Alpha Probe	Beta-Gamma Smear	Beta-Gamma Probe
1	14	Items 1 - 30 Non Detectable	NDA	Items 1 - 30 Non Detectable
2	6		27	
3	NDA		NDA	
4	NDA		4	
5	NDA		NDA	
6	6		NDA	
7	14		NDA	
8	NDA		4	
9	6		9	
10	NDA		NDA	
11	6		9	
12	14		4	
13	6		NDA	
14	NDA		13	
15	NDA		NDA	
16	NDA		NDA	
17	NDA		NDA	
18	NDA		4	
19	NDA		NDA	
20	6		NDA	
21	14		13	
22	6		NDA	
23	6		NDA	
24	NDA		13	
25	14		9	
26	NDA		18	
27	6		NDA	
28	NDA		NDA	
29	6		4	
30	NDA		NDA	

NDA = Non-Detectable Activity

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**TABLE 2  
HVAC DUCT & ROOF  
OUTSIDE SURFACES**

<b>Item Number</b>	<b>Alpha Smear</b>	<b>Beta-Gamma Smear</b>	<b>Beta-Gamma Probe</b>
	Items		Items
1	1 - 13	<MDA	1 - 13
2	= <MDA	<MDA	= <1k
3		<MDA	
4		<MDA	
5		<MDA	
6		<MDA	
7		<MDA	
8		21	
9	Inside Diffuser	26	
10	Inside Diffuser	<MDA	
11		21	
12		<MDA	
13		23	

MDA = Minimum Detectable Activity