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**REMOVAL SITE EVALUATION WET STACK
SAMPLER FOR OXIDATION #1 FURNACE MAY
16, 1991**

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RSE**

REMOVAL SITE EVALUATION

WET STACK SAMPLER FOR
OXIDATION #1 FURNACE

Feed Materials Production Center
U. S. Department of Energy

May 16, 1991

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INTRODUCTION

The Plant 8 Oxidation Furnace emission stack is considered to be an in-service, principal stack with a significant probability of emissions exceeding an offsite effective dose equivalent of 0.1 millirems of radiation per year during routine operations. This classification requires (per NESHAP 40 CFR 61, Subpart H) that the stack be continuously sampled to provide accurate reporting of the emissions from the stack. The Oxidation #1 Furnace will be used to incinerate drummed uranium waste that remains on site.

The scope of this project involves the removal of existing scaffolding platforms that provide access to the oxidation furnace #1 stack. Eight 1.5 ft. x 1.5 ft. holes will be cut into the existing transite roof in order to connect support columns to the roof structure. The columns will support a 20 ft. x 30 ft. platform and catwalk that will encompass the northeast quadrant of the Plant 8 roof. The platform will house equipment that will be used to sample the emission stacks.

Demolition for this project involves the removal of approximately 1000 pounds of scaffolding/pipe, 200 pounds of plywood platforms and 150 pounds of transite roof sections. The scaffolding/pipe, wood platforms and transite roof sections will be placed in three white boxes and handled in accordance with FMPC 720, "Control of Construction Waste", and IH&S-IH-03, "Control of Work Involving Asbestos."

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 activities related to the Wet Stack Sampler for Oxidation #1 Furnace at the FMPC and has been completed to support the decision as to whether the present conditions warrant a removal action.

SOURCE TERM

Radiological Survey Reports from the project area indicate that concentrations of total uranium exceed background levels. The survey results for each point are included in Table 1. Figure 1 depicts the frisk and smear locations for the transite roof. The scaffolding and wood smear locations are not included in the Figure 1 drawing.

EVALUATION OF THE MAGNITUDE OF THE POTENTIAL THREAT

A total of twenty-one points were surveyed on the transite roof and eight points were surveyed on the scaffolding and wood. A summary of the direct probe and and smear samples are listed in Table 1

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Metal is considered uncontaminated if smears from the surface of the material show removable contamination levels less than 100 dpm (disintegrations per minute) beta/gamma and less than 20 dpm alpha, and the average fixed and removable contamination level is less than 1000 dpm beta/gamma and less than 200 dpm alpha, and the maximum fixed and removable contamination level at any point on the surface is less than 3000 dpm. These limits were obtained from FMPC 720, "Control of Construction Waste."

- a. All of the probe points on the transite roof exceed the 200 dpm alpha limit.
- b. Two of the smear samples on the scaffolding exceed the 20 dpm alpha limit.
- c. The wood platform on the scaffolding had the highest reading of 198 dpm beta/gamma.
- d. None of the smear samples on the scaffolding exceeds the 1000 dpm beta/gamma limit.

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. The transite roof sections, contaminated wood, and contaminated scaffolding will be placed in three white boxes and dispositioned per FMPC 720.
2. Tools and equipment will be frisked before leaving the construction area. If equipment is contaminated, it will be decontaminated at Building 69.
3. Asbestos removal will take place according to IH&S-IH-03, "Control of Work Involving Asbestos," and ESH-P-41-006, "Issuing Permits for Asbestos Work".

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 National Contingency Plan. 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:

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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.

Removal Site Evaluation
 Wet Stack Sampler At Oxidation Furnace #1

Attachment 1

Table 1
 Transite Roof
 Outside Surface

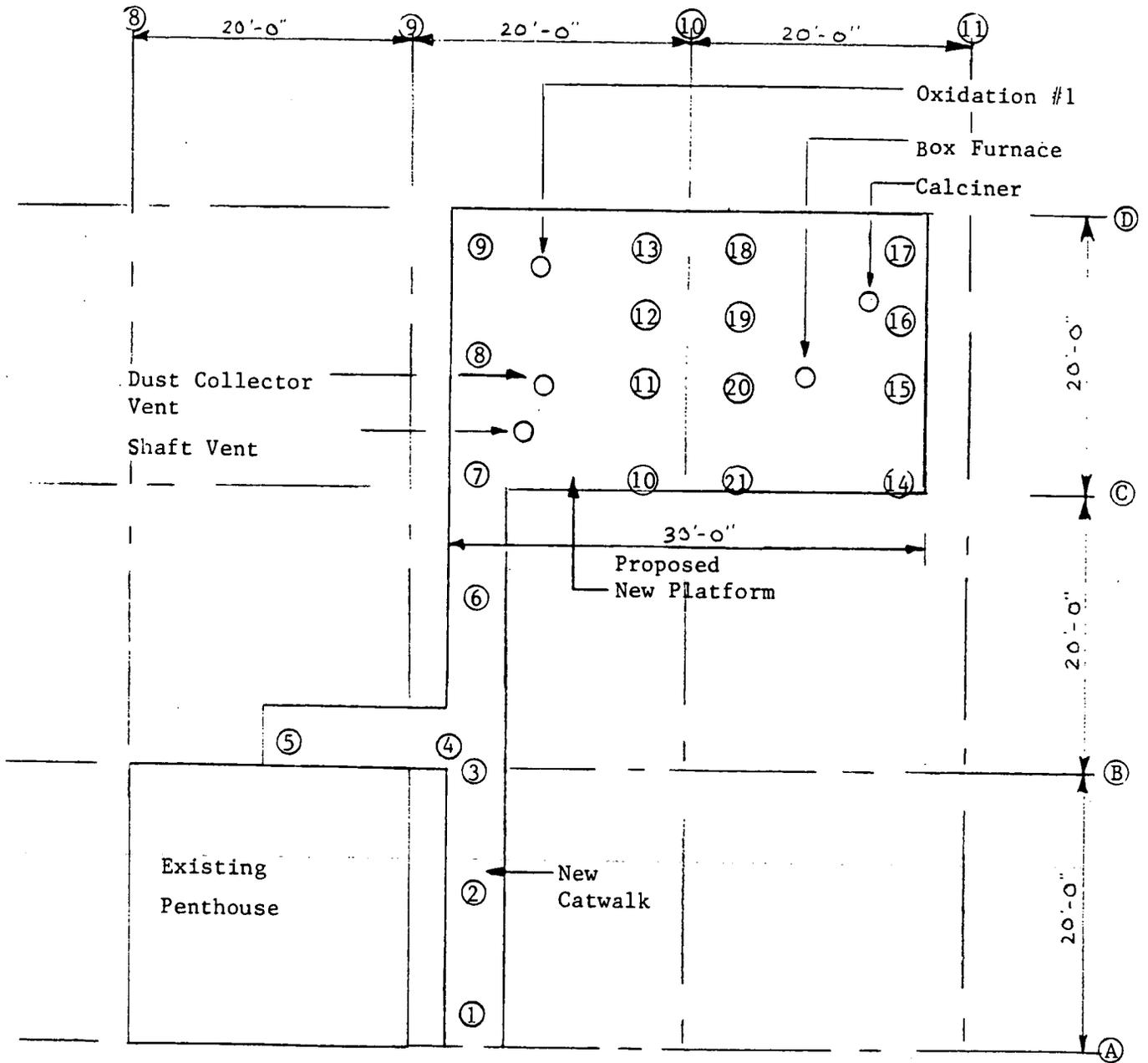
Item Number	Alpha Direct Frisk
1	50,000 dpm
2	30,000 dpm
3	40,000 dpm
4	30,000 dpm
5	33,000 dpm
6	40,000 dpm
7	20,000 dpm
8	25,000 dpm
9	30,000 dpm
10	25,000 dpm
11	6,000 dpm
12	13,000 dpm
13	16,000 dpm
14	18,000 dpm
15	11,000 dpm
16	15,000 dpm
17	30,000 dpm
18	22,000 dpm
19	10,000 dpm
20	12,000 dpm
21	19,000 dpm

Scaffolding & Wood

Item Number	Alpha Smear	Beta-Gamma Smear
22	58 dpm	29 dpm
23	15 dpm	15 dpm
24	1 dpm	1 dpm
25	41 dpm	198 dpm
26	15 dpm	6 dpm
27	15 dpm	56 dpm
28	6 dpm	15 dpm
29	6 dpm	24 dpm

Wood

FIGURE 1



PLANT 8 STACK PLATFORM - Plan

RADIOLOGICAL SURVEY PLAN

Denotes Sample Location

