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OPERABLE UNIT 3
1751-RP-0002

Revision 0

MISCELLANEOUS SMALL STRUCTURES D&D PROJECT

TASK ORDER #387 COMPLETION REPORT

NOVEMBER 1998

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

U. S. DEPARTMENT OF ENERGY
FERNALD AREA OFFICE

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INTRODUCTION

The attached Task Order #387 Completion Report is submitted in accordance with the "Miscellaneous Small Structures Implementation Plan For Above-Grade Decontamination and Dismantlement", which was previously approved by the regulatory agencies. Section 4.0 of that Plan states:

> "Within 30 days from completion of D&D activities covered in a Task Order, DOE will provide the regulatory agencies with a Task Order Completion Report that will address the following issues:
>
> - A summary description of the Task Order scope and components;
> - The completion date of D&D activities;
> - The location of the debris generated by the D&D activities; and
> - Any documented lessons learned from the Task Order implementation.
>
> All other details will be submitted in the MSS-D&D Project Completion Report."

Accordingly, the attached report summarizes the above information for Task Order #387 which includes the Harshaw Tower (3F), Refrigeration Building (3G), and Railroad Engine House (24B).

Task Order #387 was funded through the Accelerated Site Technology Deployment Program.

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SUMMARY DESCRIPTION OF TASK ORDER #387 SCOPE AND COMPONENTS:

The scope of Task Order #387 consisted of the D&D of the following components:

- Harshaw Tower (3F),
- Refrigeration Building (3G), and
- Railroad Engine House (24B).

The Harshaw Tower (3f) was a multilevel open-steel structure located east of the Refrigeration Building (3G). The area was approximately 21 ft. x 41 ft., and the maximum height was approximately 35 ft. Under the structure was a concrete dike covered with acid brick.

The structure was installed in 1957 to relieve the fume load of the NAR Towers (Component 3D). Nitrogen oxide fumes from digestion processes in and around the Ore Refinery Plant (Component 2A) were collected to produce nitric acid. The Harshaw process was active for only three years, from 1957 to 1960.

Salient specific D&D activities include:

- There were six tanks within the Harshaw zone of D&D activities, and they all contained "ceramic chips" that were small (approximately three inches wide), hard, pre-formed curved pieces, composed of quartz, clay, and binders. Testing proved that the chips were not contaminated. The hydraulic shears were used to cut a hole at one end of each tank, lift the tank, and pour the chips into a roll-off box;

- There were no asbestos-containing materials present;

- The hydraulic shears were used to dismantle and size-reduce the steel. Water spray was used as a dust control measure, as necessary; and,

- Approximately 2½ cubic yards of Acid Brick was containerized in a White Metal Box which was transported to a staging area south of 39C. The Acid Brick from Component 3F was not found to be potential mixed waste in the OU3 Remedial Investigation/Feasibility Study, but will be sent offsite for disposition per the OU3 Final Rod.

The Refrigeration Building (3G) was a structural steel framed building, with a concrete floor and transite roof and wall panels, located west of the Harshaw Tower. It was approximately 44 ft. x 16 ft. x 15 ft. high.

The building originally housed a refrigeration process for the Harshaw nitric acid recovery process. Following the shutdown of the Harshaw process, the equipment in the building was removed. The building housed an instrument repair shop until 1991. At that time, the building was converted to a storage area.

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Salient specific D&D activities include:

- An encapsulant was sprayed on the roof and wall panels to fix any loose radiological contamination;
- There were approximately 24 linear feet of asbestos-containing pipe insulation associated with Component 3G. This insulation was abated in accordance with Project Specification 3-1751-TS-0001, "Asbestos Abatement", and was then double-wrapped with 6-mil poly and placed in the Special Materials Roll-Off Box, located adjacent to Component 24B; and,
- A hydraulic shear was used to dismantle and size-reduce the steel. Water spray was used as a dust control measure, as was deemed to be necessary.

The Railroad Engine Garage (24B) was a single-story structure located northeast of the Main Maintenance Building (12A). It was approximately 48 ft. x 28 ft. x 18 ft. high. The Railroad Engine House was built over the end of a railroad spur track, and provided a covered storage and maintenance area for the site's locomotive. It consisted of cinder block walls, a reinforced poured concrete floor, and a steel frame roof structure with metal and wood panels. The floor had a 4 ft. deep x 4 ft. wide x 35 ft. long concrete trench that facilitated locomotive maintenance. The trench allowed maintenance personnel access to the undercarriage of the locomotive.

Salient specific D&D activities include:

- An encapsulant was sprayed on the roof to fix any loose radiological contamination;
- There were approximately 120 linear feet of asbestos-containing pipe insulation associated with Component 24B. This insulation was abated in accordance with Project Specification 3-1751-TS-0001, "Asbestos Abatement", and was then double-wrapped with 6-mil poly and placed in the Special Materials Roll-Off Box, located adjacent to Component 24B; and
- A hydraulic shear was used both to break up the cinder block walls, and also to dismantle and size-reduce the steel. Water spray was used as a dust control measure, as was deemed to be necessary.

The following applies to all three of the above projects:

- No hold-up material or legacy waste (inventory) was present. Therefore, aside from utility disconnections, no preparatory actions were necessary;
- None of the Components were declared to be a Hazardous Waste Management Units (HWMUs); and,
- Equipment/systems dismantlement activities before structural dismantlement were unnecessary, and the small amounts of material (all non-process) that were present were dismantled along with the structures.

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TIME FRAME:

Task Order #387 was issued on August 4, 1998. The project was started on August 10, 1998, and was completed on October 15, 1998.

LOCATION OF DEBRIS:

The Debris from Components 3F, 3G, and 24B (except for the Acid Brick from 3F) was placed into 16 Roll-Off Boxes. These boxes were moved to staging areas as follows:

Category	Description	No. of Boxes	ROB Staging Location
A, B, D, &	Metal	4	OSDF
incidental E		1	Plant 5 Pad - West Side
		3	OSDF Transfer Area
E	Concrete	4	OSDF
		1	Plant 5 Pad - West Side
F	Acid Brick	*(a)*	South of 39C
G	Transite	*(b)*	Northeast of Plant 4 Pad
H	ACM	<1 *(c)*	North of 12B
I 2	Misc. Debris	2 *(d)*	South of 71
I 4	Misc. Debris	1	West of Plant 2/3

(a) Acid Brick from Component 3F was containerized in a White Metal Box, which was transported to a staging area south of 39C. The probable destination of this Box is the Nevada Test Site.

(b) ROBs were not used; approximately (15) cubic yards of transite panels were strapped to pallets, and then were transported on a Flat Bed Truck.

(c) Approximately (5) cubic yards of ACM was transferred to the ISO container located north of Building 12B.

(d) The ceramic "chips" that were housed inside the Harshaw Tower tanks were segregated into 2 separate ROBs and were categorized as miscellaneous debris.

LESSONS LEARNED:

This project continues to prove that by using Site Support Contractor personnel, small Components can be decontaminated and dismantled safely, efficiently, ahead of schedule, and well below budget. Good coordination, teamwork, and excellent communications are keys to success.

The Hydraulic Shears do an excellent job of dismantling and size-reducing steel (in the form of columns, beams, tanks of nominal wall thickness, and miscellaneous items); and cinder block walls.