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**REMOVAL SITE EVALUATION WHITE METAL  
BOX STAGING AREA JANUARY 1994**

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REMOVAL SITE EVALUATION

WHITE METAL BOX STAGING AREA

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

U. S. DEPARTMENT OF ENERGY

January, 1994

## REMOVAL SITE EVALUATION WHITE METAL BOX STAGING AREA

### INTRODUCTION

The White Metal Box Staging Area will be used to provide a white metal box staging area outside of the controlled area to spot empty shipping containers. The location for the staging area is an area along "F" street, north east of the main electric power substation, and north of Building 82. Common carrier drivers will deliver shipping containers at the designated staging area. This area will provide a secure location for distribution of shipping containers when needed.

Drawing 82X-5500-G-00070 (attached) shows the basic outline and contours of the White Metal Box Staging Area. The area shall be excavated and graded to a level approximately eight inches below finished grade. All soft, wet, or plastic subsoils in the areas of excavation shall be removed. Areas below the subgrade shall be filled with graded bank run and compacted. Eight inches of gravel shall be applied and compacted over the subgrade.

Approximately 200,000 cubic feet of excess soil will be generated from this project. After confirming it is below background levels (100 pCi/g), the majority of the soil will be used as backfill at the project site.

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 Control Contingency Plan (NCP). This RSE addresses the existing conditions where the White Metal Box Staging Area is to be located. This RSE has been completed to support the decision as to whether these conditions warrant a removal action. Controls implemented to support this construction activity are also presented in this RSE to demonstrate that the proposed construction will not cause deterioration of the existing site conditions.

### SOURCE TERM

Consistent with 40 CFR 300.410(a), the RSE includes a removal preliminary assessment which is based upon readily available information as described in 40 CFR 300.410(c).

Previous surveys and samples from this area of the FEMP have indicated a maximum contamination level of no more than 24 pCi/g that may be present at the white metal box staging area. Although the anticipated levels of contamination do not pose a significant threat to human health and safety, all excess soil not used as backfill will be placed into the existing controlled stockpiles northeast of the Boiler Plant and managed in accordance with Removal Action 17 "*Improved Storage of Soil and Debris*". The project site will be monitored by Radiological Safety personnel to ensure that construction practices are appropriate for the contamination levels.

With one exception, RCRA regulated metals and organics were not detected in samples taken near the project site. Barium was detected at levels ranging from 0.30 to 0.70 parts per million. This detection is well below the TCLP regulatory limit (100 mg/L). This limit was established to be protective of human health and the environment based on the toxicity of barium. Since the concentrations of barium do not exceed these protective limits, the threat created by a release from this material is very small. The threat is further reduced when the site control procedures discussed below are implemented. Barium, therefore, is not considered a source of threat for the purpose of this Removal Site Evaluation. Regardless, all soil will be handled in accordance with Removal Action 17, "*Improved Storage of Soil and Debris*".

#### EVALUATION OF THE MAGNITUDE OF THE POTENTIAL THREAT

To manage the hazards and prevent the spread of radioactive contamination that may be present, the following controls, among others, will be implemented during construction of the White Metal Box Staging Area.

- Excess soil from this project will be stockpiled according to Removal Action 17 criteria. Soil containing greater than 100 pCi/g total uranium will be separated from the less contaminated soils and placed in an appropriate stockpile. Segregation will be confirmed by radiological monitoring. Excess soil containing greater-than-background levels of contamination as indicated on a hand-held beta/gamma frisker will be placed in the stockpile for soil containing greater than 100 pCi/g uranium as specified in Removal Action 17.
- Physical barriers will be positioned around the work area to prevent unauthorized access.
- Protective clothing and respiratory protection will be provided for workers, as required.
- Plastic tarpaulins and bags and appropriate containers will be readily available to contain radiologically contaminated materials, as required.
- Runoff controls will be established, as required.

#### 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). The following factors apply specifically to the this project:

##### 40 CFR 300.415 (b)(2)(i)

Actual or potential exposure to hazardous substances or pollutants or contaminants to nearby populations, animals, or food chain.

40 CFR 300.415 (b)(2)(v)

Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.

Phase I of Removal Action 17 requires placement on and covering of contaminated soils with a heavy, nonpermeable tarpaulin. The tarpaulins will prevent the spread or release of contamination due to weather and resultant exposure to humans, animals or the food chain.

The threat from and potential of a release or migration of uranium from this project site is low. Thus, while the above criteria can be applied to this project, it does not constitute the need for a removal action.

APPROPRIATENESS OF A RESPONSE

Based on the evaluation of all the above factors, it has been determined that a removal action will not be necessary and this project should be continued as a best management practice in support of the CERCLA remediation process and waste management. Furthermore, the controls planned in conjunction with this construction activity and management procedures established in accordance with Removal Action 17 are adequate to mitigate any hazards created by contamination at this site and to prevent deterioration of existing site conditions.