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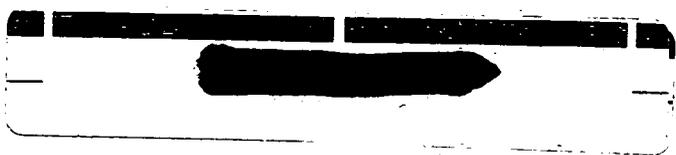
**REMOVAL SITE EVALUATION PLANT 5
MOLD/INGOT SEPARATION FEED MATERIALS
PRODUCTION CENTER U.S. DEPARTMENT OF
ENERGY JANUARY 1991**

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ENCLOSURE



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REMOVAL SITE EVALUATION

PLANT 5 MOLD/INGOT SEPARATION

Feed Materials Production Center

U. S. Department of Energy

January 1991

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REMOVAL SITE EVALUATION

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PLANT 5 MOLD/INGOT SEPARATION

Introduction

Various types of Mold/Ingot(s) in Plant 5 have been stored in the Remelt Furnaces and Ingot Cooling Area since a stop work directive in June 1989. Plant 5 will need to remove all mold/ingot(s) from Remelt Furnaces and Ingot Cooling Area so as to eliminate any outstanding hazards and/or complete remaining product recovery. This project will only go as far as separating, cleaning and storing molds and ingots for future off-site shipment.

These Mold/Ingot(s) will need to be transported from their present holding area to the West Separation Booth in Plant 5 to be separated. After separation, ingots, which are composed of depleted uranium, will be transferred via skid from the West Separation Booth to the Plant 5 Graphite Booth where they will be washed. The ingot(s) will then be transferred via skid to the north-end scale in Plant 5. The Ingots will be stamped, weighed, covered with rubber matting and placed on a skid. The skid will be enclosed in plastic then transferred via forklift to Plant 6 for storage. Molds and all other components, which are made of graphite, will be placed in plastic bags, put on skids and removed from the West Separation Booth via forklift and stored in Plant 5.

This Removal Site Evaluation is being initiated by the Department of Energy under authorities delegated by Executive Order 12580 under Section 104 of CERCLA and is consistent with Section 300.410 of the National Contingency Plan (NCP). The Removal Site Evaluation is being conducted to determine whether conditions are present to warrant the implementation of a removal action. This Removal Site Evaluation consists of an evaluation of the factors defined in Section 300.415 of the NCP which are to be considered in determining the appropriateness of a removal action.

Source and Nature of the Threat of a Release

The ingots located in the Remelt Furnaces and Ingot Cooling Area in Plant 5 are composed of depleted uranium. Uranium is primarily an alpha emitter with some beta and some gamma given off in its course of decaying to lead. The ingots will be moved inside Plant 5 and from Plant 5 to Plant 6 for storage. Unless care is taken in area control and personal protective equipment, workers can inhale or ingest the radioactive dust and particles into the body. This would especially be true with particles escaping to the environment during the transportation and separation of the mold/ingots.

REMOVAL SITE EVALUATIONPLANT 5 MOLD/INGOT SEPARATION

The quantity of ingots to be moved and present location are:

Ingot Cooling Area (Plant 5)

20 -Ingots(60-2 inch Flat Billets)
 2 -Primary(Round) Ingots
 1 -4 inch Flat Ingot

Remelt Furnaces (Plant 5)

7 -Ingots(21-2 inch Flat Billets)
 4 -Primary(Round) Ingots

Evaluation of the Magnitude of the Potential Threat

The following is a listing of the hazards and the control measures to be taken:

<u>Hazard</u>	<u>Control Measure</u>
Dust Particulates	Personnel Protective Clothing Respirators Vacuuming of areas/equipment w/HEPA filters Isolation of separation operation Washing ingots Wrapping ingots and graphite in plastic Exhausting West Separation Booth & Remelt Furnaces via equipment with MEPA/HEPA filters
Radiation Particulates	Monitoring personnel/equipment before leaving controlled area Beta-Cam and GA detectors monitoring local atmosphere Covering ingots with rubber mats
Liquid Waste	Plant 5 Sump to Waste Treatment System

REMOVAL SITE EVALUATIONPLANT 5 MOLD/INGOT SEPARATION

The ingots will not be machined during the separation cleanup operation; therefore, little or no dust should be generated. Also, immediately after lowering the mold tank from the furnace, the mold tank and associated mold/ingots will be vacuumed before being moved to the West Separation Booth, during the separation process and before and after all other transportation of Mold/Ingot Separation project equipment.

The Remelt Furnaces and West Separation Booth will be vented by Portable Filtration Units that contain MEPA/HEPA filters. The atmosphere around the Remelt Furnaces and atmosphere around and in the West Separation Booth will be monitored by Beta-Cam and GA(General Area) monitors.

During the movement process in Plant 5 the ingots will be washed in the Graphite Booth to remove any Black Oxide (U^3O^8). The water/uranium oxide from the Plant 5 Graphite Booth, where the ingots are washed, travels to the Plant 5 Sump. When the Plant 5 Sump is full, it is emptied into the Plant 6 Sump. When the Plant 6 Sump is full, it is emptied into the General Sump.

Approved procedures will be in-place at time of the separation/cleanup operation. Training will be given per in-place procedures and performed by Facilities Operations and/or Maintenance supervisor. Centralized Training will oversee the development of the Lesson Training Plan by Facilities Operations and/or Maintenance supervisor. Personnel Protection used will be disposable coveralls over normal process clothing, eye & hand protection, dosimeter and respiratory equipment as required. These personnel protection stipulations and all other Industrial Health and Safety Requirements will be listed in the in-place procedures.

The entire area in Plant 5 comprised of ingot movement, washing, weighing, etc. will have a Zone III (Contamination & Radioactivity Area) designation with entry/exit controls in place. To transport the ingots from Plant 5 to Plant 6 the ingots will be placed on skid(s), the skid(s) will be wrapped in plastic to contain any material during shipping. After transport of ingots to Plant 6, an area survey will be made in Plant 6. The roads used for transportation of ingots are monitored for contamination on a continual basis.

REMOVAL SITE EVALUATIONPLANT 5 MOLD/INGOT CLEANUPAssessment of the Need for a Removal Action

Consistent with Section 40 CFR 300.410 of the National Contingency Plan, the Department of Energy shall determine the appropriateness of a removal action. Section 40 CFR 300.415 (b) (2) of the National Contingency Plan defines eight factors which should be considered in determining the appropriateness of a removal action. Three of these factors, listed below, are specifically applicable to this assessment.

40 CFR 300.415 (b) (2) (i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants.

40 CFR 300.415 (b) (2) (iii) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release.

40 CFR 300.415 (b) (2) (vi) Threat of fire or explosion.

These factors are considered appropriate as a result of the potential exposure to, or potential release of, hazardous substances or pollutants or contaminants from the Mold/Ingot Separation Project.

Appropriateness of a Response

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

If it is determined that there is a planning period greater than six months before a response is initiated, DOE will prepare 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. It will also serve as a decision document to be included in the Administrative Record.

REMOVAL SITE EVALUATIONPLANT 5 MOLD/INGOT CLEANUP

If it is determined that a response is appropriate due to the potential for elevated levels of radionuclides to be found both in the water\oxide from the Graphite Booth or in the fugitive emissions to Plant 5 or Plant 6, a removal action may be required to address the existing situation.

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