



Department of Energy

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JAN 29 1999

Mr. James A. Saric, Remedial Project Manager
U.S. Environmental Protection Agency
Region V-SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

DOE-0323-99

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

SPECIAL PLACEMENT PLAN FOR THORIUM WASTE

The 1998 remediation season was extremely challenging for Fluor Daniel Fernald, Inc. (FDF). This season, FDF initiated the bulk excavation and placement of impacted material. During the excavation activities, above Waste Acceptance Criteria (WAC) impacted material was excavated along with at or below WAC material. Other materials excavated included thorium contaminated material. Thorium contaminated waste can be disposed within the On-Site Disposal Facility (OSDF), however, special precautions must be in place. As required by the *Impacted Material Placement Plan*, FDF developed a specialized placement plan for disposal of this material.

The enclosed plan describes the method and manner FDF and its contractor will use to place thorium waste. The plan was prepared to protect the health and safety of personnel placing the waste while protecting the environment from airborne contaminants. This plan was discussed with both the U.S. Environmental Protection Agency (U.S. EPA) and the Ohio Environmental Protection Agency (OEPA).

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Mr. James A. Saric
Mr. Tom Schneider

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if you have any questions regarding this transmittal, please contact Jay Jalovec at (513) 648-3122.

Sincerely,



Johnny W. Reising
Fernald Remedial Action
Project Manager

FEMP:Jalovec

Enclosure

cc w/enclosure:

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cc w/o enclosure:

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Addendum 1 - OSDF Impacted Material Placement Plan
Rev. 0, Date: January 20, 1999

Specialized Placement Plan for Bagged Impacted Material.

According to Section 8, Article 8.6.1 of the Impacted Material Placement (IMP) Plan, Revision 0, dated January 1998, a specialized placement plan is to be developed for "materials either nominally larger than the physical criteria for the OSDF..." or "not reasonably anticipated by currently identified categories...". The following specialized placement plan provides the placement and compaction requirements for the bagged impacted materials which will not fit in the trenching system described for Category 5 impacted material placement as discussed in Section 8, Article 8.6.3 of the IMP plan.

Placement

Bagged impacted materials, including thorium contaminated soils and debris, requiring placement in the OSDF is limited. The primary criterion for the placement of bagged impacted materials is that the materials are placed in a manner protective of the health and safety of OSDF personnel and the public. A secondary criterion is to minimize differential settlement of the OSDF cover system.

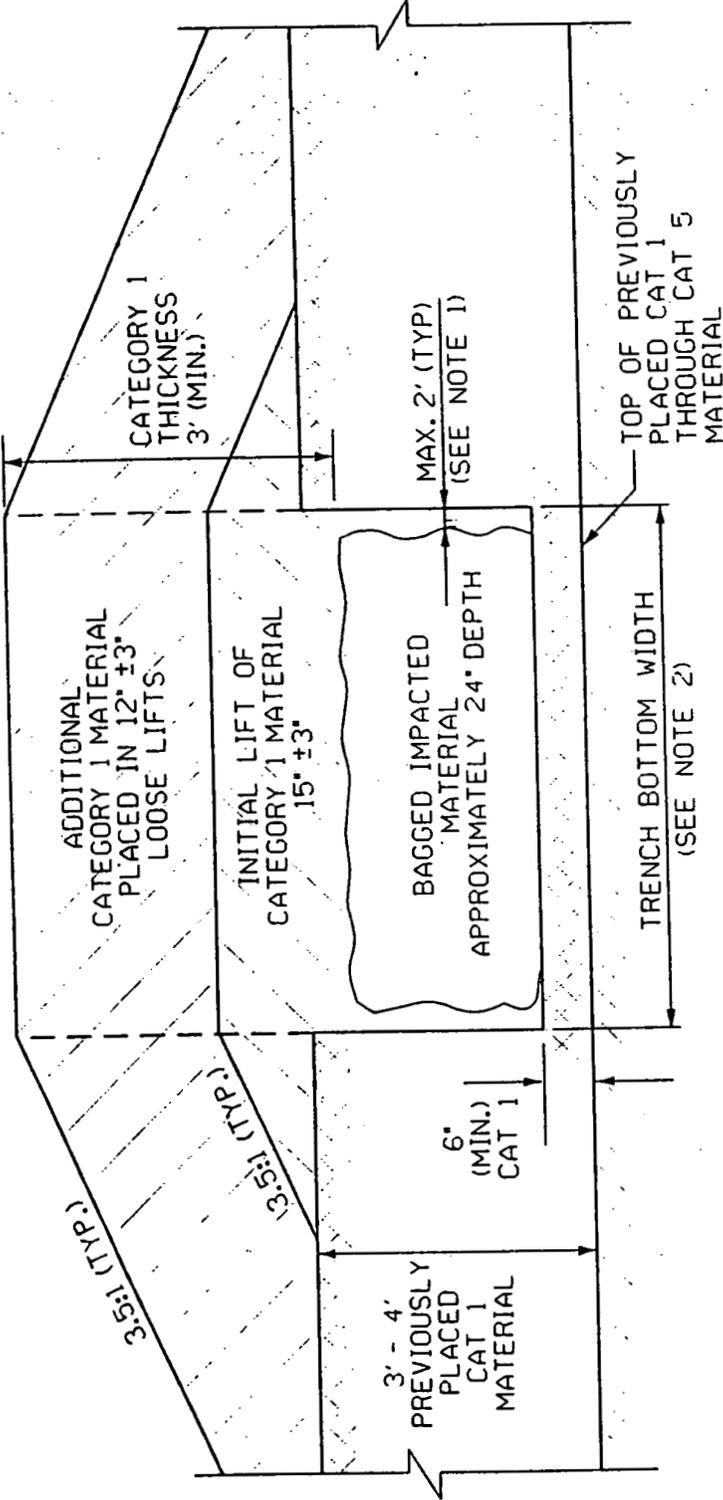
Prior to commencement of placement activities, the contractor shall identify an appropriate grid(s) for the placement of the bagged impacted material. The placement grid(s) shall be approved by the Construction Manager. The approved grid(s) shall have a 3 ft (0.9m) to 4 ft (1.2m) depth of previously placed Category 1 material and shall comply with the following placement procedures.

A trench for bagged material placement in the approved grid(s) location shall be excavated, as shown in attached Figure 1. The bottom of the trench shall have minimum of 6 in (150mm) of Category 1 material above a previously placed Category 1 through 5 material. The trench shall not be excavated in previously placed protective, contouring, or select impacted material layers. The width of the trench shall be approximately the width of the

transporting container for the bagged impacted material plus 2 ft (0.6m). The width of the trench is anticipated to be approximately 8 ft (2.4m) to 12 ft (3.6m). Category 1 impacted material excavated from the trench shall be stored at least 6 ft (1.8m) away from the trench opening. The length of the trench shall vary depending on the quantity of bagged impacted material to be placed in the OSDF. The depth of bagged impacted material in the trench shall be approximately 24 in (600mm). The maximum distance between the bag(s) placed in the trench and trench walls and between the bags shall be 2 ft (0.6m). The placement of bagged impacted material shall be performed in accordance with Fernald Environmental Management Project (FEMP) radiological safety procedures, as well as the contractor's Safe Work Plan, to minimize worker exposure.

Compaction

Compaction shall not be performed directly on the bagged impacted material. Contact with the bagged material shall be minimized by personnel and equipment. After placement of the bagged impacted material in the trench, void spaces between the bags and between the bags and trench walls shall be filled with Category 1 material. The Category 1 material filled in void spaces shall not be compacted. An initial lift of 15 in (376mm) \pm 3 in (76mm) thick Category 1 material shall be placed over the bagged impacted material. The top of the initial lift shall be compacted with a minimum of four passes of a portable flat-plate, self-propelled double drum roller compactor, or a smooth drum vibratory roller and shall not require compaction testing. Additional 12 in (300mm) \pm 3 in (76mm) thick Category 1 lifts shall be placed above the initial lift. Total thickness of Category 1 material placed above the bagged impacted material, including the initial lift, shall be a minimum 3 ft (0.9m) as shown on attached Figure 1. The Category 1 lifts above the initial lift shall be compacted by a CAT 826 compactor, CAT 815 compactor, or equivalent, to meet at least 90 percent of the standard Proctor dry density. The compaction shall be tested in accordance with the IMP Plan.



TYPICAL SECTION
(NOT TO SCALE)

BAGGED IMPACTED MATERIAL PLACEMENT

- NOTE 1. MAXIMUM DISTANCE BETWEEN THE BAG(S) OF IMPACTED MATERIAL AND BETWEEN TRENCH WALLS AND THE BAG(S) SHALL BE TWO FEET.
- NOTE 2. THE WIDTH OF THE TRENCH SHALL BE APPROXIMATELY THE WIDTH OF THE TRANSPORTING CONTAINER PLUS 2 FEET. (WIDTH ANTICIPATED TO BE APPROXIMATELY 8 TO 12 FEET)

ON SITE DISPOSAL FACILITY
ADDENDUM 1 - IMPACTED MATERIAL
 PLACEMENT PLAN

FIGURE 1 - TYPICAL SECTION
 BAGGED IMPACTED MATERIAL PLACEMENT

DATE 1/20/98

REV. 0

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