



**Department of Energy**

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FEB 02 2000

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-0375-00

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

Dear Mr. Saric and Mr. Schneider:

**TRANSMITTAL OF RESPONSES TO OHIO ENVIRONMENTAL PROTECTION AGENCY  
COMMENTS ON THE RESPONSES TO COMMENTS FOR DRAFT ADDENDA 2, 3, AND 4  
OF THE IMPACTED MATERIALS PLACEMENT PLAN FOR THE ON-SITE DISPOSAL  
FACILITY**

- References:
- 1) Letter, T. Schneider to J. Reising, "IMPP Addenda 2,3, and 4 RTC and Addendum 5 Submittal," dated December 28, 1999
  - 2) Letter DOE-0196-00, J. Reising to J. Saric and T. Schneider, "Transmittal of Draft Addendum 5 and Responses to Comments on Addenda 2, 3, and 4 of the Impacted Materials Placement Plan for the On-Site Disposal Facility," dated December 1, 1999
  - 3) Letter, T. Schneider to J. Reising, "Comments Addenda 2, 3, and 4 of the IMPP for the OSDF," dated October 15, 1999

Enclosed for your review are responses to the Ohio Environmental Protection Agency (OEPA) comments on the responses to comments on draft Addenda 2, 3, and 4 of the Impacted Materials Placement Plan (IMPP) for the On-Site Disposal Facility (OSDF). These addenda are specialized placement plans in accordance with Section 8, Article 8.6.1 of the IMPP, Revision 1, dated October 1999. The addenda describe specialized placement plans for materials not specifically covered in the IMPP.

Mr. Tom Schneider  
Mr. James A. Saric

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Addendum 4, Specialized Placement of Transite Debris, was first submitted to the OEPA and the U.S. Environmental Protection Agency (U.S. EPA) in September 1999. The OEPA approved the placement of bagged broken transite panels, under placement procedures described in Addendum 1, on November 1, 1999. Therefore, Addendum 4 placement procedures are no longer necessary to place bagged transite debris since they are covered under Addendum 1. The comments specific to Addendum 4 have been addressed in the responses to comments in order to clarify technical issues.

Addendum 2, Specialized Placement of Thorium Debris, has virtually identical placement procedures and restrictions to those described in Addendum 4. The Fluor Daniel Fernald, Inc. (FDF) would like to extend Addendum 2 for placement of non-bagged broken pieces of transite debris, which can be placed enmasse. There is currently one roll-off box of non-bagged broken transite debris from the Southern Waste Units. There is the possibility that future excavations may uncover an area of broken transite debris, which is large enough to warrant this type of placement.

As stated in Addendum 2, the transite debris will not be compacted directly. An initial 15 to 18-inch loose lift is placed above the debris prior to compaction.

In Summary:

- Responses to all comments from an OEPA letter dated December 28, 1999, are enclosed
- Since OEPA extended Addendum 1 to include placement of bagged transite debris, Addendum 4 is no longer necessary
- Requests that Addendum 2 be extended to include non-bagged broken transite debris.

Therefore, if the above is acceptable to the OEPA, Addenda 1 and 2 will cover specialized placement of material deemed necessary by the FEMP Industrial Hygiene Department (e.g., thorium-contaminated debris/soil, broken transite pieces and asbestos-contaminated materials). Addendum 1 will be used for specialized placement of bagged material in a trench. Addendum 2 will be used for specialized placement of non-bagged debris enmasse or by trench. Addendum 3 will be used for specialized placement of small amounts of Category 2 debris in a trench.

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Mr. Tom Schneider  
Mr. James Saric

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If you have any questions regarding these comment responses or need further information, please contact Jay Jalovec at (513) 648-3122.

Sincerely,



Johnny W. Reising  
Fernald Remedial Action  
Project Manager

FEMP:Jalovec

Enclosure

cc w/enclosure:

N. Hallein, EM-42/CLOV  
R. J. Janke, OH/FEMP  
G. Jablonowski, USEPA-V, SRF-5J  
T. Schneider, OEPA-Dayton (three copies of enclosures)  
F. Bell, ATSDR  
M. Schupe, HSI GeoTrans  
R. Vandegrift, ODH  
F. Barker, Tetra Tech  
AR Coordinator, FDF/78

cc w/o enclosure:

J. Jalovec, OH/FEMP  
J. Reising, OH/FEMP  
A. Tanner, OH/FEMP  
J. Burnett, GeoSyntec/38  
D. Carr, FDF/52-2  
J. Chiou, Fluor Fernald/52-0  
T. Hagen, FDF/65-2  
J. Harmon, FDF/90  
M. Hickey, FDF/64  
S. Hinnefeld, FDF/31  
M. Jewett, FDF/52-2  
A. Klimek, FDF/64  
U. Kumthekar, FDF/64  
C. Van Arsdale, Fluor Fernald/64  
T. Walsh, FDF/65-2  
ECDC, FDF/52-7

RESPONSES TO OHIO ENVIRONMENTAL PROTECTION AGENCY COMMENTS  
ON THE RESPONSES TO COMMENTS ON DRAFT ADDENDA 2, 3, AND 4  
OF THE IMPACTED MATERIALS PLACEMENT PLAN  
(20100-PL-0007, REVISION 1)

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

GENERAL COMMENTS

Commenting Organization: Ohio EPA  
Section #: Pg. #: Line #: Commentor: OFFO  
Code: C

Original Comment #: 2

Comment: The response is satisfactory and we agree that adequate placement restrictions are being implemented. For completeness, please add a table to the IMPP that details all of the placement restrictions.

Response: Tables for placement restrictions on Addenda will be added to Appendix C of the IMPP.

Action: A table will be added to Appendix C detailing placement restrictions for addenda.

Commenting Organization: Ohio EPA  
Section #: NA Pg. #: NA Line #: NA Commentator: OFFO  
Code: C

Original Comment #: 3

Comment: The action to require a minimum of 15 inches of Category 1 cover over the thorium material satisfactorily addresses our concern that compacting equipment might cause thorium material to rise to the top of the lift.

An additional concern not addressed is the compacting efficiency of the smooth-drum vibratory compactor. We are persuaded that the chopping blade of the Caterpillar 826 is not suitable for compacting the first lift of cover. We are not convinced that the vibratory roller will provide sufficient compaction. Unless a persuasive argument is forth coming the text should be revised to limit compaction of the initial lift to the double-drum compactor. We believe that both compactors (self-propelled double drum and Caterpillar 826) will perform satisfactorily on subsequent lifts and the text should make it clear that both are acceptable.

Response: The purpose of the initial cover lift is to prevent exposure and provide a sufficient seal over the placed impacted debris. The initial cover lift acts as a soil buffer and initially is not required to be compacted to the same degree of compaction as other placed Category 1 soil material. The smooth drum vibratory roller compactor applies a high amplitude centrifugal force of approximately 50,000 lbs., which is greater than the maximum operating weight (approximately 46,000 lbs.) of a Caterpillar 815 soil compactor. The smooth-drum vibratory compactor has been used successfully on the OSDF to compact Category 1 material in 12 to 15-inch loose lifts. These lifts have been tested in the field and met the compaction requirements specified in the IMPP.

The smooth drum vibratory roller compactor is sufficient to compact the initial cover lift in 15 to 18-inch loose lifts because:

- It complies with compaction specifications for 12 to 15-inch lift thickness
- The initial cover lift is not required to meet specific compaction specifications
- The initial cover lift will be compacted further (by appropriate compaction equipment including the Caterpillar 826 landfill compactor) as additional lifts of Category 1 material are compacted on top of the initial lift. These additional lifts will be tested to meet compaction requirements.

Therefore, the 15 to 18-inch loose lift of initial cover can be compacted with either a self-propelled double drum roller, or a smooth-drum vibratory roller compactor.

Action: The initial cover lift will be changed to 15-inch minimum, 18-inch maximum thickness, but the smooth-drum vibratory compactor will remain an option to compact this initial lift and subsequent lifts. A sentence has been added on Page 5 in the Initial and Additional Lifts of Category 1 Material section which reads as follows:

“Appropriate compaction equipment, including the Caterpillar 826 landfill compactor, shall be used on lifts above the initial lift to meet the specified compaction requirements.”

Commenting Organization: Ohio EPA	Commentator: OFFO
Section #: _____	Code: C
Pg. #: _____	Line #: _____
Original Comment #: 5	

Comment: The commitment to proof roll the final lift of Category 1 material is acceptable. We disagree that debris as dropped from a roll-off box will “closely resemble an 18-inch thick loose lift.” Our recollection is that the lift will be thicker than that. We also disagree that in order to spread the debris, a dozer or compactor would have to direct contact the thorium debris. We believe that the material could be spread in thinner lifts using the backhoe bucket.

Provide alternate text that calls for spreading the thorium material into thinner lifts with a backhoe bucket prior to the placement of the first cover lift.

Response: In order to minimize the depth of debris as it is deposited into the cell from the rolloff box, the driver will pull forward while dumping. A trackhoe operator will tamp down the material above 18 inches in lift thickness with the trackhoe bucket.

Action: The second sentence on Page 4 and Page 6 in the Debris Placement section shall be revised as follows:

“Thorium impacted debris shall be spread and tamped by the bucket of a trackhoe (or with an optional tamping plate attachment) to achieve a maximum loose lift thickness of 18 inches (450 mm).”

Commenting Organization: Ohio EPA

Commentator: OFFO

Section #:

Pg. #:

Line #:

Code: C

Original Comment #: 9

Comment: The response is acceptable except for the language that permits the vibratory roller to be used for compaction. We are not convinced that the vibratory roller will provide sufficient compaction. Unless a persuasive argument is forth coming, the text should be revised to limit compaction of the initial lift of Category 1 to the double-drum compactor.

Response: The purpose of the initial cover lift is to prevent exposure and provide a sufficient seal over the placed impacted debris. The initial cover lift acts as a soil buffer and initially is not required to be compacted to the same degree of compaction as other placed Category 1 soil material. The smooth drum vibratory roller compactor applies a high amplitude centrifugal force of approximately 50,000 lbs., which is greater than the maximum operating weight (approximately 46,000 lbs.) of a Caterpillar 815 soil compactor. The smooth-drum vibratory compactor has been used successfully on the OSDF to compact Category 1 material in 12 to 15-inch loose lifts. These lifts have been tested in the field and met the compaction requirements specified in the IMPP.

The smooth drum vibratory roller compactor is sufficient to compact the initial cover lift in 15 to 18-inch loose lifts because:

- It complies with compaction specifications for 12 to 15-inch lift thickness
- The initial cover lift is not required to meet specific compaction specifications
- The initial cover lift will be compacted further (by appropriate compaction equipment, including the Caterpillar 826 landfill compactor) as additional lifts of Category 1 material are compacted on top of the initial lift. These additional lifts will be tested to meet compaction requirements.

Therefore, the 15 to 18-inch loose lift of initial cover can be compacted with either a self propelled double drum roller, or a smooth-drum vibratory roller compactor.

Action: The initial cover lift will be changed to 15-inch minimum, 18-inch maximum thickness, but the smooth-drum vibratory compactor will remain an option to compact this initial lift and subsequent lifts.