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**CONDITIONAL APPROVAL OSDF FINAL DESIGN**

**11/18/96**

**OEPA**

**DOE-FN**

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**COMMENTS**



State of Ohio Environmental Protection Agency

**Southwest District Office**

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George V. Voinovich  
Governor

November 18, 1996

RE: DOE FEMP  
MSL 531-0297  
HAMILTON COUNTY  
CONDITIONAL APPROVAL  
OSDF FINAL DESIGN

Mr. Johnny Reising  
U.S. Department of Energy, Fernald Area Office  
P.O. Box 538705  
Cincinnati, OH 45253-8705

Dear Mr. Reising:

This letter provides as an attachment Ohio EPA's comments on the final OSDF design package and leachate conveyance system and some additional comments on the Prefinal Design RtC package. This final OSDF design package includes the OSDF Design Criteria Package, the OSDF Calculations, the OSDF Specifications, the OSDF Drawings, OSDF Remedial Action Work Plan, OSDF Support Plans and the Leachate Conveyance System Design. The Support Plans package does not include the Groundwater Monitoring Plan or the Air Monitoring Plan which are scheduled to be transmitted to Ohio EPA at a later date. The Support Plan package also does not include the Post Closure Care and Inspection Plan which has previously been conditionally approved by Ohio EPA.

The Ohio EPA has repeatedly asserted that approval of the OSDF Design was contingent on having an approvable groundwater monitoring plan in place. This plan has been discussed and we agree that the conceptual monitoring plan is satisfactory. Ohio EPA also has additional concerns with the lack of detail in the Impacted Materials Placement Plan. Specifically, a placement plan for special Category 5 materials has been deferred to a future submittal. The Ohio EPA approves the design of the OSDF but withholds approval of actual waste placement contingent on the submittal and approval of an acceptable Groundwater Monitoring Plan and an acceptable Impacted Material Placement Plan. Upon approval of all Support Plans, Ohio EPA

FINALDES.LTT

Mr. Johnny Reising  
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will provide written authorization for waste placement in the OSDF.  
If you have any questions, please contact Tom Ontko or me.

Sincerely,

A handwritten signature in cursive script that reads "Tom Ontko For".

Thomas A. Schneider  
Fernald Project Manager  
Office of Federal Facilities Oversight

cc: Jim Saric, U.S. EPA  
Terry Hagen, FERMCO  
Ruth Vandergrift, ODH  
Mike Proffitt, DD&GW  
Sharon McLellan, PRC  
Manager, TPSS/DERR,CO  
Dave Ward, GeoTrans



Ohio EPA Comments  
 Final OSDF Design Package  
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Section #: Pg #: Line #: Code: c

Original Comment #: 78

Comment: Ohio EPA concurs that use of "Water Management and Sediment Control for Urbanizing Areas" meets requirements in "Rainwater and Land Development" for basin design. However the entire drainage area, not only the disturbed area, must be used in sizing the basin. If the disturbed area constitutes the entire drainage area through use of properly designed run-on controls, then this should be stated. Otherwise the entire drainage area must be delineated and used for sizing the basin. The second part of the comment still needs to be addressed.

6) Commenting Organization: Ohio EPA Commentor: DSW

Section #: Pg #: Line #: Code: c

Original Comment #: 84

Comment: The response clarifies the confusion over where the leachate will be pumped but does not explain the choice of the Bionitrification Surge Lagoon (BSL) over direct pumping to the AWWT. Ohio EPA's reservation about the use of the BSL center around the near-overflow of the BSL that almost occurred during the rainy weather this past spring. There are also concerns with the scheduling of D&D of the BSL that is scheduled for the year 2001. With only three years of use after the OSDF begins receiving wastes in the year 1998, it seems impractical to install the piping systems necessary to pump to the BSL for only a three year lifetime. The reason for choosing the BSL over the AWWT should be stated and if an alternate means of introducing these flows into the AWWT exists, then that should be used.

Comments on the Final Design Package

Final Design Drawings

7) Commenting Organization: OEPA Commentor: GeoTrans, Inc.

Drawing #: 90X-6000-G-00033 & 90X-6000-G-00034 Sheet #: G-23 and G-24 Code: C

Original Comment #

Comment: In Note 2 on both of these drawings, it states non-impacted material will be used for the protective layer on future cells. What will be done with this material when it is removed to begin construction of an active cell? Can it be used to construct inter-cell berms or other structures or will it be disposed of as waste?

Construction Quality Assurance Plan

8) Commenting Organization: OEPA Commentor: GeoTrans, Inc.

Section #: Table 7.1 Pg. #: 7-22 Line #: Code: C

Original Comment #

Comment: Several of the geomembrane properties which have required values listed in

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Specification 2770 in the OSDF Final Specifications Package are not required to be tested and are not listed on Table 7.2 of the CQAP. These properties include Melt Flow Index, Tear Resistance, Low Temperature Brittleness, Dimensional Stability, and Environmental Stress Crack. This discrepancy should be explained or corrected.

Leachate Conveyance System  
Systems Plan

- 9) Commenting Organization: Ohio EPA                      Commentor: OFFO  
 Section #: 1.0                      Pg #: 1                      Line #: 1                      Code: C  
 Original Comment #:  
 Comment: Please revise the text to state that "The low-level radioactive waste meeting waste acceptance criteria and non-characteristic Resource Conservation and Recovery Act wastes originating within the Fernald Environmental Management Project property are to be placed in the On-Site Disposal Facility (OSDF).".

Drawings

- 10) Commenting Organization: OEPA                      Commentor: GeoTrans, Inc.  
 Drawing #: 92X-5900-N-00322                      Sheet #: N-0002                      Section #:                      Code: M  
 Original Comment # 89  
 Comment: As noted in the comments to the prefinal Design Package, Note 5 states that a difference of 5% between readings of the flow meters in the first and eleventh manholes will trigger an alarm condition. The difference will be 10% before the force main pumps are automatically shut off, as stated in Note 6. This is the only form of leak detection for this double contained leachate transmission system. It is possible that a leak in the primary containment pipe which is less than 5% of the total flow could fill and then breach the secondary containment without being detected. Assuming a ten-foot deep manhole, and a leak at 5% of the 200 GPM design flow, the manhole would fill in 93 minutes. Monthly inspections would not be adequate to protect the environment from leaks of this size. Placing liquid level indicators in each of the Clean Out Manholes could eliminate this potential problem. These level switches could be interfaced to the PLC to stop the pumps when a liquid level was detected in any manhole. Liquid level detectors are present in all the manholes associated with the OSDF gravity LCS and LDS systems and should be installed in the manholes of the leachate conveyance system. This modification is highly recommended, as it would bring the leachate conveyance system up to par with the OSDF gravity flow leachate collection system and gravity flow leak detection system.