133 2-208.1

CONDITIONAL APPROVAL - OU2 PREDESIGN REPORT

09/07/95

OEPA DOE-FN
5
COMMENTS

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OhioEPA
State of Ohio Environmental Protection Agency

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George V. Voinovich
Governor

September 7, 1995

RE: DOE FEMP
MSL 531-0297
HAMILTON COUNTY
CONDITIONAL APPROVAL -
OU2 PREDESIGN REPORT

Mr. Jack Craig
Project Manager
US DOE FEMP
P. O. Box 398705
Cincinnati, OH 45239-8705

Dear Mr. Craig:

This letter provides as an attachment Ohio EPAs conditional approval of the "Predesign Investigation and Site Selection Report for the On-Site Disposal Facility" received on July 31,1995. The conditions of approval are the satisfactory resolution of the attached comments.

If you have any questions, please contact Mike Proffitt or me.

Sincerely,

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
Bob Geiger, PRC
Manager, TPSS/DERR,CO
Lisa August, GeoTrans

GUARNER (R)
PARTIAL
ACTION RESPONSE
TO Q-1355
(9073)

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Ohio EPA Comments on the Predesign Investigation and Site Selection Report for the On-Site Disposal Facility

1.) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Pg #: Line #: Code: G
Original Comment #:
Comment:
The report indicates that a majority of the glacial till in the study area has hydraulic conductivities between $1X10^{-8}$ and $7X10^{-9}$ cm/sec. There are areas, however, which may have hydraulic conductivities much higher than this. There are also several small detections of higher than background detections of uranium in wells screened in the gray clay. Although these detections are not in themselves high enough to be considered a threat to the GMA, they do cast some doubt on the ability of the gray clay to be as protective as some of the input parameters in the modeling have assumed the gray clay to be. If further investigation confirms this, additional measures will have to be taken to insure that any cell is protective of human health and the environment. These measures may include altering cell shape, over excavation and recompaction, or redesigning the liner system.
Response:
Action:

2.) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.3.3.2 Pg #: 2-18 Line #: 10 Code: C
Original Comment #:
Comment: This paragraph states that two isolated wells, 11547 and 11548 had elevated levels of uranium and that further investigation is needed to appropriately evaluate these wells. Please include a schedule within the text for conducting this additional work.
Response:
Action:

3.) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.3.3.3 Pg #: 2-18 Line #: 28 Code: C
Original Comment #:
Comment: This section states that background values for tritium in the region of the FEMP, and that the loading of tritium for the FEMP has not been determined. Please explain in further detail within this section as to whether or not calculating these values would be beneficial or not, and if indeed it is determined that these values would be useful, please include a schedule for conducting these calculations.
Response:
Action:

4.) Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 2.3.3.3 Pg #:2-18 Line #: Code:
Original Comment #:

Comment: Though there is no background for tritium, relative comparisons can be made to see if zones of the till are impacted by relatively modern water. The actual age of the ground water is unimportant, but the presence of modern ground water indicates relatively rapid infiltration through the till. Did the tritium results indicate that the grey layer is an effective barrier to ground water infiltration, or did it indicate that there are areas which may have higher rates of infiltration?
Response:
Action:

5.) Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 2.6.3 Pg #: 2-48 Line #: 27-29 Code:
Original Comment #:
Comment: Does DOE believe that the high vertical hydraulic gradients indicate that the migration rate of ground water through the till is low?
Response:
Action:

6.) Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 2.7 Pg #: 2-53 Line #: Code:
Original Comment #:
Comment: A discussion of the impact of Tc^{99} on ground water within the 1000 year design life of the cell is warranted in this report. The report only discuses the uranium component of ground water impact.
Response:
Action:

7.) Commenting Organization: Ohio EPA Commentor: ODH
Section #: 2.8.2 Pg #: 2-55 Line #: Code: C
Original Comment #:
Comment: The text states that wells 11547 and 11548 have elevated concentrations of Total Uranium, were resampled and analyzed at the on-site radiological laboratory. Results from this second analysis indicated Total Uranium concentrations has dropped significantly. There is no explanation as to why this variation occurs, or if samples from the same wells were to be resubmitted to the original laboratory as a quality control check. If it is determined these locales are contributing to groundwater contamination as it appears, more characterization work in these areas is essential.
Response:
Action:

8.) Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 2.8.2 Pg #: 2-56 Line #: 1-2 Code:
Original Comment #:
Comment: Does this not indicate that areas with higher tritium concentrations also have a higher hydraulic conductivity than those with lower tritium concentrations?

Response:
Action:

9.) Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 4.3.1.1 Pg #: 4-10 Line #: 32 Code:
Original Comment #:
Comment: The dilution factor is relevant to the OU5 FS, but not to this document. This investigation focuses on the hydrogeology of the proposed landfill footprint and whether or not the till can provide a barrier which is protective of human health and the environment. The importance of the presence of the uranium in the study area is not its impact on the GMA but its impact on the characterization of the local hydrogeology of the till.
Response:
Action:

10.) Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 4.3.1.2 Pg #: 4-16 Line #: 1-4 Code:
Original Comment #:
Comment: Though the samples may not be representative of *in situ* conditions, what is the source of the uranium?
Response:
Action:

11.) Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 4.3.3.1 Pg #: 4-21 Line #: 5 Code:
Original Comment #:
Comment: Is the Kd measured in L/kg or ml/kg? The entire report needs to be checked for consistency; the units vacillate between L/kg and ml/kg.
Response:
Action:

12.) Commenting Organization: Ohio EPA Commentor: DDAGW
Section #:4.3.3.2 Pg #: 4-23 Line #: 8 Code:
Original Comment #:
Comment: The Kd of 3.41 is not in very close agreement with the Kd of 10.8 calculated in batch testing. Further discussion of this is warranted.
Response:
Action:

13.) Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 6.1 Pg #: 6-2 Line #: 19-29 Code:
Original Comment #:
Comment: How will DOE assess the impact of these tiles on the till system if they are found? What actions will be taken if drainage tiles are not found?
Response:
Action:

14.) Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: A.1.4 Pg #: A-12 Line #: 28-32 Code:
Original Comment #:
Comment: Does this indicate that there is no substantial physical difference between the brown and grey tills?
Response:
Action:

15.) Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: Pg #: Line #: Code:
Original Comment #:
Comment: Text is missing between A-17 and A-24. A-17 ends in the middle of a sentence and A-24 begins a new section.
Response:
Action:

16.) Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: I.1.6 Pg #: I-50 Line #: 37 Code:
Original Comment #:
Comment: Figure I-2 does not show the locations with high permeability. This figure should be included. Furthermore, the units for areal extent are not clear. If it is truly areal extent, the units should be square feet.
Response:
Action:

17.) Commenting Organization: Ohio EPA Commentor: ODH
Section #: Appendix L, Sampling Results Pg #: Line #: Code: C
Original Comment #:
Comment: It would facilitate data review if a legend and description of all acronyms used in reporting the radiological analyses were included in this report.
Response:
Action: