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Department of Energy
Albuquerque Operations Office
P. O. Box 5400
Albuquerque, New Mexico 87115

RETURN ORIGINAL TO PDR, HQ.

AUG 0 4 1989

AIRBORNE EXPRESS

Edward F. Hawkins, Chief
Licensing Branch 1
Uranium Recovery Field Office
Nuclear Regulatory Commission, Region IV
730 Simms Street, Suite 100
Golden, CO 80401

Dear Ed,

Enclosed for your review and comment are copies of the following documents which comprise and support the preliminary final Remedial Action Plan (RAP)/design for the Ambrosia Lake uranium mill tailings site. Please note that these documents are considered by DOE to be part of the deliberative process and should not be released to the general public at this time.

- Preliminary final RAP, dated July 1989, Text and Appendices A through F. Please note that Appendix F contains the bid schedules, special conditions, specifications, and drawings portions of the final design. (5 copies)

- Information for Bidders, Volumes I-IV, dated October 1987 (1 copy)

- Information for Bidders, Volume V, dated June 1988 (1 copy)

All specifications and calculations required to demonstrate compliance with EPA standards are contained in the documents. Please conduct a review of the enclosed material within five working days of receipt of this transmittal and contact Mike Abrams at (505) 844-3941 to indicate whether the transmittal is complete. We also request that you provide comments within 45 days of the completion of your acceptance review.

The U.S. Department of Energy (DOE) is reissuing the RAP/design as a preliminary final document because the May 1987 version did not address the proposed EPA groundwater standards. Enclosed are responses to NRC comments on the May 1987 version of the RAP and February 1987 version of the design. These comments were transmitted by your letter dated December 21, 1987. The NRC should be in possession of "Calculations" documents, Volumes I through V. These calculations are still relevant and are referenced by this July 1989 preliminary final RAP. Three (3) sets of these calculations were sent to you by letter dated March 16, 1987 from John R. D'Antonio.

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To facilitate your review, Volume I of the current RAP contains an executive summary which identifies major changes since the May 1987 version. Upon resolution of comments, the final RAP/design will be forwarded to you along with signature pages for execution. Following execution of the signature pages by all parties, the final RAP/design will be published and incorporated as Appendix B of Cooperative Agreement No. DE-FC04-85AL20533 between DOE and the State of New Mexico.

Should you have any questions, please contact Michael Abrams of my staff.

Sincerely,

Mark L. Matthews
Acting Project Manager
Uranium Mill Tailings Project Office

Enclosures

cc w/enclosures:
D. Gillen, NRC-HQ (2)

cc w/o enclosures:
J. Oldham, MK-F
B. Peel, JEG

UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Ambrosia Lake, New Mexico Date: 21 December, 1987
Document: AMB-4 Subcontract, Final Design for Review
Commentor: N. R. C.

Comment: No. 1

With regard to the radon barrier design, the text states that the "Actual thickness will be recalculated after additional sampling and testing of the barrier materials." A design of the barrier, however, was not included with the FRAP. Please provide your proposed preliminary design, including assumptions on data that will require additional sampling and testing, so that we may independently verify the estimated radon flux. We understand that this preliminary design may need to be adjusted, based on actual field data, prior to actual placement of the barrier. If the preliminary design is the one you have presented in the draft RAP, please so indicate, and there will be no need to resubmit.

SECTION 2

Response: No. 1 By: MKE
Date: 2 March, 1988

A radon barrier thickness of 3.5 feet is given in the subcontract documents (final for review). This is the same radon barrier thickness presented in the draft Remedial Action Plan (December, 1985).

Additional data will be obtained during construction in order to reevaluate the radon barrier thickness needed. A thicker or thinner radon barrier may be constructed depending on the results of that reevaluation.

Plans for Implementation:

Obtain additional data during construction related to radon barrier thickness needed to meet EPA standards for radon control. Adjust radon barrier thickness as necessary.

SECTION 3

Confirmation Of Implentation:

Checked By: _____, Date: _____

Approved By: _____, Date: _____

UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Ambrosia Lake, New Mexico Date: 21 December, 1987
Document: AMB-4 Subcontract, Final Design for Review
Commentor: N. R. C.

Comment: No. 2

The specifications do not require that the radon barrier materials meet any requirements for plasticity index (PI). However, the supporting design calculations indicate that soils with a PI of less than 16 will crack over the design life. The data summary indicates that PIs of the potential borrow soil range from nonplastic to 36. Therefore, to assure proper construction control, please provide a specification for the acceptable lower limit of PI.

SECTION 2

Response: No. 2 By: MKE
Date: 9/28/88

A more detailed analysis was performed to better quantify tensile strain potential on the 5(H) to 1(V) sideslopes. Our supplemental settlement analysis (Attachment A) calculates post-construction settlement within the embankment sideslope using a method of analysis identical to the analysis for the remaining embankment (See Attachment A). The supplemental settlement analysis predicts the maximum tensile strain on the order of 0.03 percent within the embankment sideslope. This amount of tensile strain can occur without cracking of the radon barrier even if the soil has a plasticity index of zero. Therefore, a specification for an acceptable lower limit of plasticity index is not needed.

In summary, based on the properties of the radon barrier borrow material, the method and sequence of construction, and results of the supplemental settlement analysis, it is deemed that the potential for radon barrier cracking will not occur and a minimum PI specification is considered unnecessary.

Plans for Implementation:

None