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NM ENVIRONMENT DEPARTMENT
OFFICE OF THE SECRETARY

Ed Kelley, Director
Water and Waste Management Division
Hazardous & Radioactive Materials Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, N.M. 87502

Dear Mr. Kelley:

Enclosed is our response to comments raised in your letter dated March 6, 1995, regarding the RH-TRU Implementation Plan. I appreciate your interest and continued participation in the RH-TRU Waste Study.

If you have any questions regarding this response, please contact George T. Basabilvazo at (505) 234-7488.

Sincerely,

Richard York
for

Michael H. McFadden
Assistant Manager
Office of Regulatory Compliance

Enclosure

cc w/o enclosure:
J. Mewhinney, CAO
R. Bills, CAO



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**RH-TRU Waste
Study Implementation Plan
Comment Responses**

Comment 1. It is not clear how the RH TRU Implementation Plan (IP) fits into other WIPP planning documents.

Response. The RH TRU Implementation Plan was specifically developed to address the requirements of the Land Withdrawal Act of 1992. The Plan provides the objectives, technical and management approaches, project assumptions, and project schedule for the RH TRU Waste Study, currently under development. Since the RH TRU Implementation Plan responds to specific requirements of the Land Withdrawal Act of 1993, it is not associated with other WIPP planning documents. However, the IP and subsequent RH study do consider applicable assumptions used in the RH-TRU Waste Strategy Document, March 1995, as well as the data sets used in performance assessment.

Comment 2. Where will issues regarding waste characterization, handling and transportation be addressed?

Response. Characterization, handling, and transportation issues are not within the scope of the RH TRU Waste Study. These types of issues are operational issues that are being analyzed in the Remote Handled Waste Disposal Strategy Document. The Strategy Document has been completed and approved by the Carlsbad Area Office. Operational issues and potential alternatives are addressed in the strategy, which will be revised as necessary during the RH Program development process. Transportation issues relative to CH and RH are the subject of an additional document developed for the WIPP LWA entitled "Study of Transportation Alternatives: Truck vs. Rail"; Vol. I was completed in February 1994.

Comment 3. Nor is it clear in the IP how DOE intends to address regulatory requirements.

Response. Regulatory requirements are not discussed in the RH TRU Waste Study. The scope of this study is to assess impacts of RH waste on the WIPP repository compared to the CH waste. Regulatory requirements will be addressed in the appropriate permit applications, which will include the RH inventory and the associated operational and disposal aspects.

Comment 4. Will there be a separate No Migration Petition, 191 Certification application and RCRA Part B application for RH TRU?

Response. There will not be a separate No Migration Variance Petition, 191 Certification application or RCRA Part B application for RH TRU. The RH TRU inventory is inclusive in the total inventories used in the above documents.

Comment 5. The "Project Schedule" provided on page 7 of the Plan calls for the completion of the RH "Strategy" in March 1995. This Strategy purportedly will address operational aspects such as characterization and transportation. What appears to be missing is a strategic planning document which encompasses all issues involved with emplacing RH TRU waste in the repository.

Response. A strategy for RH-TRU waste is the subject of the RH-TRU Waste Disposal Strategy Document currently being prepared under a separate task. The RH TRU Waste Study, which includes a comparison of RH-TRU and CH-TRU and impacts of RH-TRU on the Performance Assessment, is not a strategy document. It is a specific technical study to determine whether significant differences exist between RH-TRU and CH-TRU in terms of issues important to the long-term performance of WIPP, as well as the specific issues related to RH-TRU impacts on the WIPP performance assessment.

Comment 6. General confusion exists throughout the IP between the terms Performance Assessment (PA) and System Prioritization Method (SPM). These terms are used interchangeably, yet represent different programs with distinct objectives. PA should refer to the computer codes which calculate the response of the repository to various conditions over time or the subsequent document which describes the results. SPM should be reserved for discussions dealing with implementing the "what if" aspects of various scenarios in the PA codes and the subsequent evaluation of results in a decision matrix. The IP erroneously refers to "SPM codes" when it means PA codes.

Response. It is agreed that the terms PA and SPM were improperly used in the IP text. As a general rule, PA should have been used.

Comment 7. The definition of "performance assessment" (40 CFR 191.12) includes an analysis that both (1) identifies the processes and events that might affect the disposal system, and (2) examines the effects of these processes and events of the performance of the disposal system. The LWA does not specify a particular time frame for performance assessment, making it unwise to limit any analysis for this IP to only long-term impact.

Response. The RH TRU Waste Study is examining the impacts of the RH TRU waste on the repository performance during the post-closure phase of the WIPP project. The term "long-term" is defined as the post-closure period.

Comment 8. Nowhere in this IP is the timing of RH TRU relative to CH TRU emplacement discussed. This will be a major issue if the RH TRU will be unavailable for delivery and emplacement until after several panels have already been filled with CH TRU waste and sealed up. Rather than simply assume the two will be emplaced ideally (RH in the walls first, followed by CH stacked in the rooms), consider operational aspects as they are most likely to occur.

Response. The operational aspects, such as timing of RH-TRU emplacement, are not intended for this study. The scope of this study is to assess impacts of RH waste on the WIPP repository and to compare the RH waste to the CH waste. This study assumes that the maximum allowable inventory will be available and certified for disposal in WIPP. The operational aspects will not impact the performance evaluation or comparison.

Comment 9. 1) Page 1, second paragraph:

Provide a reference for the System Prioritization Method. Not everyone may be familiar with it, and DOE/Sandia needs some documentation to describe this process.

Response. The SNL/DOE CD-ROM for SPM-2 will describe the entire SPM process and results, when it becomes available in May 1995.

Comment 10. 2) Page 2, second paragraph:

Clarify the assumptions used in modeling the impact of RH TRU waste on the Performance Assessment. Is the impact determined by modeling the repository filled with only RH TRU waste (an unrealistic scenario), or by analyzing the difference between filling it with only CH TRU waste versus CH + RH TRU waste? The modeling should account for possible synergistic effects between the two waste forms.

Response. The primary assumption used in modeling the impacts of RH TRU waste on the WIPP repository is that RH will be included in the repository with CH waste; e.g., RH waste will be evaluated under the same conditions as CH waste. The approach for evaluating the impacts of RH-TRU waste on the repository is as follows. Sandia National Laboratories is in the process of establishing the baseline performance assessment, based on a combined inventory of RH-TRU and CH-TRU wastes. The results of this study will include Complementary Cumulative Distribution Function (CCDF) curves. Sandia National Laboratories will post-process the baseline CCDF to remove the RH-TRU parameters. This activity will produce CCDFs that represent CH-TRU wastes only. By comparing the two sets of

curves, the potential incremental impacts of RH-TRU waste on the repository can be evaluated.

Comment 11. 3) Page 2, number 1:

The RH TRU Waste Technical Baseline Report by IT Corporation is referenced inadequately. A list of references should also be provided.

Response. The DOE report entitled "Final Safety Analysis Report," WP 02-9, Revision 0, May 1990, is being used in lieu of the IT document.

Comment 12. 4) Page 2, number 2:

Before identifying significant RH TRU waste parameters for PA, mustn't the other study (comparison of RH versus CH characteristics) have been completed? The initial assumption that the only difference between them is "the RH fission product inventory and associated beta/gamma radiation" (from page 1) may not prove true after the differences have been thoroughly studied. Please clarify the timing and relationship between these two requirements under section 6(c)(2)(B) of the LWA.

Response. The sequence for this study is to (1) prepare the RH and CH comparison and (2) then evaluate RH TRU waste impacts on repository performance. This comparison will provide parameters that will focus on the RH impact evaluation. The implementation plan states, "The assumption used to plan this study is that the primary difference between RH and CH TRU waste is the RH fission product inventory and the associated beta/gamma radiation." However, the implementation plan also states, "If any other differences are determined, they also will be analyzed in regards to gas generation, flammability, explosiveness, solubility, and brine and geochemical interactions." Key parameters identified in the comparison will be used and studied in the RH impacts portion of the study when applicable.

Comment 13. 5) Page 2, number 4:

Replace "Sandia will run the SPM code..." with "the SPM team will run the PA code..." unless the additional decision analysis code is used. If it is, please clarify.

Response. The terms PA and SPM were improperly used in a synonymous manner. See resolution to comment 6.

Comment 14. 6) Page 3, number 2:

Flammability and explosiveness issues should not be eliminated from consideration simply because the current Waste Acceptance Criteria (WAC) addresses them. Flammable and explosive gases may be produced after the waste is emplaced.

Response. The Implementation plan states that flammability and explosiveness will not be compared between "as received" RH and CH TRU wastes. Based on existing and planned waste acceptance criteria, flammability and explosiveness of waste in the "as received" condition will not be a major issue of concern. This will be examined in detail in the comparison study. However, there is a potential for development of a flammable or explosive environment within the repository, which will also be investigated. The issue of flammability or explosiveness has not been dismissed from this study.

Comment 15. 7) Page 3, number 3:

The IP should not be restricted to long-term impacts.

Response. The study will examine the performance of the repository during the post-closure period of the WIPP Project. The reference to long-term is defined as post-closure. An analysis of the waste will be included in the RH/CH comparison section. This analysis will review the waste "as received" to evaluate pre-closure issues prior to permanent disposal.

Comment 16. 8) Page 4, paragraph B:

Replace SPM with PA.

Response. SPM will be replaced by the term PA. The terms PA and SPM were improperly used in a synonymous manner. See resolution to comment 6.

Comment 17. 9) Page 4, second from last paragraph:

Provide the actual name for Sandia's Department 6348. For consistency, provide the department numbers for those described on the following page.

Response. The RH TRU Project is being managed in the Disposal Room System, 6748 (previously 6348), by Mr. John T. Holmes and Mr. Andrew C. Peterson. The project team will work with the Performance Assessment (PA) Code Development Department, 6749, to identify the applicable parameters for inclusion in the WIPP PA. The project team will work with Department 6748 for gas generation issues and the Chemical Processes Department, 6119, for issues relating to solubility.

Comment 18. 10) Page 5, first and third paragraphs:

Unless it is necessary to retain it, replace SPM with PA in these paragraphs.

Response. The terms PA and SPM were improperly used in a synonymous manner. See resolution to comment 6.

Comment 19. 11) Page 6, RH Strategy":

In view of comment 7 (RH-TRU IP NMED-15) above, it may not be wise to assert "... the RH performance assessment project is concerned with long-term impacts...". Operational phase strategies may be very important to adequately address the near-term performance assessment.

Response. The scope of this particular study is the long-term effects of RH TRU waste on the performance of WIPP. Long-term performance assessment is defined as post-closure performance assessment. This study will use the current baseline design for emplacement of the wastes as described in the 1992 PA (SAND92-0700). A comparison of the RH and CH TRU waste will be conducted on the waste in an "as received" section to assess potential differences in the TRU waste inventory.