

Attorney General of New Mexico



PO Drawer 1508
Santa Fe, New Mexico 87504-1508

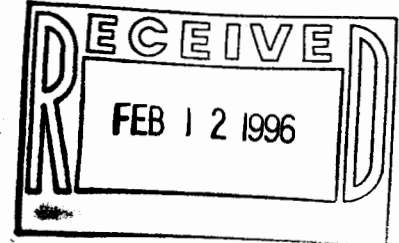
505/827-6000
Fax 505/827-5826

TOM UDALL
Attorney General

MANUEL TIJERINA
Deputy Attorney General

February 9, 1996

Mr. Steve Zappe
RCRA Permit Writer
New Mexico Environment Department
Hazardous & Radioactive Materials Bureau
2044 Galisteo
P.O. Box 26110
Santa Fe, New Mexico 87502



Dear Steve:

We are submitting the following comments for your consideration in connection with your preparation of a Notice of Deficiencies, which is scheduled to be issued on February 19, 1996. The comments which follow are by no means comprehensive, because the time has not yet come for that. But we believe that, in preparing its NOD, NMED should be particularly aware of the deficiencies pointed out herein, which chiefly involve:

1. waste characterization
2. RH TRU operations and safety
3. room stability
4. closure plans

We hope that the NOD makes reference to the points raised herein. If any of the following requires clarification, please do not hesitate to discuss it with me. I look forward to receiving a copy of the NOD when it is issued.

Chapter B: Facility Description

1. The application now states that in some circumstances a contaminated shipping container or TRU mixed waste container will be returned to the point of origin (at B-10 and note 3). The application should describe in detail the procedures followed to identify containers to be returned and to prepare return shipments, describing the processes followed as to shipping containers, in particular.



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2. It is stated that the disposal phase is expected to last 25 years (at B-11). The basis for this estimate should be provided. It has been reported in the DOE Carlsbad Area Office Weekly Report that the period of operations has been extended from 25 to 35 years (Oct. 21, 1995 report, at 4). Whether the application reflects this change should be clarified.

3. Chapter B does not state clearly the procedure for rejecting and returning a shipment in event of deficiencies in documentation (B-13).

4. The operations involved in unloading the RH-TRU road cask are not described in sufficient detail (B-14). When, for example, is the cask rotated to a vertical orientation?

5. State whether a contaminated RH-TRU canister will in any situation be returned to the point of origin, and, if so, in what circumstances (B-15).

6. The application should explain how emplacement of RH-TRU waste will be coordinated with the emplacement of CH-TRU waste during the interval before the year 2002, when the DOE now plans to initiate RH-TRU operations, and in the time frame immediately following 2002. For example, which rooms or panels does DOE plan to fill with CH-TRU waste before RH-TRU emplacement begins? Presumably, no RH-TRU will be placed in such rooms or panels. Is it possible to place RH-TRU waste in a room which has been partially filled with CH-TRU waste, and if so, is it planned, and what is the planned procedure?

7. There is inadequate description of CH-TRU drums and other containers, particularly as to their useful life and their durability in anticipated conditions (B-18).

Chapter C: Waste Analysis Plan

1. Assertions as to the volume of brine inflow anticipated during operations are not supported by data or citation of relevant published reports (comments and responses ("C&R"), at 1).

2. The application still contains insufficient information about the sampling and analysis procedures to be applied at each generation site.

3. There is still insufficient information in the revised Chapter C from which to infer that consistently-applied processes exist, the constituents of which are known, from which one can derive acceptable knowledge of wastes generated by such processes. See C&R, at 3. The adequacy of numerous waste stream descriptions derived from process knowledge appearing on Table C-1 is dubious.

The application concedes that the information provided in the Baseline Inventory Report ("BIR") and transcribed into Table C-1 is not the waste stream information that will be proposed as sufficient characterization. (at C-10) It appears that the required information is planned to be set forth only in an "acceptable knowledge record" located at the generating sites, rather than in the application (see C-25; C&R, at 19). This would be insufficient. The applicable regulation calls for a "detailed chemical and physical analysis of a representative sample of the wastes" and requires that the owner/operator "must inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper." (§264.13) As the comments note (C&R at 13) the regulations require "confirmation that the processes identified indeed contain the identified hazardous waste" (at 13). And the Department has noted that "verification of process knowledge relative to RCRA waste/constituents requires significant elaboration within the application." (at 31) Thus, additional waste analysis information is required. Further, data quality objectives and quality assurance objectives are required (see C&R at 34).

4. There is no description of RH-TRU waste characterization. (see C-4) Analytical methods have not been developed for RH-TRU (see C-24; C&R at 41). This deficiency must be remedied, or, alternatively, RH-TRU must be deleted from the application.

5. The application should reflect the prospect of methane gas explosion, as referred to in the disposal no-migration application and in the comments (C&R at 15).

6. The comments request information on the generation of a modified WIPP WAC (C&R at 16), and the question has not been answered.

7. DOE defends annual sampling and analysis of newly-generated waste streams, asserting that such frequency should be sufficient if the process has operated within established bounds (C&R at 26-27). The sufficiency of DOE's sampling would then call for ongoing showings that the process has operated within "established bounds," presumably by a demonstration based on sampling (but perhaps not). DOE must show, as to each waste stream, what the established bounds are and how adherence with them will be shown.

8. DOE has not defended its use of the UCL_{90} standard for toxicity characteristic analysis, except to say that the consequences of error are "relatively small." (C&R at 29) The standard of 95% confidence has previously been suggested by NMED and should be retained here.

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9. The Department should insist upon a demonstration that RTR is capable of identifying free liquids in excess of 1%. It has been noted that RTR is sometimes negated by the nature of the waste (C&R at 87).

Chapter D: Facility and Process Information

1. There is a request for a scale drawing of the WHB, illustrating the location of the maximum volume of containers and waste which may be in storage (C&R at 3). Such drawing has not been provided and would be useful in assessing the planning for placement, monitoring, and movement of stored waste both during normal operations and in possible emergency circumstances.

2. The statement appears that the design validation report supported a design with no roof support, so long as container breaching due to creep closure at seven years does not create an operational problem (C&R at 8). This statement presents several unanswered questions. A citation to the design validation report should be made. More importantly, the state of knowledge about creep closure has changed over time, and the estimates of its speed and magnitude have increased. Reliance should not be placed on a report from the 1980's when more recent data are available. Any assertions as to the rate and predictability of creep closure should account for all available data.

3. There is no design drawing of the RH TRU shield plug, since the design has not been established (C&R at 11). The Department should refuse to authorize RH operations, if the procedure is undetermined.

4. Again, there is no information about the response of the RH canister to creep closure (C&R at 11). This illustrates that authorization of RH disposal would be premature on the basis of the information in the current application.

5. The discussion of the effects of temperature on rock mechanics and fluid flow does not quantify the impact of the projected temperature increases on such factors (C&R at 14). It is known that salt creep is very sensitive to temperature. (see Investigation of the Advantages of Removing Highly Fractured Roof Beams, DOE-WIPP 94-025 (Aug. 1994), at 7).

6. The Department's comments requested information about the plans for ground control monitoring and support, but little additional information is furnished (see C&R at 15). For DOE to state that the program is a process of continuous, interactive evaluation (id.) does not describe the process, the criteria for various actions, and the data supporting such criteria, nor does it inform the Department as to the design of initial and supplementary

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roof support systems, as it has requested (id. 15-16). Further, the Department has correctly requested assurances that the ground control and monitoring programs will ensure that the rooms and drifts will be stable throughout the disposal activities, as the Department has requested (id. 17). Since roof supports cannot be maintained when waste has been emplaced, the Department needs assurance that no issue will arise as to possible roof falls in open panels.

7. Further, much depends on the timing of waste emplacement; if a room must be kept open longer than planned, the danger of roof falls increases. The Department must impose conditions as to the length of time a panel may be kept unsealed, based on the maximum time over which stability can be assumed. See C&R at 19.

8. DOE must provide detailed information about the design and duration of the ground control monitoring program. It was requested but not provided (C&R at 21). Especially because remote monitoring is apparently necessary in waste-filled areas (see C&R at 18), detail should be provided.

9. Why are the 930 drums analyzed at the Rocky Flats site deemed representative of the waste throughout the DOE complex (C&R at 27)? Should they be deemed representative of drums to be generated in the future?

10. The Department's comments point out that calculations of potential risk which are based on average VOC concentrations assume placement of average containers within each room (C&R at 28). There should be either calculation showing that the risks are within limits even at the maximum potential VOC concentration or that room VOC concentrations will, by virtue of some established procedures, correspond to the average used in the calculations.

11. The application is unclear as to the detection method relied upon to detect spills and contamination by hazardous waste; is it codetection or some other method? What is the justification for the effectiveness of the method selected? See C&R at 36-37.

12. There is no description of the supplementary support system to be installed in Panel 1 and the time frame over which it will be required and will be installed. It is no answer to say that such systems will be installed "as necessary." (C&R at 41).

13. The application states that the limiting volume for free liquids is likely to change (at D-3). There should be some explanation for such a projection. Does DOE seek an application subject to the current Waste Acceptance Criteria or not?

14. The statement appears that the Mescalero Caliche is laterally continuous at the site and in surrounding areas (at D-19). There are observations to the contrary in geologic reports (Bachman, Geology of Nash Draw, Open File Report No. 81-31, at 3 (1981); Bachman, Assessment of Near-Surface Dissolution At and Near the Waste Isolation Pilot Plant (WIPP), Southeastern New Mexico, SAND84-7178, at 24(1985)).

15. The projections of gas generation are based on "preliminary" modeling of brine inflow and assumption of regular flow rates (at D-27). DOE must present final modeling results and justify its assumption as to a regular rate of gas generation.

16. The application states that all generator sites will have to meet certain boundary conditions as to gas emission potential (at D-36). However, the State has been advised that what have been referred to as performance based waste acceptance criteria will not be employed at WIPP. The applicants should explain exactly which criteria as to gas emission potential will be applied and how compliance will be assured.

17. DOE must address issues raised by the Environmental Evaluation Group ("EEG") as to the effectiveness of continuous air monitors in detecting excessive levels of radiation. See page D-56 and, e.g., Bartlett and Walker, The Influence of Salt Aerosol on Alpha Radiation Detection by WIPP Continuous Air Monitors, EEG-60 (1996).

18. There is reference to the possible emplacement of an entire contaminated TRUPACT-II in the underground (at D-62). No procedure is described for this operation. DOE should be required to describe how the existing equipment and safety procedures could carry out this task or, alternatively, should delete this reference.

Chapter F: Procedures to Prevent Hazards

1. The statement is made that waste management equipment is designed to "fail safe" (C&R at 1). It should be explained how it is that ventilation fans fail in a safe mode.

2. It should be noted that there is no system in effect for inspection of RH TRU emplacement equipment (HERE and other remote handling equipment) (C&R at 34). Realistically, DOE is not prepared to make a case for a permit which includes the RH-TRU handling equipment. (see also F-18,-19). Accordingly, in the absence of further information, any permit should exclude RH-TRU waste.

3. The application does not describe contingency plans for the removal of RH-TRU containers from the RH area of the WHB in the

event of a fire or other emergency. What contingency storage space exists? How would the entire potential contents of the RH area be removed from that area to the storage location?

Chapter G: Facility and Process Information

1. There is insufficient discussion of the response to a roof fall, including criteria under which a panel may be closed or waste may be removed after a roof fall (See C&R at 23). Discussion should include a description of how panel seal emplacement may be carried out in the presence of possible contamination.

2. The statements concerning the predictability of a roof fall are inadequately supported (page G-35). Since a roof fall is a realistic likelihood, methods of predicting its occurrence should be clearly specified and supported with data. The appendices on this subject do not provide assurance of predictive capability. A predictive system would require the consistent operation of various monitoring methods, which had in turn been established as effective for that purpose. DOE has not shown that it has such a system.

Chapter I: Closure and Post-Closure Plan

1. The statement appears that drifts will not be used to dispose of RH-TRU waste (C&R at 6); however, DOE has openly stated that it is considering alternative plans for the disposal of RH-TRU, one alternative being the disposal of RH-TRU in drifts. The Department should require DOE to declare what RH-TRU disposal plan will actually be employed and should not issue a permit for a system which DOE knows it will not use.

2. The application contains a decontamination and decommissioning plan which is concededly "conceptual" and must be revised. The Department should not accept such an ambiguous document and should require a plan which DOE is willing to bind itself to. It should be noted that the decontamination and decommissioning plan presupposes a 25 year disposal phase, while DOE has publicly stated that operations have been extended from 25 to 35 years (Carlsbad Area Office Weekly Report, Oct.27, 1995, at 4).

3. The plans for active and passive institutional controls and postclosure monitoring are conceptual only and constitute nonbinding commitments which the Department could not enforce (see I-2; I-22; I-29; I-33; I-35).

4. The panel seal designs are themselves conceptual only and include several options (see I-12.-13). DOE should be required to state the design it will employ.

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5. The statement that certain contamination may be "entombed" (at I-18; see also I-20) raises the question of the performance of the facility in such circumstances, i.e., if significant amounts of hazardous wastes are buried without containers and in locations other than the anticipated locations inside rooms. This should be discussed in the application.

* * *

We are available to discuss these comments at your convenience.

Best regards,



LINDSAY A. LOVEJOY, JR.
Assistant Attorney General

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