



ENVIRONMENTAL EVALUATION GROUP

WACC 6-1
ENTERED

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January 11, 1991

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EID DIRECTOR'S OFFICE

Mr. Arlen Hunt
Project Manager
U.S. Department of Energy
WIPP Project Office
P.O. Box 3090
Carlsbad, NM 88220

Dear Mr. Hunt:

EEG has reviewed your 11/22/90 responses to our 6/15/90 comments on the Program Plan for the Pretest Characterization of WIPP Experimental Waste and Revision 6.1 of this document (DOE/WIPP 89-025).

We found that you have accepted most of our suggestions in your modification of the document. Where clarifications were sought by us, we are also generally satisfied by your responses. It is recognized, however, that you will have to make more changes to the Plan in order to incorporate the requirements imposed by EPA's conditional approval of the No Migration Petition. Additional requirements may also be imposed by N.M. EID. Even without these additional requirements, a great deal of work remains to be completed.

Your responses to our comments have confirmed the following aspects of the waste experimental program.

1. No decision has yet been made on the location of the wet bin tests and the plan of characterization of waste for these tests has not yet been developed. A discussion of the radiological safety implications to the workers from these tests will not be included in the first addendum to the Final Safety Analysis Report (FSAR).



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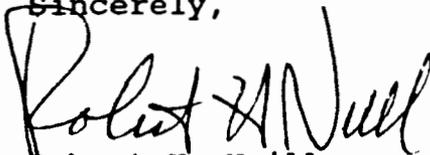
2. The original plans for waste experiments at WIPP required different kinds of waste from different generator sites in order to obtain meaningful data since the TRU inventory waste forms varied so widely. This position has now been abandoned.

3. Due to "resource limitation," DOE currently has no plans to test for gas generation from waste at waste generation sites other than Rocky Flats Plant (RFP waste is scheduled to arrive to WIPP for testing).

4. Efforts to characterize the waste for alcove tests, and development of justification for the required sample size (to avoid sampling all alcove waste drums), are currently on the back-burner. This, coupled with the slow pace of the alcove seal testing effort, indicates a reduced interest in pursuing the alcove testing program.

Your responses to additional EEG comments (McFarland) are satisfactory. Detailed comments on your responses are enclosed.

Sincerely,



Robert H. Neill
Director

RHN/LC/MKS/mm

Enclosure

cc: Mr. James Bickel, DOE - ALO
Ms. Jill Lytle, Deputy Assistant Secretary for Nuclear
Materials, U.S. DOE
Mr. Mark Frei, Chairman, WIPP Task Force
Mr. Leo Duffy, Assistant Secretary, U.S. DOE
Mr. Richard Mitzelfeldt, Director, EID

EEG Comments on DOE Responses on
Pretest Characterization Program Plan,
Rev. 5 (DOE letter of 11/22/90)

January 10, 1991

Response 1

Response 1 does not address our Comment. The response maintains that the Program Plan is intended to describe characterization activities for preparation of all experimental waste. The response states that the main thrust of the Program Plan is to give an overview of the program activities without duplicating details contained in the other documents. Yet it fails to mention which documents specifically contain those detailed discussions.

Response 2

You concur with our comment. Without all bin and alcove tests, the waste experimental program remains incomplete.

Response 3.1

This response claims that the "radiolytic production of gas can easily be ratioed based on total curies." Not so. The amount of gas produced via radiolysis is directly proportional to the amount of alpha energy released and not the total curies. For a specific radionuclide, the total energy equals the number of curies times the Mev released per disintegration times a constant.

For weapons grade plutonium waste, the gas production via radiolysis is considered to be negligible compared to that produced by organic decomposition of the non-radioactive constituents of the waste and the anoxic corrosion of the carbon steel in the waste and the drums. Hence it doesn't really matter what the radionuclide inventory is. What is really needed is a system to insure that the experimental waste has a range of organics and carbon steel comparable to all the waste streams.

For heat source TRU wastes with plutonium-238, radiolysis can contribute substantially and what evidence do you have to suggest the relevant gas production parameters in LANL and SRP heat source waste are bounded by any waste stream from RFP or INEL?

Response 3.2

Your response indicates that DOE has clearly abandoned a major justification to perform the gas generation tests at WIPP, i.e. that because representative waste from each of the sites have to be assembled at one place.

Response 4

Rev 6.1 defers to the yet to be issued QA Project Plan and still does not specify the applicable DOE orders and other regulations relating to health and safety for the generators.

Response 5

EEG Comment 5 is still valid. It is not clear how the various WAC criteria listed in our comment will be confirmed.

Response 6

This response suggests that the laboratories are apparently not yet equipped for the analytical effort. Furthermore, procedures remain to be written and approved and the analytical operations validated before waste can be opened and repackaged into the bins. Even if some of these activities are pursued in parallel, it is clear that it will take several months before the headspace gas in the first bin is analyzed and ready for shipment to WIPP. Table 6 identifies detection limits components in the headspace gas. For some components the Program Plan requires an order of magnitude better resolution than the results reported in "Waste Drum Gas Generation Sampling Program at Rocky Flats During FY 1988." Furthermore, Table 7 requires quantitative analysis of many volatile organic compounds to as low as 1 part per million by volume. Given the stringent requirements, the Program Plan should cite or contain a detailed discussion of the columns used to perform the analysis and the analytical techniques. That discussion should also contain a detailed description of the statistical methods used to estimate the uncertainty in the composition measurements.

Response 7

Contrary to DOE's assertion in your response, EPA's approval contains stringent conditions for Waste Characterization.

Response 8

Apparently, EPA had the same concerns about using only a "statistical population" for characterizing the drums for the alcove scale tests. In granting approval to the No-migration Variance Petition, EPA required a gas sample from each layer of containment within each container. The DOE can only use a statistical population of drums once it justifies that random sampling from the drums is statistically representative of the entire population. Only then can DOE submit a petition to EPA asking to use random sampling. We have been urging you to develop such justification but it has not yet been published.

Response 9

Your responses are satisfactory.