



Attorney General of New Mexico

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Mr. Steve Zappe
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive, Building E
Santa Fe, NM 87505



Dear Mr. Zappe:

The following comments are submitted by the New Mexico Attorney General's Office in response to the public notice from the New Mexico Environment Department (NMED) announcing its intent to approve a Class 3 modification to the Hazardous Waste Facility Permit for the Waste Isolation Pilot Plant, dated May 13, 2002. The public notice announces the availability of draft permit language for public comment and a hearing, if requested. The proposed modifications would establish new drum age criteria (DAC) for taking a representative headspace gas sample based on additional packaging configuration groups.

The DAC modification has been presented to NMED twice previously as a Class 2 modification. On March 26, 2001, NMED denied the first application for a Class 2 modification and on August 30, 2001 NMED ruled, as to a second Class 2 proposal, that Class 3 procedures must be followed.

The proposed draft contains modifications to The Waste Analysis Plan (Att. B), Waste Characterization and Sampling Methods (Att. B1), Quality Assurance Objectives

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and Data Validation Techniques (Att. B3), TRU Mixed Waste Characterization Using Acceptable Knowledge (Att. B4), and Permittees' Audit and Surveillance Program (Att. B6). The core of the modification is the changes in Att. B1; the headspace gas sampling requirements are set forth at B1-1a(1) and (2). Paragraph B1-1a(3) sets forth the data as to packaging configuration and sampling scenario that must be documented for each container that is sampled.

Table B1-5 lists three Headspace Gas Drum Age Criteria Sampling Scenarios, *viz.:*

Scenario 1: unvented drums sampled at the time of venting

Scenario 2: unvented drums that are vented but not sampled at the time of venting

Scenario 3: drums initially packaged with vents

Tables B1-6 and B1-7 contain matrices setting forth age criteria in days for Scenario 1 and 2 drums in various combinations of filter diffusivity, liner lid opening diameter, and summary category group.

Table B1-8 lists six Packaging Configuration Groups for drums, pipe components, and Standard Waste Boxes containing waste in different summary category groups and with different inner packaging configurations. Tables B1-9 and B1-10 contain matrices setting forth age criteria in days for Scenario 3 drum age criteria for wastes of different summary category groups, packaging configurations, filter diffusivities, and liner lid openings.

The permittees have sought to support the drum age values used in the tables with two studies—the 1995 Lockheed Report and the October 2000 BWTX Report—which

were filed in connection with the first DAC modification proposal. No additional studies have been filed.

The previous submissions generated substantial comment by the public and NMED. The proposed modification leaves several of these comments unanswered, or unsatisfactorily answered.

1. Tables B1-7 through B1-10 give a range of drum age criteria that must be met depending upon the packaging configuration. The number of variable parameters and the risk of error in determining the applicable criterion are great. Further, the applicable packaging configuration, and thus drum age criterion, must be determined on a drum-by-drum basis and cannot be determined for an entire waste stream. In this situation, safeguards are necessary to ensure that the correct criterion is identified as applicable and is used.
2. The application refers to a survey of generator/storage sites to determine packaging configurations in use. See NMED Specific Comment Response 5.4, March 26, 2001. No report of the survey results has been put in the record, and the assertions that the proposed criteria account for all packaging configurations in use has not been supported.
3. EEG's comments, Feb. 9, 2001, have pointed out the sensitivity of results to differences in filter diffusivity and to the diameter of the opening in the rigid liner. Again, safeguards must be added to ensure that these values are correctly determined for each container.

4. NMED has pointed out (NMED letter, March 26, 2001, General Comment 1) that the modeling reports submitted with the proposal (the 1995 Report and the 2000 Report) assume that the samples will be collected through an air tight needle and that no volatile organic compounds (VOCs) are lost in sampling or handling. The permittees have not shown that this assumption will hold true.
5. NMED has also noted that the permittees should show in several specific ways that the assumptions and inputs used in the 1995 and 2000 reports to generate theoretical drum ages are the same (General Comments 2, 3).

NMED gave as examples of questions:

- a. The term in the 1995 Report for calculating VOC accumulation in the rigid liner does not appear to be addressed in the 2000 Report.
 - b. The 1995 Report has equations to express the rate of change in VOC concentration in each layer of confinement, but these do not appear in the 2000 Report.
 - c. The 1995 and 2000 Reports use different equations to express VOC diffusivity in air.
 - d. Filter diffusivity values used in the 1995 and 2000 Reports are different.
 - e. There is a question whether hydrogen gas generation was considered in the 1995 Report and should have been considered in the 2000 Report.
6. NMED has also noted that data about waste container configurations not examined in the 1995 Report are crucial: “The collection of test data to

support DAC conclusions, particularly for those elements not considered in the 1995 Report (i.e., SWBs, pipe overpack, containers larger than 55 gallons, etc.), would appear to be crucial to both demonstrate practical applicability of calculated DAC values and to validate the extension of the methodology to other container types and sizes.” (General Comment 5).

7. NMED has also noted that the 2000 Report requires clarification on several points, including:

- a. Sensitivity and uncertainty analysis should be presented as to presence/absence of liners, filter vent characteristics, opening size, etc.
 - b. Clarification of scenario definitions.
 - c. Justification of assumptions, *e.g.*, as to waste drum configurations, selection of Scenario 3 packaging configurations, modeling assumptions.
 - d. Data supporting determinations of packaging configurations for SWBs and pipe overpacks should be included.
 - e. Permittees must clarify how the Pipe Component DAC was calculated.
- (General Comment 6).

8. NMED noted also that permittees should discuss all code changes implemented since the 1995 Report, especially those used to implement changes in the SWB and pipe overpack determinations. (General Comment 8).

9. Permittees should provide a detailed description of sample collection through a rigid unvented liner. (General Comment 9).

10. Permittees should clarify how sites shall mitigate internal drum conditions of unvented drums and how such drums should be managed. (General Comment 10).
11. NMED noted the complexity of determining packaging configurations based on sites' characterization procedures and what modifications may be needed: "For example, packaging configuration determination specific enough to determine DAC would require modifications to VE, RTR, AK, and many other procedures. Additionally, drum filter and other criteria may not 'match' those specified in the permit." (General Comment 13).
12. NMED has pointed out that container-by-container characterization is needed for application of the appropriate drum age criterion, and the existing system of characterization of waste streams based on acceptable knowledge is inadequate to the task. (General Comment 14).
13. NMED noted that existing records probably do not support the proposed modification: "NMED has observed that for the majority of generator/storage sites audited to date, [acceptable knowledge] records alone typically do not contain all of the required drum-specific information needed to determine DACs." (Specific Comment Response 5.2)
14. NMED has stated that "conservative application of filter diffusivity values would impart appropriate conservatism to DAC calculations, and that the permit modification request should also have addressed specific requirements concerning hydrogen diffusivity values, as well as filter record keeping requirements." (Specific Comment Response 7.3).

In response to comments from NMED and others, NMED should not approve the application until these questions have been answered to its satisfaction.

Very truly yours,


LINDSAY A. LOVEJOY, JR.
Assistant Attorney General

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