



Attorney General of New Mexico

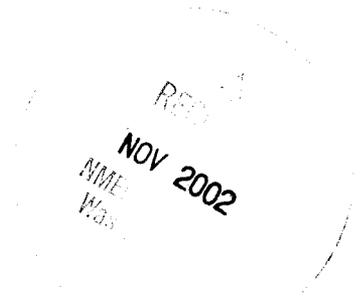


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Mr. Steve Zappe
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive, Building E
Santa Fe, NM 87505



Re: WIPP Hazardous Waste Act permit; proposed modification to receive RH waste

Dear Mr. Zappe:

This letter submits comments by the Water, Environment, and Utilities Division of the New Mexico Attorney General's Office concerning a proposed modification to the Hazardous Waste Act permit for the Waste Isolation Pilot Plant (WIPP). The proposed modification would authorize the receipt and disposal of remote-handled (RH) transuranic waste. The proposed modification is clearly significant, affects numerous parts of the permit, and has appropriately been designated for review pursuant to Class 3 procedures. Our comments are as follows:

- 1. The modification seeks to add panels 4 and 5 to those already permitted. (Class 3 modification request at 3-16, 3-17). Such action should not be taken without full examination of the structural integrity and the projected life of the newly added panels as well as the safety considerations involved with the new waste travel paths and disposal locations. Since the addition of new waste

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panels would raise issues regarding aspects of the permit that go well beyond the management and disposal of RH waste, we recommend that this portion of the proposal be deleted and considered in another proceeding.

2. NMED has determined in issuing the permit for contact-handled (CH) waste that certain characterization requirements must be met to protect health, safety, and the environment. NMAC 20.4.1.900, incorporating 40 CFR Sec. 270.32(b)(2). The current proposal contains a lesser level of characterization for RH waste. For example, it is not stated that acceptable knowledge (AK) records describing the waste must be confirmed using alternative characterization methods, as is done with CH waste. DOE has not shown that a lesser level of characterization is called for by any specific needs of the project, such as safety or efficiency. No data are offered to support the statement that “[c]haracterization of RH-TRU waste for radioactive and non-radioactive components is expensive and carries a significant risk to the workers” (Supp. 2 at 4). Thus, NMED is not in a position to strike a balance (if such is DOE’s request) between the need to characterize RH waste and the additional cost and risks of doing so. NMED should direct Permittees to substantiate why RH waste should be characterized on a lesser level than CH waste.
3. It is not sufficient to justify the curtailment of characterization methods to argue that the quantity of RH waste is relatively small and the specific characteristics of such waste could not materially affect performance of the facility. (e.g., Supp. 2). Rather, some factual justification based in safety or

efficiency concerns must be offered, with data support, before it can be determined that a departure from the existing CH waste characterization methods is necessary to protect human health and the environment.

4. The proposed methods of characterization of RH waste, and the criteria that such methods must meet, are not clearly described in the proposal. The permit must state what is mandatory and what is optional and on what basis options are selected. Otherwise it is not possible to know exactly what the permit requires, and it is not possible to audit a site's procedures and determine whether they comply with the permit. It does not impose sufficient controls on waste characterization to state that AK together with characterization at the time of packaging (CTP) should provide adequate information and, if they do not, other steps should be taken. (at 1-4). It seems (see, e.g., 1-4) that AK data are not subject to a regular and structured confirmation process (by CTP or otherwise). In this situation it is not clear who decides whether some such confirmation is needed in a particular instance and on what basis.
5. The proposal is open-ended as to the specifics of the characterization process. For example, it states that "[s]ites may use the AK process, VE, radiography, and/or CTP (as required to meet the DQOs) as characterization methods to determine physical form, assign the appropriate EPA hazardous waste numbers for RCRA-regulated constituents on a waste stream basis, and verify the absence of prohibited items." (at 5-37; see also 5-45). It states that visual examination (VE) and radiography are "available testing methods." (5-22). It

is not stated for what purposes these methods are to be used, nor does the proposal show how effective specific methods are for such uses. Such broad language does not specify exactly what is required and how such methods must be used.

6. It is said that the “AK process must be used to determine the hazardous waste numbers.” (at 5-37). However other permit provisions state that additional methods may be used to identify listed or characteristic wastes. (e.g., 5-47; AK information on debris waste to be supplemented by VE and/or radiography). The effectiveness of other methods is not shown.
7. It is also proposed that, if the site cannot make the necessary waste characterization determinations, then “additional testing will be required on a minimum of 10 % of the waste stream.” (5-22). Similarly, it is said that AK as to packaged waste will be examined to determine whether there are “deficiencies” in characterization, and if such are found, additional testing “may” be required, to a minimum of 10 % the waste stream. (at 5-39). There is no explanation of the origin of the 10 % figure, nor of the information to be obtained in the “additional testing,” nor of the specific application or usefulness of the information to be gained in that testing process.
8. The proposed RH Waste Analysis Plan, Permit Attachment R (RH-WAP), states that DOE performed a Safety Analysis for the management of RH TRU waste, which concluded that so long as waste met the WIPP Treatment, Storage, and Disposal Facility Waste Acceptance Criteria (TSDF-WAC), the consequences of normal operations and postulated accidents were within

limits established to protect workers, the public, and the environment. (at 5-33). DOE should make the specific Safety Analysis Report referred to a part of the Record of this proceeding so that the claimed conclusions may be examined.

9. It must be explained why AK as to homogeneous RH waste is not proposed to be confirmed through sampling, as is currently done with CH waste. See Att. B at B-12. According to a presentation made on September 18, 2002, the packaging facility for homogeneous RH waste at Oak Ridge National Laboratory is capable of sampling each batch of waste. It should be explained why such sampling is not incorporated into the characterization of all homogeneous RH waste.
10. The application states that assigning hazardous waste numbers addresses most of the prohibited items in RH TRU waste. (at 5-19). It is stated that sites are required by their own regulators to properly assign EPA hazardous waste numbers. Thus, waste treated or stored at a state-regulated treatment or storage facility has been characterized pursuant to 40 CFR Section 264.13. Data Quality Objectives are identified for identification of listed and characteristic constituents. (5-19). The application states that the method for determining the listed and hazardous constituents is acceptable knowledge (AK). (at 5-21). DOE proposes that RH waste be subject to characterization at the time of packaging (CTP), carried out by two operators. (at 5-22). However, there is no showing of the effectiveness of such CTP methods to identify hazardous constituents or hazardous waste numbers.

11. DOE proposes to dispense with the characterization of material parameter weights for RH waste. (at 5-33). DOE states that performance assessment calculations using bounding values for material parameters show that, within such bounding values, the repository will perform satisfactorily and no greater accuracy is required. (at 5-33). However, since nearly all of the RH waste must be packaged anew, it would seem that material parameter weights can be derived at that time, and no good reason is offered for omitting that step. In addition, there is no showing of the risk and cost of establishing accurate material parameter weights.
12. The proposal states that headspace gas sampling, which is routinely performed with respect to CH waste containers, can be eliminated as to RH waste. The reasoning is that bounding assumptions can be made as to the maximum quantity of volatile organic compounds (VOCs) in RH waste containers, and the room-based maxima in the permit (Table IV.D.1) can be reduced by such amounts. (at 3-17). Using that approach, DOE proposes to assume that the maximum VOC quantities are present in the RH containers and administer the lower room-based limits in the introduction of CH waste. However, the use of bounding assumptions cannot attain the level of accuracy available from actual sampling, as is done with CH waste. DOE should propose a method of developing VOC data, rather than assumptions, about the RH waste. DOE should also show the effect of the packaging process on VOCs contained in the waste. There should also be a showing of the risks and practical

difficulties of sampling gases before NMED should consider omission of the sampling step.

13. DOE proposes to identify the physical form of RH waste by using AK to classify waste according to summary category group. (at 5-34, 5-35). It is not clear why such information should not be obtained or confirmed by CTP as well.
14. The application states that prohibitions on the disposal of nonradionuclide pyrophorics, incompatible chemicals, explosives, compressed gases, ignitable wastes, corrosive wastes, and/or reactive wastes can be satisfied by AK records, which underlie the sites' assignment of hazardous waste codes. (5-20, 5-36). Such a proposal places great weight on the methods for obtaining and confirming AK—methods whose effectiveness is not set forth with supporting data in the proposal.
15. Further, a separate DQO is proposed calling for the identification of specific prohibited items, namely, the presence of in excess of 1 % free liquids or PCBs in excess of 50 ppm. (5-36). Again, this requirement is to be met by AK. (id.). However, the accuracy of AK and the effectiveness of its confirmation are not contained in the proposal.
16. Methods to identify the presence of liquids in waste containers must be shown to be fully effective before RH waste is introduced. The presence of liquids has implications for the integrity of a waste container and may lead to presence of ignitable or corrosive wastes. (at 5-36). Recent experience at Idaho National Engineering and Environmental Laboratory shows that the

measurement of liquids in a single container may vary from one time to another. See Statement on behalf of Environmental Evaluation Group by Matthew K. Silva, before the Hazardous and Radioactive Materials Committee of the New Mexico Legislature, at 13-14, Sept. 10, 2002.

17. The RH-WAP lists certain “Generator Site Characterization Protocols” (at 5-45). This would be the place for prescribing the mandatory elements of the characterization process. However, the descriptions are vague. It is said that the sites must develop and implement AK processes that are based on standardized procedures developed by the Permittees, that such procedures must be approved by the Permittees, and that certain aspects of waste characterization must be addressed. (at 5-46, -47). The procedures must identify instances when AK does not meet DQOs (at 5-48), but the specific records that will or will not meet the DQOs are not stated.
18. For example, at the AK reconciliation stage, it must be shown and verified that “any prohibited items used in the generating process were dispositioned using administrative controls that identified” certain factors, including a “description of the administrative controls and/or policies used by the site to ensure that any prohibited items are documented and managed in accordance with site specific certification plans.” (at 5-52). Does this mean that sites must have recorded the fact that residual liquids were removed from a specific container? Does this mean that sites must have recorded the fact that sealed containers have been removed and punctured? If not, why not? Why is no confirmation process called for, given that most waste can be subject to CTP?

We are concerned that the real decisions on what data satisfy the DQOs is being deferred to the auditing stage, which cannot be carried out effectively without specific requirements.

19. The RH-WAP states that sites may “consider” characterization of RH waste based upon characterization information about (a) CH TRU waste streams, (b) RH TRU mixed waste streams at different sites, or (c) surrogate non-radioactive waste streams, so long as the streams have “correlations and similarities” between the other waste stream and the RH waste stream in issue. (at 5-50). However, no standards are set forth for the use of such substitute waste streams. Neither is it shown how the use of a surrogate or substitute can furnish the legally required “representative sample” (see 40 CFR Sec. 264.13(a)(1)).
20. The RH-WAP descriptions of the visual examination (VE) and radiography processes are much briefer than the description of the AK process (at 5-56, 5-59), and one must ask why that is so, given that sites seem to have the leeway to use these processes in lieu of AK. Most noteworthy is the failure to state how VE may permissibly be used to “identify indicators of hazardous constituents” (at 5-58) or whereby radiography may be used to interpret “indicators of prohibited items” (at 5-62). It is not stated what such “indicators” are nor how they can be identified or interpreted in the characterization processes in question. If VE and radiography are to be made available as full substitutes for AK, the required elements of the processes must be set forth in equivalent detail.

21. The description of the CTP process (at 5-62) has most of the faults of the description of the AK process. In addition, under the proposal CTP would include “[i]dentifying indicators of hazardous constituents” (at 5-63), but the proposal fails to say what such “indicators” are and how they may be identified.
22. It is not clear that CTP would be a separate characterization method from AK. The proposal states that “[t]his CTP information may include the use of AK information such as existing VE and/or radiography video tapes.” (at 5-63). Much of the data required to develop a physical and chemical description using CTP is, in fact, AK information. (at 5-64). Further, in determining the absence of prohibited items, it is said that CTP must result in documented evidence that verified “that any prohibited items used in the generating process were dispositioned properly by the operator.” (at 5-65). Based on such statements, CTP may in fact be an alternative name for AK.
23. The proposal entails many new operations involving the receipt, processing, and emplacement of RH waste received in RH-72B or 10-160B casks. We do not have the engineering resources to evaluate such procedures and request NMED to obtain and apply such skills in reviewing the proposed processes.
24. We have a concern about waste casks and containers that arrive with internal contamination. Recent experiences with CH TRU waste suggests that internal stresses may lead to leaks in waste containers, even though the shipping cask does not release radioactivity. The provisions in the current proposal that address possible container leaks are in Addendum FR and Addendum M1R.

Addendum FR, referring generally to leaking containers, states that if a “container spills, leaks, or becomes punctured, and contamination exceeds acceptable levels, a determination will be made whether to return the payload container and shipping cask to the shipping site or overpack the payload container in a disposal canister.” The addendum continues, describing the recovery phase as including “activities such as placing the waste material in another container; vacuuming the waste material; overpacking or patching and/or plugging the breached waste container; and decontaminating the affected area.” (at 9-11). Addendum M1R refers specifically to the phase of unloading of the RH-72B shipping casks. The proposal states that, if internal contamination is found, a “determination is made whether to return the canister to the originating site or to overpack the canister.” (at 16-24, 16-26). We suggest that the term “acceptable levels” be defined as the DOE free release limit, a term defined in the CH portions of the permit. (See Att. M1, at M1-10). We recommend that any efforts to remedy contamination of RH containers found upon arrival be conducted in a location where releases can be controlled, such as the RH hot cell. We further recommend that the permit adopt the general principle of minimizing decontamination or overpacking at WIPP, to reduce the risks of releases of contamination at the WIPP site. The permit should also place the incentive upon shippers, who have control of such matters, to pack waste in containers that are in good condition and to load RH-72B and 10-160B casks so that minor accident impacts or travel shocks do not cause waste containers to leak. Following such principles, the

permit should direct that, if problems arise in shipping, the problems are the shipper's responsibility. Specifically, we recommend that the permit state that swipes shall be taken from internal surfaces during unloading and that, if measurement of such samples shows contamination in excess of the DOE free release limit, the shipping container should be opened no further and should be returned to the shipper.

We look forward to participating in future proceedings concerning the proposed RH waste modification.

Very truly yours,

A handwritten signature in black ink, reading "Lindsay A. Lovejoy, Jr." in a cursive script.

LINDSAY A. LOVEJOY, JR.  
Assistant Attorney General

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