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August 8, 2000

RE: RESPONSE TO COMMENTS, CLASS 2 MODIFICATION REQUESTS
WIPP HAZARDOUS WASTE FACILITY PERMIT
EPA I.D. NUMBER NM4890139088

Dear Concerned Citizen:

The New Mexico Environment Department (**NMED**) has approved the Class 2 permit modification requests to the WIPP Hazardous Waste Facility Permit as submitted to the Hazardous Waste Bureau (**HWB**) in the following documents:

- Request for Class 2 Permit Modifications, Dated 4/7/00, Rec'd 4/10/00
- Request for Class 2 Permit Modifications, Dated 4/20/00, Rec'd 4/24/00

These modifications were processed by NMED in accordance with the requirements specified in the New Mexico Hazardous Waste Regulations, 20.4.1.900 NMAC (incorporating 40 CFR §270.42(b)).

These Class 2 modifications were subject to sixty (60) day public comment periods, which ran from April 12 through June 12, 2000 for the April 7, 2000 submittal, and from April 26 through June 26, 2000 for the April 20, 2000 submittal. NMED received written comments from twenty-two individuals and organizations during this time. NMED's general responses to these comments are incorporated in the attachment to this letter.

Further information on this administrative action may be found on the NMED WIPP Information Page on the World Wide Web at <http://www.nmenv.state.nm.us/wipp/>.

If you have any questions regarding this matter, please contact Steve Zappe at (505) 827-1560, x1013.

Sincerely,

John E. Kieling, Manager
Permits Management Program
Hazardous Waste Bureau

Attachment

cc: James Bearzi, HWB
Steve Zappe, HWB
Inés Triay, DOE/CAO
Joe Epstein, Westinghouse

NMED RESPONSE TO COMMENTS ON CLASS 2 MODIFICATIONS TO WIPP HAZARDOUS WASTE FACILITY PERMIT SUBMITTED APRIL 7, 2000 AND APRIL 20, 2000

Comment A. On April 20, 2000, the Permittees implemented a Class 1 permit modification revising Permit Condition IV.B.2.b. to clarify that the requirements of both clauses of this Condition are applicable after the effective date of the permit, and that the placement of TRU mixed waste in a Hazardous Waste Disposal Unit (**HWDU**) is not affected by the existence of TRU non-mixed waste in the HWDU that was disposed of prior to the effective date of the permit (i.e., during the interim status period). Commentors indicated that the modification was not a clarification issue and was therefore not a Class 1 permit modification. Some commentors also stated their belief that this was an improper use of the Class 1 permit modification process.

Response: NMED did not review a proposed Class 2 modification to Permit Condition IV.B.2.b, and therefore these comments are not relevant to this particular administrative action. See the April 7, 2000 and April 26, 2000 notice, press release, and fact sheets issued by DOE regarding the relevant Class 2 modification requests, and the May 31, 2000 notice issued by DOE (Notification of Class 1 Permit Modifications). Further, the concerns raised by the commentors are misplaced. After the effective date of the permit, all mixed and non-mixed TRU waste must be characterized in accordance with the requirements of the WAP in the permit prior to disposal in the same HWDU at WIPP.

Comment B. The Permittees proposed a Class 2 permit modification revising the quality assurance objective (**QAO**) accuracy criteria for cresols and pyridine because the existing accuracy limits for both using semi-volatile compound (**SVOC**) analytical techniques are based on volatile organic compound (**VOC**) data rather than SVOC. The Permittees indicated that cresols and pyridine analysis done using SVOC analytical techniques should be based on accuracy ranges established using SVOC data. Commentors generally concurred with the proposed modification, but expressed concern that insufficient information was provided to assess the need for, and calculations associated with, the accuracy limit modifications.

Response: NMED concurs with the requested permit modification, but first recognized that additional technical information was required to fully assess the request. NMED requested and received additional justification from the Permittees including why the Contract Laboratory Program (**CLP**) limits for surrogate recovery were selected over EPA SW-846 method limits, how the proposed surrogate limits were derived, and to obtain a comparison between the SW-846 Method 8270 and the CLP SVOC method.

Comment C. The Permittees proposed a Class 2 permit modification reducing the headspace gas sampling requirements for non-hazardous homogenous solids and soils/gravels, as well as homogenous solids and soils/gravels defined as hazardous solely by the presence of hazardous metals (i.e., not

hazardous with respect to VOCs/SVOCs), as identified in acceptable knowledge (**AK**) documentation. The permit modification included a statistical method for determining the number of required samples, assignment of derived VOC concentration values to all associated containers, and increased sampling requirements if the statistical challenge is not met. Commentors expressed serious concern regarding this proposed modification, most erroneously believing that this modification would eliminate headspace gas sampling requirements for most, if not all, waste. Commentors also expressed concern that AK information was insufficient, that it provided inadequate justification to exempt wastes from headspace gas analysis requirements, and that the effects of radiolytically-generated VOCs were incompletely considered. Additionally, commentors believed that complete headspace gas sampling should still be required to ensure protection of human health and the environment. Other commentors, however, concurred with the proposed modification because they believed it would save time and money, and would reduce potential hazardous exposures to workers at generator site. One commentor indicated that random selection of samples must be ensured, and also suggested that the sampling rate revert to 100% for any waste stream where the AK was significantly different from the statistically based characterization for any drum in that waste stream.

Response: NMED considered all public comment and information provided by the Permittees, and concurs with the requested permit modification. The following explains how NMED assessed the issues raised by the public, and is offered to explain how NMED's decision was made:

- The permit modification for non-hazardous homogenous solid and soil/gravel wastes (Summary Category Groups S3000 and S4000, respectively) does not rely on AK to assign headspace gas values. Rather, headspace gas values are determined for a statistically selected portion of the waste stream population, and these determined values are then assigned to each container in that particular waste stream or waste stream lot. Headspace gas values are still used to confirm AK following the same requirements set forth in the original permit. If a waste stream is assigned a hazardous waste code based on WAP comparison requirements, then the entire waste stream is disqualified from the reduced headspace gas sampling process and 100% headspace gas sampling is required. Additionally, all of the wastes that undergo reduced headspace gas sampling are still subject to representative solid sampling as an additional AK check. If a waste is determined to be hazardous with respect to VOCs or SVOCs based on solid sampling, the waste again is disqualified from the reduced headspace sampling process, and 100% headspace gas sampling is required.

- NMED understands public concern regarding AK and identification of hazardous waste; requirements in the permit to confirm AK stem from this issue. The permit modification reduces overall headspace gas sampling for waste that should contain minimal VOCs, but still requires full confirmation of AK data as a check of AK accuracy. Also, NMED

understands stakeholder concern regarding potential radiolytic contribution to headspace gas. If the statistically sampled population exhibits headspace gases generated through demonstrated radiolytic contribution, hazardous waste codes will not be assigned. However, the concentrations will be retained, reported in the WIPP Waste Information System (**WWIS**) database, and assessed as part of the permit-required program to monitor releases of VOCs from the WIPP repository.

- NMED notes that this permit modification does not impact other related permit requirements, such as nonconformance reporting, detailed record keeping, and site audits. These requirements help reduce concerns about drum mislabeling, human error, waste handling, and other potential problems. Likewise, worker exposure to headspace gases is minimized through the canister/manifold sampling process specified in the permit. By limiting the permit modification to only non-hazardous homogenous solid and soil/gravel wastes and hazardous homogenous solid and soil/gravel wastes so designated because of metals only, the possibility is reduced that tremendous quantities and varieties of headspace gas components will be present.

- NMED agrees that care must be taken to ensure selection of random headspace gas samples, and NMED expects this aspect to be closely scrutinized during generator site audits. Resumption of a 100% sampling rate would occur if improper assignment of the waste stream was evidenced through headspace gas sampling, which would occur if AK were significantly different than the waste characteristics determined through headspace gas sampling.

Comment D. The Permittees proposed a Class 2 permit modification reducing the headspace gas sampling required of waste that were thermally treated, i.e., waste that were subjected to temperatures high enough to result in significant reduction of VOCs from the waste matrix. The procedures proposed were the same as those for non-hazardous homogenous solids/soils/gravels (see Comment C above). Commentors generally supported the revision, although some questioned whether sufficient information would be provided to determine whether the thermal treatment had been effective (i.e., define "thermal treatment"), and others believed the thermal processes should be thoroughly audited.

Response: NMED considered all public comment and information provided by the Permittees, and concurs with the requested permit modification. The following explains how NMED assessed the issues raised by the public, and is offered to explain how NMED's decision was made:

- The Permittees have proposed headspace gas sampling reduction for thermally processed waste as well as non-hazardous homogenous solids and soil/gravel because all of these

wastes should contain reduced VOC concentrations due to the nature of the waste. However, the Permittees do not abandon headspace gas sampling for these wastes, and are still required to fully comply with the checks and balances included in the permit for AK confirmation using headspace gas analytical results.

- 100% headspace gas sampling would be reinstated for wastes failing the permit-mandated comparisons if it is determined that the headspace gas was not radiolytic in origin. Also, headspace gas values are assigned to each container, and the WIPP VOC monitoring program ensures that emplaced waste emissions do not exceed permitted levels.

- NMED agrees that the Permittees must *thoroughly* examine thermally treatment assessment performed at the site as part of site audits to ensure that thermal treatment has been appropriately identified. NMED also notes that if headspace gas analysis and solid sampling indicate non-radiolytic VOCs in a waste that is purported to be thermally treated and if permit AK requirements indicate this waste should be considered hazardous, such waste would be assigned hazardous waste codes and would require 100% headspace gas sampling, regardless of whether the waste was thermally treated.

- NMED shares the commentors' concern that lack of minimum thermal treatment requirements could be misused. NMED will require that the Permittees thoroughly document and examine thermal treatment processes as part of site audits to ensure that the processes used to thermally treat waste are acceptable.

Comment E. The Permittees proposed a Class 2 permit modification to allow a single subsample collection for VOCs during solid sampling. Commentors generally concurred with the proposed modification.

Response: NMED considered the Permittees' and public comment, and concurs with the requested permit modification. NMED's testimony at the WIPP Permit hearings indicates that NMED believed it appropriate to allow single subsample collection as an alternative to the three-subsample composite, and NMED intended that a composite sample would be collected when a single representative sample could not be collected. As such, NMED did not remove the 3-sample method, electing to retain both methods in the permit thus allowing sites flexibility when performing solid sampling.

Comment F. The Permittees proposed a Class 2 permit modification to revise calculation of the visual examination miscertification rate from a waste stream basis to a summary category group basis.

Commentors disagreed with the proposed modification because the number of containers visually examined would be significantly reduced, thus increasing the likelihood that prohibited items would go undetected. Commentors also expressed concern about DOE's ability to accurately characterize waste using radiography (the accuracy of which is checked by visual examination), and expressed concern that the physical waste disparities within Summary Category Groups would pose difficulties. Other commentors endorsed the permit modification, indicating that the approach is consistent with joint EPA-Nuclear Regulatory Commission (**NRC**) guidance and results in decrease cost and worker exposure. Others also endorsed a reduction of the initial miscertification rate imposed by the original permit from 11% down to 1%.

Response: NMED considered all public comment and information provided by the Permittees, and concurs with the requested permit modification. The following explains how NMED assessed the issues raised by the public, and is offered to explain how NMED's decision was made:

- NMED acknowledges that the permit modification will result in fewer containers being visually examined. However, NMED had originally imposed visual examination by waste stream not as a means of increasing the number of containers sampled, but to focus visual examination efforts on those wastes that were more difficult to examine with real-time radiography (**RTR**). The proposed modification, although reducing the total number of containers visually examined, still retains this original intent of NMED by calculating the miscertification based on Summary Category Groups.

- Debris waste, which will presumably be the most problematic Summary Category Group with respect to RTR, will be examined independently from soil/gravel and homogenous solids Summary Category Groups and could have a correspondingly higher visual examination rate. NMED originally imposed the initial 11% miscertification rate based upon evidence provided during the WIPP Permit hearings. Under the permit, sites may readily decrease sampling after the initial 11% to a lower miscertification rate depending upon the accuracy of their own systems. However, the initial 11% miscertification rate was not changed by this modification; only the application of the miscertification rate was changed from a waste stream basis to a Summary Category Group basis. In addition, as one commentor correctly pointed out, relatively few containers to date have undergone visual examination with respect to the entire population of containers intended for disposal at WIPP. NMED recognized this situation when imposing the initial 11% miscertification rate, but also recognized that individual system accuracy should be taken into account and adjustment of this rate could occur if warranted by system performance.

- NMED recognizes that a reduction in the number of containers visually examined does affect the likelihood that wastes containing prohibited items could be missed and

subsequently disposed of at WIPP. However, by focusing the visual examination efforts on potentially problematic groups such as debris waste, prohibited items which were improperly identified by RTR but caught during visual examination would result in an entire Summary Category Group (e.g., debris) being subject to increased visual examination requirements, not just the culprit waste stream. This broadens the scope of waste assessed without including other Summary Category Groups that would be unnecessarily included.

- NMED agrees that generator sites should make every effort to calculate the miscertification rate using representatively selected samples, and this effort should be examined during audits. NMED also recognizes that certain flexibility must be allowed with such an approach, since a true representative sampling may not be possible due to availability of containers, site schedules for characterization unrelated to WAP requirements, etc.

Comment G. The Permittees proposed a Class 2 permit modification to remove the requirement for gross alpha and beta analysis for groundwater samples, replacing these with radionuclide-specific analysis. Commentors generally agreed with the revision, although some suggested that the individual radionuclides should be specified in the permit modification.

Response: NMED considered all public comment and information provided by the Permittees, and concurs with the requested permit modification. NMED originally included the requirement to analyze for gross alpha and beta because these analytes would serve as indicator parameters for the detection monitoring program. Analysis for gross alpha and beta under the modified permit becomes unnecessary because, with the permit modification, individual radionuclides are reported instead. The reported radionuclides constitute the vast majority of radionuclides expect in the inventory and serve as equally satisfactory indicator parameters of waste release.

20.4.1.500 NMAC (incorporating 40 CFR 264.98(a)) states that the "owner or operator must monitor for indicator parameters (e.g. specific conductance, total organic carbon, or total organic halogen), waste constituents, or reaction products that provide a reliable indication of the presence of hazardous constituents in groundwater." Gross alpha/beta and radionuclides were included as indicator parameters, not surrogates for hazardous constituents, as they are good overall indicators of facility performance that are assessed early in the monitoring process. Specific radionuclides were not included in the modification because the Permittees did not request that they be listed. Further, inclusion of specific radionuclides is unnecessary because DOE included groundwater monitoring for radionuclides in the Compliance Certification Application (**CCA**) submitted to EPA.