



**Responses to NMED Comments on  
Request For a RCRA Class 2 Permit Modification  
in Accordance with 20.4.1.900 NMAC  
(incorporating 40 CFR Part 270)**

**Drum Age Criteria**

**Waste Isolation Pilot Plant  
Carlsbad, New Mexico**

**Submitted to NMED on December 7, 2000**

**April 17, 2001**



**RESPONSES TO NMED COMMENTS ON THE PROPOSED DAC MODIFICATION**

NMED TECHNICAL COMMENT	DOE RESPONSE	CHANGE	LOCATION
<p>1. The models proposed in the 1995 Lockheed Report (1995 Report) and the October 2000 BWXT Report entitled "Determination of Drum Age Criteria Prediction Factors Based on Packaging Configurations" (BWXT 2000) appear to assume that the method of sample collection will occur through an air tight needle entry and that no VOCs are lost to the atmosphere either through sampling or other handling (e.g., opening a vent in the rigid liner). However, it is unclear how this assumption would be achieved, particularly with respect to the potential loss of volatiles during Scenario 2 liner venting or Scenario1 sampling through the rigid liner.</p>	<p>This comment raises three questions. First is the dependency of the DAC on the sampling technique second, the effects that the sampling methods have on the equilibrium conditions on the container headspace, and third, the effects of liner venting.</p> <p>With regard to the first question, the DAC itself is not dependent on the sampling technique that is used. The DAC is established to ensure that the gas that is sampled has reached 90% of its steady state concentration value. It is true, however, that sampling has the potential to disrupt the equilibrium in the container if not performed properly. The second item in this response addresses the importance of proper sampling and how it is maintained within the requirements in the permit.</p> <p>With regard to the second question, the modification assures that the appropriate DAC is imposed depending on the location of the sample and the sequence in which it is taken. The permit requires that any opening in the container, such as a filter, be sealed during sampling so that outside air is not allowed to enter the container during sampling. (See for example Section B1-1a(3)(i) and B1-1a(3)(ii).) Therefore, sampling through the drum liner would require similar measures be taken to assure a representative sample is taken by preventing the intrusion of outside air. When sampling through a rigid container (including the poly liner) the permit requires an airtight seal between the sampling device and the container (or liner) surface. In most cases this is accomplished in one of two ways. First, the liner is punctured at the time the drum lid is punctured and the sample is taken through the punch in accordance with Section B1-1a(3)(i) requirements. Second, the rigid container may be sampled directly by pushing the needle directly through the liner and extracting the sample. This modification contains language to ensure that an airtight seal is maintained per Section B1-1a(3)(i) when the generator site samples the rigid poly liner directly with the needle.</p> <p>With regard to the third question, as stated above, the fundamental concern of the permit is the prevention of sample contamination with outside air during sampling of a container that has met the DAC. There is little emphasis in the permit with regard to the loss of headspace gas to the atmosphere during sampling. Under the Scenario 2 conditions, VOCs will migrate into the drum headspace after liner venting because the drum headspace is not initially in equilibrium with liner headspace. Consequently, an additional DAC is appropriate. That is why the permit modification specifies that the DAC associated with the Scenario 2 "liner venting" is in addition to the Scenario 1 DAC to ensure that the atmosphere between the liner and the drum are at an equilibrium concentration after the rigid drum liner is vented. This additional DAC is necessary because there is essentially no transfer of VOCs through an unvented drum liner, so that after venting the rigid liner, the equilibrium conditions must be established in the drum headspace before it is sampled. In the case of the rigid drum liner, the conservative assumption used in the model to calculate the DAC is to set the concentration in the air between the drum liner and the drum headspace to zero because doing this results in a longer DAC. It should be noted that even if the drum lid is removed to puncture the drum liner, this assumption remains valid. That is, once the lid is put back on the drum, the concentration of VOCs in the drum headspace is assumed to begin at zero and reach equilibrium after the Scenario 2 DAC is met (assuming the drum has met the Scenario 1 DAC and the liner was not removed).</p>	<p>No</p> <p>Yes</p> <p>Yes</p>	<p>N/A</p> <p>Section B1-1a(3)</p> <p>Section B1-1a</p>

**RESPONSES TO NMED COMMENTS ON THE PROPOSED DAC MODIFICATION**

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<p>2. The 1995 Report and BWXT 2000 reports were compared to assess differences in the assumptions or in the formulae used to generate the theoretical drum ages for the different scenarios and packing configurations. The 1995 Report calculated DACs were compared to Scenario 3 DACs in BWXT 2000, and there does appear to be a general sense of agreement between the approaches presented in each report with respect to common elements addressed in each report. However, the presentation and terminology differed significantly between the two reports and it was not always clear if the approach between the 1995 and 2000 reports was the same. In general, the Permittees should provide additional clarification to demonstrate that the approach, assumptions, and inputs used in the 1995 Report were also used in BWXT 2000. Any changes in approach, assumptions, or inputs should be clearly identified. In addition to this general request for clarification, the following specific clarifications are among those that should be provided if the modification is revised and resubmitted (note that this is not a comprehensive listing of clarifications, which are presented only as examples):</p>	<p>The general approach, assumptions, or inputs for the calculations done for computing a DAC for a drum were unchanged between the two reports. This is evidenced by the fact that the same results are generated for the same packaging configurations that were previously examined in the 1995 report. New inputs were required for the new packaging configurations (i.e., SWB, pipe overpacks, and 6 layers of confinement) that were not analyzed in the original 1995 report. However, these new inputs do not represent any changes in the approach or assumptions that were used, they only represent changes in surface area and volume that would be associated with a different size package or configuration of confinement layers (e.g., the void volume in an SWB is greater than that of a drum). The equations presented in the BWXT (2000) report are for the VOC multiplier and prediction factor methodology, which is an alternative to using the look-up tables. This modification is not requesting to use this alternative.. Text has been added to the modification to explain this difference.</p>	<p align="center">Yes</p>	<p>Description Section of the modification preamble.</p>
<ul style="list-style-type: none"> <li>The 1995 Report included a term for calculating the VOC accumulation in the rigid liner (Equation A-4). This term does not appear to be addressed in BWXT 2000. The Permittees should provide clarification as to the use of this term and the impact of this term on overall DAC calculations.</li> </ul>	<p>The VOC accumulation term continues to be present in the BWXT 2000 report for Scenarios 1 and 3, which is where this term is of importance. This term is not of importance in Scenario 2 because Scenario 2 requires that the Scenario 1 DAC be met prior to initiating the Scenario 2 DAC. Meeting the Scenario 1 DAC ensures that the drum liner has already reached equilibrium with the headspace gas and therefore this term drops out of the Scenario 2 DAC calculation. Equation A-4 continues to be the correct equation for the DAC calculations, because the other equations that are present in the BWXT (2000) report are applicable to an additional methodology which is not part of this permit modification request. The text of the discussion has been modified to clarify that this is the case.</p>	<p align="center">Yes</p>	<p>Description Section of the modification preamble.</p>
<ul style="list-style-type: none"> <li>The 1995 Report contains a series of equations (Equations A-7a through A-11b) that define the rate of change of the VOC concentration in each layer of confinement, but BWXT 2000 did not specifically discuss these equations. The Permittees should provide additional clarification to demonstrate how the rate of change in each layer of confinement is calculated and how the equations were used in BWXT 2000 are equivalent.</li> </ul>	<p>Section 3 of the 2000 BWXT report references the Connolly et al 1998 report, which is a revision of the original 1995 report referenced in the permit. The original equations were not reprinted in the 2000 report; however, they were the equations used in the DAC calculations. Text has been added to the modification to explain this difference.</p>	<p align="center">Yes</p>	<p>Description Section of the modification preamble.</p>

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<ul style="list-style-type: none"> <li>The equation for VOC diffusivity in air included in BWXT 2000 (Equation 7) is different than the equation used in the 1995 Report (Equation 3-2), as BWXT 2000 includes a temperature and pressure factor that is not in the 1995 equation. The Permittees should clarify the origin and purpose of this factor and how this factor was accounted for in the 1995 equation.</li> </ul>	<p>The original equation (Equation 3-2) did incorporate a temperature and pressure term for hydrogen and the VOC of interest. Because Equation 3-2 is a ratio of the VOC to hydrogen diffusivity, the specific terms for the critical temperature and pressure of air are common to both the VOC and hydrogen diffusivity and cancel each other out of the final equation. This is not the case for Equation 7 because it is just the equation for the diffusivity of the VOC in air. This explanation notwithstanding, it should be pointed out that Equation 7 is not important to the modification request submitted to change the DAC for the WIPP. Equation 7 is the equation that was used for the prediction factors in Section 6 of the report. The proposed DAC permit modification did not include a request for prediction factors to be added to the permit. Text has been added to the modification to explain this difference.</p>	Yes	Description Section of the modification preamble.
<ul style="list-style-type: none"> <li>Some model inputs are different between the 1995 Report and BWXT 2000. For example, the 1995 Report references the use of the NFT-20 filter that has a hydrogen diffusivity characteristic of 4.2E-06. The 2000 report calculates DACs based on three separate diffusivities, none of which are the NFT-20 filters.</li> </ul>	<p>The filters used in the BWXT report are consistent with the filters that are used in the DOE system. One of the parameters that was evaluated for its effect on the DAC was the drum filter. The NFT-020 filter is more diffusive than the middle filter diffusivity in this modification (i.e., 3.7E-06, which is the diffusivity of the NFT-013); therefore, it is more conservative to use the lower diffusivity (i.e., it results in longer DACs). Text has been added to the modification to explain this difference.</p>	Yes	Description Section of the modification preamble.
<p>3. The BWXT 2000 software modeling report indicated that hydrogen generation was no longer included in the model. The Permittees should clarify if the hydrogen gas generation was considered in the 1995 Report and what impact not considering the gas generation has on the model.</p>	<p>The hydrogen generation portion of the code was removed because it was not used for calculating the DAC in either the original analysis or the current analysis. Text has been added to the modification to explain this difference.</p>	Yes	Description Section of the modification preamble.
<p>4. The VOC multiplier factors found in Section 5 of BWXT 2000 indicates that VOC multipliers could be used to extrapolate VOC headspace gas concentrations at the DAC by measuring the concentration at a different date and applying a multiplication factor. However, the Permit Modification did not indicate if this approach would be employed and how it would be implemented. If it is implemented, the Permittees should clarify the impact of these lower concentrations on TIC identification and reporting as well as target reporting for concentrations at or near the MDL in the samples taken at an earlier date. Furthermore test data needs to be generated to support these calculations, as specified in Comment #5 below.</p>	<p>VOC multipliers were not requested as part of this modification. Text has been added to the modification to explain this.</p>	Yes	Description Section of the modification preamble.

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<p>5. It is unclear if any test data was generated to support the theoretical calculations provided in the BWXT 2000 report. 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. Experiments would also lend serious credibility to the entire process. NMED notes that the methodology presented in the original permit application was supported by test data. If new test data were generated, the Permittees should discuss the results and the parameter of the test.</p>	<p>No additional testing was performed. This is because the original methodology used for determining the DAC has not changed. The original testing that was conducted verified that the equations used correctly represented the transport of the VOCs across bags. The equations are based on the physical principles applicable to the processes of diffusion and permeation. The physical processes of diffusion and permeation are described mathematically independently of the scale over which they occur (e.g., the same equation applies whether the process takes place over 100 cm<sup>2</sup> or 1000 cm<sup>2</sup>). The scale over which the diffusion and permeation occurs is accounted for by increasing the physical dimensions. The original test data provided a proof of principle that the equations could be used to represent the process of VOC movement through bags. It was determined by the scientific investigators that they did not need to repeat the testing to extend the equation for use in an SWB or other containers. Other testing was conducted as part of the original study to define the basic constants that are used to represent the equilibrium in the drum liner, permeability of the bags, and the mass transfer coefficients. These constants are dimensionless or are in terms of per unit area and are based on the material used and are applicable independent of the amount of material. Text has been added to the modification to explain this.</p>	<p align="center">Yes</p>	<p>Description Section of the modification preamble.</p>
<p>6. Several clarifications should be provided with respect to BWXT 2000 to ensure complete understanding and implementation of the process. These clarification should include but not limited to the following:</p> <ul style="list-style-type: none"> <li>• Sensitivity and uncertainty analysis should be discussed with respect to important parameter such as the presence/absence of liners, filter vent characteristics, opening size in the liner lid, etc. This is important to identify which parameters influence DAC calculation the most.</li> </ul>	<p>This was conducted as part of the Liekhus et al. 1999 report that is referenced in the 2000 BWXT report, Section 4 which states: "The past work (Connolly et al., 1998) determining DACs for specific waste packaging configurations <u>as well as a sensitivity analysis to identify the most important parameters that influence the calculated DAC (Liekhus et al. 1999)</u> serves as the foundation for calculating DACs for different venting and sampling scenarios as well as for a wider variety of waste drum packaging configurations." (emphasis added) This 1999 report is available on-line through the Mixed Waste Focus Area web site and has been attached to the revised permit modification. Text has been added to the modification to explain this.</p>	<p align="center">Yes</p>	<p>Description Section of the modification preamble and Liekhus et al. 1999 report has been attached</p>
<ul style="list-style-type: none"> <li>• Be sure that BWXT is very clearly written, particularly in the areas of Scenario descriptions. For example, it is not entirely clear from Scenario 2 discussion on page 3 of the BWXT report that the drum is initially unvented until DAC1 is reached, after which the drum is vented and DAC2 must be reached before sampling.</li> </ul>	<p>Page 3 of the BWXT report states: "The drum age criterion DAC<sub>2</sub> is defined as the time for a representative VOC to reach a headspace concentration within at least 10% of its steady-state concentration <u>after venting a waste drum that was unvented for DAC<sub>1</sub>.</u>" (Emphasis added)</p>	<p align="center">No</p>	<p align="center">N/A</p>
<ul style="list-style-type: none"> <li>• All assumptions and simplifications presented in BWXT should be justified (e.g., assumptions pertaining to waste drum configuration, selection of Scenario 3 packaging configurations for drums, Section 6.1 Modeling Assumptions, Appendices A and B, etc.).</li> </ul>	<p>The assumptions used in the modeling not changed and are listed in the 1995 report. The BWXT (2000) report contains assumptions and equations for the VOC multiplier and prediction factor methodology, which were not requested as part of the permit modification. However, the assumptions that are used for the VOC multiplier and prediction factor methodology are the same as those in the original 1995 report. A statement to this effect has been added to the modification request.</p>	<p align="center">Yes</p>	<p>Description Section of the modification preamble.</p>

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<ul style="list-style-type: none"> <li>The information reviewed which supported the determination of various packaging configurations for SWBs and pipe overpacks should have been included.</li> </ul>	<p>The packaging configurations were obtained from the generator storage sites as stated in the discussion section of the permit modification which states "To evaluate the development of additional DAC values, a survey of generator/storage sites was performed to identify present and future packaging configurations." This was also stated in the 1999 Liekhus et al. report that is referenced in the 2000 BWXT report. The goal here was to make this update to the DAC as comprehensive as possible since this update is also being used as part of an Amendment to the TRUPACT Safety Analysis Report currently pending before the Nuclear Regulatory Commission. The survey was informal and was only intended to provide a basis for scoping the change to the DAC. The permit modification already states that other packaging configurations will require evaluation and possibly an additional DAC.</p>	<p align="center">Yes</p>	<p>Liekhus et al. 1999 report has been attached</p>
<ul style="list-style-type: none"> <li>Clarify how the Pipe Component DAC was calculated in Section 6 of BWXT 2000.</li> </ul>	<p>Section 6 contains a methodology for calculating VOC multipliers, which were not requested as part of this modification A statement to this affect has been added to the modification request.</p>	<p align="center">Yes</p>	<p>Description Section of the modification preamble.</p>
<p>7. During the development of the draft permit in 1998, NMED examined the 1995 report and supporting mathematical calculations/assumptions, and accepted the methodology embodied in that report. It might be appropriate for NMED and the Permittees to discuss all code changes implemented since the 1995 report, particularly those used to implement changes in SWB and pipe overpack determinations. While the mathematics appear generally appropriate, NMED has a number of question concerning assumptions, applicability, etc., which remain unanswered because NMED did not have access to the authors nor have the opportunity to interact with the Permittees after the modification was submitted. This is primarily due to the nature of the Class 2 permit modification process, which does not provide for supplementing the administrative record with information obtained from a request for supplemental information (RSI) or a notice of deficiency (NOD).</p>	<p>The DOE is resubmitting this modification after addressing the NMED and public comments.</p>	<p align="center">Yes</p>	<p>Numerous  Revision of the modification to address comments..</p>

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<p>8. BWXT 2000 was used as justification for the proposed DAC modification. The authors of BWXT 2000 propose a very prescribed and ordered process to determine drum ages based on waste packaging configuration and other drum considerations. In this process three distinct drum Scenarios are provided: Scenario 1 applies to unvented drums sampled immediately after venting; Scenario 2 applies to drums that were unvented for the Scenario 1 DAC time period, but were then vented; and Scenario 3 applies to drums vented at the time of packaging. In Drum Scenario 2, the sample may only be collected after the Scenario 1 Drum Age Criteria DAC (DAC<sub>1</sub>) is met and the container is subsequently vented, followed by the achievement of the Scenario 2 DAC (DAC<sub>2</sub>). However, the Proposed Permit Modification provides only a single reference in Table B1-5 indicating that Scenario 2 drums are to meet both the Scenario 1 DAC and Scenario 2 DAC sequentially. That is, the Permit Modification does not clearly indicate that the Scenario 2 DAC must be considered in conjunction with the Scenario 1 DAC and that the Scenario 2 DAC begins once the Scenario 1 DAC is met and the drum is vented. This could be very confusing to generator/storage sites attempting to implement the Permit Modification.</p>	<p>The DOE agrees that a more definitive statement in the text of the permit is appropriate to assure that Generator sites implement the DAC properly. This statement is based on the discussion section of the permit modification which specifically describes the relationship between the Scenario 1 DAC and the Scenario 2 DAC. NMED correctly noted that Table B1-5 specifically defines the Scenario 2 DAC as applying to "Drums that have been packaged for a specified period of time sufficient to achieve equilibrium conditions (i.e., met the DAC for Scenario 1 drums) and then are vented, but not sampled at the time of venting."</p>	<p>Yes</p>	<p>Section B1-1a</p>
<p>9. The proposed Permit Modification is unclear with respect to how samples will be collected under unvented rigid drum liners. The permit currently contains prescriptive criteria for collecting samples through a carbon filter or the drum lid of containers with vented rigid liners, but the Permit Modification is not equally prescriptive with respect to details for sampling through the rigid unvented liner. The Permittees should provide additional detail for collecting a sample through the rigid unvented liner.</p>	<p>The rigid drum liner is equivalent to a sealed rigid container greater than 4 liters that must be sampled if it is not vented as specified in Permit Attachment B1, Section B1-1a. The Permit does not currently contain prescriptive requirements for conducting this required sampling other than those in the QAOs for headspace gas sampling, which requires that the sample be representative. DOE has modified the request to provide specific language that requires the generator site to assure that sampling is leak tight and that representative samples are taken.</p>	<p>Yes</p>	<p>Sections B1-1a(3) and B6</p>
<p>10. Section B-1c of the WAP specifies that all drums must have filters, which was a concern during WIPP permit hearing with respect to gas build-up and potential development of corrosive, ignitable, and reactive conditions. However, according to the proposed modification, it appears that unfiltered drums would be very acceptable and are currently present at sites. The Permittees should consider how this information impacts the Permit, particularly with respect to permit requirements and the mitigation of interior drum conditions with respect to D001, D002 and D003 waste. The Permittees should also clarify how they intend to have sites manage drums without filters.</p>	<p>The permit modification request should not be interpreted as a request to eliminate the requirement for filters during management of waste at the WIPP. The permit makes it clear in a number of places (e.g., Attachment B, Attachment M1, Attachment M2) that only filtered containers may be managed at the WIPP. In fact, only filtered containers are currently allowed to be shipped to the WIPP in TRUPACT II. However, several sites have unfiltered drums in their inventory. Permit Attachment B1, Section B1-1a requires taking samples from a container that is not vented if that container is greater than 4 liters in volume and is rigid. The DAC modification proposes appropriate DACs that are applicable to the sampling that is conducted in accordance with the existing conditions of Permit Attachment B1, Section B1-1a(3)(ii). The permit already requires that sites vent containers prior to shipment to the WIPP facility. One of the goals of the modification is to clarify the language with regard to sampling (and venting) unvented containers at the generator site. (See the response to Comment 1)</p>	<p>No</p>	<p>N/A</p>

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<p>11. Table 4 (Table B1-8) presents the Scenario 3 Packaging Configurations and shows that for any Summary Waste Category Group, certain packaging is allowed under specific Packaging Configurations. However, BWXT 2000 indicates that different packaging considerations were assumed for S5000 and S3000/S4000 when calculating the DAC. For example, Packaging Scenario 3 assumed a bounding packaging condition of two liner bags for S3000/S4000 waste, and a bounding packaging condition of 4 inner bags/2 Liner bags for debris (S5000). As such, the BWXT 2000 report did not consider 4 inner bags and two liner bags for S3000/S4000 waste (the DAC for this condition would presumably be greater/more conservative than when two liners alone are considered), yet Table 4 allows this configuration for S3000/S4000 waste. Unless the Permittees can justify combining assessed configurations and making them applicable to all wastes, Table 4 should have differentiated between S5000 and S3000/S4000 waste allowable packaging configurations, as shown in the BWXT Report.</p>	<p>In order to eliminate confusion on which specific packaging configurations can be applied to the different waste types, the Table B1-8 has been modified to include an indication of which waste form applies to each of the specific configurations.</p>	<p align="center">Yes</p>	<p>Section B1, Table B1-8</p>
<p>12. The Permit Modification lists specific liner lid hole sizes, filter diffusivities, etc., that drums must have to use the included DAC tables. However, it is apparent that not all drums may fit the specified criteria. The Permittees state that additional DAC shall be calculated for new packaging configurations ( and shall be submitted a permit modifications), but the Permittees should have indicated how the DAC must be calculated or selected when drum parameters don't exactly "match" those specified on Permit Modification Tables (e.g., interpolate between DAC values, choose the more conservative DAC, etc.).</p>	<p>The tables and text have been updated to specifically indicate that the larger DAC applies if a container falls in between the bounds of what is represented in the table.</p>	<p align="center">Yes</p>	<p>Tables B1-9 and B1-10</p>

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<p>13. The Permit Modification was presumably submitted to allow sites the ability to select configuration and waste-specific DAC rather than using the single DAC(s) included in the Permit. Additionally, the modification allows sampling of unvented drums, which was not considered in the Permit. However, the Permittees do not appear to have considered the practical application of the modification with respect to implementation at generator sites. For example, packaging configuration determination specific enough to determine DAC would require modification to VE, RTR, AK, and many other procedures. Additionally, drum filter and other criteria may not "match" those specified in the permit. As such, the modification could require sites to perform wholesale modification of their characterization programs and could even disallow some drums for shipment (if, for example, their packaging does not match those specified on the tables), or it could encourage significant repackaging of wastes (which is an ALARA concern). The Permittees should have considered the option of retaining some simplistic "default" DAC or set of DAC values that sites could rely on to simplify their characterization processes.</p>	<p>The Permit does require the sampling of unvented (sealed) rigid containers greater than 4 liters in volume in Permit Attachment B1, Section B1-1a. This would include unvented drum poly liners. However, it does not provide specific language to aid in the implementation of the sampling method for sampling unvented rigid containers at the generator site. This language was included in the permit application through reference to the Methods Manual and involved sampling at the time the drum is vented using the drum punch. Because the requirement exists in the permit and the specific language is not included, the modification seeks to rectify this. Generator sites are already required to identify packaging configurations and document the configuration. An appropriate TRUCON code is assigned based specifically on the packaging. Permit Attachment B4, section B4-2c includes waste packaging logs as part of the supplemental AK information. Note that supplemental information is required, however, it is termed supplemental because it will vary from site to site. Waste packaging logs contain information on how the waste was packaged, which typically includes layers of confinement. Table B3-11, Testing Batch Data Report Contents specifically identifies "description of liners and layers of confinement (if possible)" to be included as required information in the batch data report for radiography and VE. The term "if possible" is due to the fact that the specific number of layers of confinement may not always be possible to discern for certain wastes, which would in turn require that the conservative default packaging configuration be used. In addition, the Permit currently relies on the 142 (debris) and 225 (solids) day DAC, which is directly dependent on the number of the layers of confinement being less than 5 (debris) and 2 (solids) respectively. The permit currently contains sufficient requirements to ensure that these packaging configurations are met; therefore, the additional packaging configurations could be met in the same manner (i.e., through the use of AK, radiography, and VE). However, changes to the proposed DAC modification have been made to incorporate more specific requirements to ensure that the packaging information used to determine the DAC is documented and reconciled. The modification proposes conservative default packaging configurations that must be used if a specific packaging configuration cannot be applied based on the data from characterization and confirmation.</p>	Yes	Sections B1-1a, B3-11a and B6
<p>14. The proposed Permit Modifications do not consider or include additional permit modifications that must also be made to support new DAC calculations. For example, RTR reporting requirements must be modified to specify all of the necessary information to determine specific packaging configurations, as must Visual Verification and Visual Examination requirements. AK requirements must be modified to require collection of DAC-related data (i.e., liner, bags, etc., on a drum-specific basis), and this would become mandatory, not supplemental, information. Reporting, data validation/verification, and other permit sections would also require modification. Without complete and comprehensive modification of all necessary permit sections, generator/storage sites would not have consistent direction with respect to implementation of the DAC and related process, and the audit could become unnecessarily complicated.</p>	<p>Table B3-11, Testing Batch Data Report Contents specifically identifies "description of liners and layers of confinement (if possible)" to be included as required information in the batch data report for radiography and VE. The term "if possible" is due to the fact that the specific number of layers of confinement may not be possible to discern for certain wastes, which would in turn require that the maximum number of layers be assumed to be present. In addition, Permit Attachment B4, section B4-2c includes waste packaging logs as part of the supplemental AK information. Waste packaging logs contain information on how the waste was packaged, typically including layers of confinement. Permit Attachment B4, Section B4-2c specifies supplemental AK information as supplemental because it is site specific; however, the section states specifically that "The generator/storage sites shall obtain supplemental acceptable knowledge information." All of the necessary information to determine the packaging configuration and the DAC is currently reported in the WWIS. The information on the number of layers of packaging, liner puncture, the closure date, vent date, sampling date, and filter type are all currently specific in the container-specific information in the WWIS and is available to the NMED at any time for determining whether an appropriate DAC was used. The only specific information not present is the size of the hole in the liner; however, the hole must have a minimum diameter of 0.3 in. (TRUPACT-II requirement). However, changes to the proposed DAC modification have been made to clarify that the packaging information must be collected, used and documented.</p>	Yes	Sections B1-1a, B3-11a and B6