September 27, 2001

Mr. Steve Zappe,
WIPP Project Leader
New Mexico Environment Dept.
2905 Rodeo Park Drive, Building 1
Santa Fe, New Mexico 87505

Dear Mr. Zappe:

Please find enclosed comments by the Environmental Evaluation Group (EEG) regarding the Class 3 Permit Modification Request for Centralized Waste Confirmation, EPA ID# NM4890139088-TSDF, submitted by the U.S. Department of Energy and Westinghouse TRU Solutions, dated June 6, 2001.

We believe that if EEG’s comments are appropriately considered and implemented, the proposed modification will be materially strengthened. For this reason, the EEG staff remains available to clarify and elaborate on the EEG comments.

Sincerely,

Matthew K. Silva
Director

MKS:JC:BW:GA:pf

Enclosures
cc: Inés Triay, CBFO
EEG Comments To:

Class 3 Permit Modification Request

For

Centralized Waste Confirmation

Waste Isolation Pilot Plant

Carlsbad, New Mexico

EPA ID # NM4890139088

June 6, 2001
EEG SUMMARY COMMENTS

EEG has evaluated and commented on specific proposed changes to the HWFP. Most of the comments identify significant inconsistencies of changes or lack of changes. These must be corrected to fully implement the proposed modifications. EEG urges NMED and DOE to seriously consider these comments during the process of developing a draft HWFP Modification.

EEG has not commented on two important aspects of the proposed Central Confirmation Facility.

(1) Potential radiological exposure, potential contamination, and industrial safety issues are outside the scope of the HWFP. These are important to EEG because of our Safety Analysis Report obligations under the Consultation and Cooperation Agreement. The Permittees will need to provide the necessary documents as soon as they are available. Until these documents are available and have been evaluated, EEG is unable to evaluate the public health and safety aspects of construction and operation of the CCF.

(2) The Permittees point out in the Rationale Section (pages 10 and 11) that the primary driver for the CCF is to expedite the removal and cleanup of wastes at small quantity sites. The Permittees also assert significant economies. The proposed modification does not provide the necessary information to evaluate these assertions. These items are important and need to be evaluated. However, they are outside the scope of EEG's mission to ensure the protection of the public health and safety and the environment.

EEG's primary concerns about the proposed modification are:

(1) The Permit Modification would be changing the Waste Analysis Plan (WAP) to conform to the modification rather than the reverse (as apparently intended; see comment 3).

(2) The proposed re-definition of the terms "characterization" and "confirmation" distorts the present meaning in the HWFP, and are contrary to the understanding of waste characterization that has been used on the WIPP project for years (comments 4, 10, 12, 17).

(3) Although not required under the HWFP the proposed characterization process would not ensure that shipping requirements are met (comment 10).

(4) Much of the material added to the current text seems to unnecessarily complicate sections of the document that are already complicated. EEG suggests that changes necessary to establish centralized waste confirmation be included in a separate attachment that includes all of the proposed program. Since the modification is not intended to change the current waste characterization processes, this method would ensure that there would
be no adjustments necessary to the current processes in order to accommodate the centralized waste confirmation approach (comment 5).

There are two additional concerns that have not been adequately addressed in the proposed modification:

(1) It is unclear whether the modification applies only to debris waste in 55-gallon drums (comment 1).

(2) There is no indication that procedures are planned to ensure that fully characterized waste being received at WIPP for disposal are not comingled with wastes that still need to be confirmed at WIPP (comment 2).
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<td>Atomic Energy Commission</td>
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<td>AK</td>
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<td>Carlsbad Field Office</td>
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<td>CCF</td>
<td>Central Characterization Facility</td>
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<td>CCP</td>
<td>Central Characterization Project; <em>also</em> Central Characterization and Confirmation Project</td>
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<td>Contact Handled Transuranic</td>
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EEG Comments on the Class 3 Modification
for Centralized Waste Confirmation

General Comments On the Proposed Modification

1. The introductory material states (p. 2) that the confirmation process at the WIPP will only process debris wastes, but the actual modifications to the Hazardous Waste Facility Permit (HWFP) text do not appear to explicitly contain this limitation. Though not specifically stated anywhere in this proposed modification, it would also seem that the Permittees intend the modification request to apply to drums of waste, and not to standard waste box and ten-drum overpack containers (the visual examination and NDA facilities proposed for the WIPP are not designed for these larger containers). The limitations for the confirmation processes when performed at the WIPP should be explicitly stated in the HWFP.

The proposed modification discusses CCP\(^1\) “waste characterization” (as redefined in this proposed modification) for debris wastes, but does not limit such CCP waste characterization to debris wastes. If the Permittees intend that the CCP waste characterization activities be limited to debris waste, the eventual revision to the HWFP should explicitly say so. If not restricted to debris waste (there appears to be not only homogenized wastes, but also soils at several of the small quantity sites) then the added Attachment B7 should be altered to allow for CCP activities related to these wastes.

2. There are several waste processing issues at the WIPP that should be, but are not, regulated in this proposed modification, or are inadequately prescribed. Containers will still be shipped to the WIPP for direct disposal, but this proposed modification does not describe the methods nor define requirements to assure that the central waste characterization containers will be identified on receipt, nor are there requirements added that would ensure segregation of unconfirmed containers from those ready for the normal disposal operations. The controls necessary for separating 7-packs and performing integrity checks of the individual containers before further handling have not been prescribed. Tracking of individual drums, rather than 7-packs, has not been described. The proposed modification indicates that “unconfirmed” containers may be sent from sites that have their own certified waste characterization/confirmation programs, but does not establish the special conditions and considerations that should apply to these sites (for example, it would seem logical to require that 7-packs, TRUPACT-II loading, and perhaps complete shipments cannot be a mixture of the two classes of containers). The WIPP Waste Information System (WWIS), the computerized data base used to control WIPP wastes, is currently organized so that wastes that are sent to the WIPP are already certified for disposal; the changes to the WWIS to ensure that the system would prevent

\(^1\) “CCP” is defined as the “Central Characterization Program” in the Acronyms and Abbreviations list on page iii of the modification request, but as the “Central Characterization and Confirmation Program” in the acronym list and text of the added Section B7 (pp. A-44 and A-45).
incompletely processed wastes from being placed in the repository should also have been documented as a part of this proposed modification. The WWIS process requirements for allowing the unconfirmed wastes to be shipped to the WIPP should be prescribed. When a non-conforming waste container is discovered during confirmation at the WIPP it would seem important to mark and/or segregate the container from the rest of the confirmation population, but this proposed modification does not prescribe a WIPP-specific process for doing so. There are no provisions included for characterization of derived wastes; the current WAP (Section B-1e) allows the Permittees to assume that derived wastes have the same constituents as the certified waste it is derived from, but the central waste confirmation materials would have yet to undergo completion of the waste characterization process and certification of the waste. Requirements for glovebox operations, a new process for the WIPP, are not prescribed. The purpose of this modification is to allow headspace gas sampling, radiography, and visual examination to take place at the WIPP but the locations at which these methods will be performed are not presented. The WIPP RCRA Contingency Plan (Attachment F to the HWFP) would seem to need several additional modification to those supplied in this proposal (see comments to proposed modification m.1-1, designated m.1-1 and m.1-2 below).

Other alterations to the current HWFP that should be made, but were not included in this modification submittal, are addressed in the comments below.

3. The introductory material states (p. 19):

This request is for a Permit modification to allow the Permittees to perform activities at the WIPP facility necessary to meet the requirements of the WAP.

However, the modifications proposed for Item 1 often seems to alter WAP requirements currently in place so as to meet the proposed centralized waste confirmation processes, rather than adding requirements for the centralized waste confirmation processes to the existing WAP. Several of the comments on Item 1 are related to this concern. Perhaps the most significant example of this technique is the alteration to the Treatment, Storage, and Disposal Facility Waste Acceptance Criteria (TSDF-WAC; Module II.C.3). This alteration is extensive change to the requirements which is not discussed in the introductory material; the alteration would both allow receipt of wastes that may contain TSDF-WAC prohibited items at the WIPP and alter the requirements for disposal of prohibited items (see the EEG comments to the b.8 modification for more discussion). Another example is the proposed modification of Figure B-3, Data Collection Design for Characterization of Retrievably Stored Waste, which is apparently changed by the proposed modification to address only debris (S5000) waste rather than all three Summary Category Groups.

4. There appears to be some portions of the HWFP that should have been altered to accommodate the intent of Item 1 to this modification request but were not. For example, Module II.C.3.k of the current HWFP states:
any waste container from a waste stream which has not been preceded by an appropriate, certified Waste Stream Profile Form (Attachment B, Figure B-1) is not acceptable at the WIPP.

A “certified” Waste Stream Profile Form (WSPF) would need to be completely filled out, with a signature taking responsibility for the validity of the information on the form. However, the modification request describes a process in which WSPFs for waste streams characterized under the centralized Waste program would be completed only after drums had been shipped to the WIPP for confirmation.

Other examples related to completing the WSPF are also evident. For example, the current “Introduction and Highlights” section of the WAP states (Section B):

Once the required waste characterization is complete, the generator/storage site will complete a Waste Stream Profile Form to document the results of their characterization activities (see Section B-1d). The Waste Stream Profile Forms and the Characterization Information Summary for the waste stream resulting from waste characterization activities shall be transmitted to the Permittees, reviewed for completeness, and screened for acceptance prior to loading any TRU mixed waste into the Transuranic Package Transporter (TRUPACT-II) at the generator facility, as described in Section B-4.

The proposed modification does change this requirement (see Item 1, modification e.1, p. A-12), but the proposed change does not alter the requirement that the WSPF be completed and reviewed for completeness prior to loading the waste containers for shipment.

A non-WSPF example is that Section E-2b states:

TRU mixed waste received for emplacement at the WIPP facility must be certified under this Permit’s Treatment, Storage, and Disposal Facility Waste Acceptance Criteria (TSDF-WAC) as nonliquid waste.

The proposed modification changes the TSDF-WAC to require only “documented evidence”, rather than any certification of the absence of liquid waste (modification b.8, p. A-10). Acceptance of the proposed modifications in Item 1 would therefore create an inconsistency between Section E-2b and the TSDF-WAC.

These examples were discovered by chance during the preparation of these comments. Attachment 2 discusses what appears to be another, even more serious failure to modify a HWFP requirement to match the intent of Item 1; the failure to negate this requirement would appear to negate the primary intent of the modification request. There may be other portions of the HWFP that should be modified to prevent conflicting or incompletely stated requirements within the document.
Much of the material added to the current text of the HWFP by Item 1 seems to unnecessarily complicate the already overly-complicated sections of the document. The separation of the term “waste characterization” into two separate components—a major part of the added complication—does not appear to be necessary in order to establish centralized waste confirmation at the WIPP, and is not consistent with several decades of development and use of the current definition of the term waste characterization. The EEG suggests that the changes necessary to establish centralized waste confirmation be included in separate attachments to the HWFP, rather than attempting to intersperse them within the current portions of the HWFP. The current text should only be altered to add references to this new location for the special requirements for waste characterization activities performed by WIPP personnel, either as a part of the centralized waste confirmation program or the acceptable knowledge development and augmentation program performed at waste generator/storage sites by the CCP. The central confirmation facility would also seem to need waste acceptance criteria separate from the current TSDF-WAC, which could be included in these new attachments. The Attachment B7 provided in this proposed modification is a step in this direction, and could perhaps be extended to provide most, if not all, of the specific requirements necessary for the central confirmation facility. However, the changes would seem to encompass more than WAP activities, and the attachment may need to be made a completely separate attachment.

General Comments on the “Rationale” Section

The “Rationale” section contains several preliminary arguments which contains items that detract as much as support the modification request.

The Rationale section states (p.10):

During the time in which the WIPP permit application was being prepared (1990-1996), the DOE assumed that nearly all of the waste destined for disposal at the WIPP would be characterized at one of ten of what were then considered to be “large-quantity sites.” In this scenario, SQS [small quantity sites] would “trans-ship” waste to large sites for characterization and shipment to WIPP. For those SQS that could not be served effectively by a large-quantity site, certified DOE contractors would be positioned to provide mobile characterization services in compliance with the proposed permit (HWFP).

The Rationale section then discusses why the mobile vendor services portion of the SQS solution was not considered to be workable. However, the other portion—the trans-shipment of waste to larger facilities—is not discussed. Since the Permittees have raised the issue, and indicate that trans-shipment to large sites was to have been the major
method for dealing with SQS wastes, the discussion should have explained why this process is no longer considered feasible.²

Revision 2 of the National TRU Waste Management Plan (DOE/NTP-96-1204; December, 2000) supplies a brief explanation (Section 2.3.1.8, p. 23):

In the past, an option has been to consolidate small volumes of waste at larger sites to take advantage of existing infrastructure and waste handling experience. This option has been constrained by state equity issues, site schedules driven by compliance issues, and permit limitations. The option is further constrained by a limited number of approved shipping packaging (TRUPACT-Ils).

Succeeding statements discuss why shipping packaging other than TRUPACT-IIs (Super Tigers and ATMX rail cars) cannot be used for inter-site shipments. These shipping packaging problems appear to be a valid concern currently, but are not unsolvable in the long run. However, the state equity issues and permit limitations for other sites in other states would seem to be no different than those for the WIPP in New Mexico. There is no explanation as to what is meant by the term “state equity issues”, but one obvious interpretation would be that other states do not want TRU waste to be brought to their state for waste characterization purposes. This would seem to fit in with the rest of the sentence--states may have created compliance issues and permit limitations which will also not allow TRU waste to be imported so that it may be characterized prior to shipment to the WIPP.³

²It seems worth noting that the assumption that trans-shipment to large sites was to have been the major method for dealing with SQS wastes was a clearly stated expectation in the certification of the WIPP by other regulatory agencies, also. For instance, the DOE’s Title 40 CFR Part 191 Compliance Certification Application (October, 1996) states (Section 4.1.2, p. 4-8):

Options to facilitate disposal of the SQS waste at the WIPP include either direct shipment to the WIPP after on-site characterization and certification or shipment to an interim site for performing waste consolidation, treatment, and/or characterization and certification in accordance with WIPP requirements.

As noted in later comments, the Permittees do not appear to have a compelling argument for changing this expectation.

³The “state equity issue” may be the problem briefly discussed in an EPA document, Characterizing Heterogeneous Wastes: Methods and Recommendations (EPA/600/R-92/033). A section in Chapter 5 is entitled “Treatment After Minimal Evaluation” which discusses problems of transporting wastes between sites for treatment. The section ends (p. 85):

In addition, state governments require that wastes crossing their borders be fully characterized. This defeats the purpose of using this method and leaves the problem of characterizing heterogeneous wastes.
As a part of this modification proposal, the Permittees could expand on the brief explanation in the National TRU Waste Management Plan to also explain why the state of New Mexico’s permit is being altered to solve problems created by the permits and compliance issues in other states.

7. The 1990-1996 DOE assumption (from the quotation in the previous comment) that using existing waste generator/storage capabilities to characterize waste was not made simply because of economic considerations. As indicated in the TRU Waste Management Plan quote, trained personnel, equipment, and procedures for dealing with the waste were already present at these sites. The DOE at that time believed that not only the economic argument but also safety, health, and environmental considerations were heavily weighted toward performing waste characterization at those sites. A discussion of the invalidity of the “economic assumptions” related to the mobile vendor process is included in this modification request but the discussion of these safety, health, and environmental factors consists of only the following statement (p. 11):

Clearly the timely and safe removal and final disposition of waste from both the SQS and the larger generator sites accomplishes DOE’s ultimate goal of protecting human health and the environment.

While the DOE’s stated ultimate goal has merit, the question pertinent to this modification request is whether or not the WIPP area health and environment will suffer degradation in the pursuit of this larger DOE goal. The HWFP should not be considered as a function of the DOE’s ultimate goals, but instead as a function of the goals for the WIPP site. The NMED could request that the Permittees provide information relating to the health and safety trade-offs that may result from the implementation of this modification request.

8. The “Rationale” section of the modification request states (p. 11):

The proposed modification is not an expansion of the mission of the WIPP program; rather, it is a reorganization of activities required by the WIPP permit that will move more of the requisite waste analysis responsibilities to the WIPP facility, thereby providing a more efficient and economical operation.

The WIPP HWFP only applies to the WIPP facility, not the WIPP mission, and the waste analysis responsibilities within the HWFP are currently organized to ensure that waste has been fully characterized prior to receipt at the WIPP. The proposed modification is a

This document was the product of the Heterogeneous Waste Characterization Workshop conducted by the EPA and DOE “...to examine methods for characterizing heterogeneous wastes contaminated with hazardous chemicals and/or radionuclides” (p. iii).
clear expansion of those activities directly under the purview of the HWFP, regardless of the overall WIPP mission and program.

Within the “Rationale” section is a sub-section entitled “DOE’s Decision:”. The sub-section begins with “The revised ROD states ...” (p. 12) without identifying the acronym, and no other identification is provided. The sub-section then quotes extensively from this revised ROD apparently to support the modification request. The Record of Decision (ROD) quoted is a revision to the original Record of Decision for the DOE’s May, 1997 Waste Management Programmatic Environmental Impact Statement (WM-PEIS; DOE/EIS-0200). The ROD is referred to several times in these comments.

9. The “DOE’s Decision” sub-section contains statements that appear to misinterpret 40 CFR 264.13. One paragraph of the section states (p. 13):

   In the context of the WIPP HWFP and the proposed modification, the activities defined as transportation characterization include the activities needed to assure that the waste can be managed at the WIPP facility prior to disposal characterization. This means that the waste is characterized to the generator requirements specified in 40 CFR §262.11 and the facility requirements specified in 40 CFR §264.13(a) ...

   The succeeding paragraph states (also p. 13):

   Likewise, the activities defined in the ROD as disposal characterization include those needed to assure that the waste can be disposed in the WIPP in compliance with the HWFP. This means that the waste is analyzed to ensure compliance with the facility requirements specified in 40 CFR §264.13(b) and (c).

40 CFR 264.13(a) and (b) do not appear to be separable in this manner. Section (b) specifies the need for a waste analysis plan (WAP) to show how the detailed chemical and physical analysis of a representative sample of the waste required prior to storage, treatment, or disposal by section (a) will be obtained. The regulation clearly does not support a separation of compliance with a WAP from the requirement for a detailed chemical and physical analysis. This attempt to do so may be a measure of the quality of the proposed separation of waste characterization activities into pre- and post-transportation processes that appears to be essential to this modification proposal.

10. The quote from the “DOE’s Decision” section in the previous comment on “disposal characterization” continues (p. 13):

   Specifically, these activities include the measurement of the type and quantity of headspace gas in waste containers (a characterization requirement needed only for disposal) ...
The parenthetical clause is in error. As already noted, the 40 CFR 264.13(a)(1) requirement states:

Before an owner or operator treats, stores, or disposes of any hazardous wastes...he must obtain a detailed chemical and physical analysis of a representative sample of the wastes. At a minimum, the analysis must contain all the information needed to treat, store, or dispose of the waste in accordance with this part...

Thus, the requirements of a WAP must be met prior to storage and treatment of the wastes, as well as disposal. For the WIPP, the WAP clearly requires headspace gas sampling and analysis. That the WAP requirements must be met prior to storage of the waste at the WIPP is a point that the EEG has made in commenting on several proposed RCRA-related WIPP documents in the past year, including the Class 2 modification request that was withdrawn September 29, 2000.\(^4\) The NMED also pointed to this error in their comments on the withdrawn Class 2 modification request (attachment to the October 9, 2000 Bearzi-to-Triay letter, General Comment 3, p. 2):

The Permittees assume that information needed to safely store waste is different than that needed to dispose of waste; however, the regulations, the permit, and the Permittees, during the permit hearing, did not differentiate along these lines, and the proposed modification does not provide sufficiently compelling arguments or discussions as to why the characterization requirements should differ.

The parenthetical clause appears to be a continuation of the assumption that disposal and storage requirements are independent of one another. There is no reason for the continuance of these assertions given the clear language of the regulations and multiple reminders.

Though not a concern for the HWFP, headspace gas sampling and analysis is also used to meet transportation requirements for flammable VOCs as well as RCRA storage and disposal requirements (see DOE/WIPP-069, *Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, Revision 7, section 3.6.4, p. 3-24). The requirement is also expressed in the TRAMPAC portion of the *TRUAPT-II Safety Analysis Report for Packaging*, Section 5.4.2, which states that to address the 500 ppm limit for flammable VOCs established in the SARP (Revision 18\(^5\), pp. 1.3.7-53 and 54):


\(^5\) Revision 19 to the SARP (current as of July 27, 2001) does not alter Section 5.4--the information quoted is still in effect.
Compliance shall be by headspace sampling or records of process knowledge...For content codes that do not identify any of the flammable VOCs in the chemical lists, no additional controls to meet this requirement need to be implemented.

For content codes that identify flammable VOCs as part of the waste, the following options exist...For retrievably stored waste, headspace sampling for potentially flammable VOCs shall be an added parameter for waste sampling programs. Newly generated waste sites shall meet compliance for content codes by establishing of sampling programs for waste streams and/or payload containers, by content code, at the 95 percent confidence limits.

Unless the Permittees have evidence that shows that some appreciable portion of the small quantity site debris waste streams are free of volatile flammable compounds then headspace gas sampling would be necessary even if this proposed modification is approved. There is evidence that the small quantity sites are likely to have volatile flammable compounds in nearly all of the debris wastes expected to be shipped to the WIPP.  

11. A sub-section of the “Rationale” portion of this modification proposal is entitled “DOE’s Proposed Solution”. In discussing development of a program to meet the revised ROD for the WM PEIS, the modification request states (pp. 13-14):

During the initial stage, which has begun, the DOE and the Management and Operating Contractor (MOC) have developed and begun to implement one element of the Central Characterization Project. This element provides equipment and personnel to a site to assist it in meeting the WAP requirements for waste characterization and confirmation. At present the CCP has assistance programs underway at SRS (to assist Mound), Argonne National Laboratory-East, and the Nevada Test Site. The Permittees have not identified any needed modifications to the HWFP for the generator site assistance activities because all activities are being conducted according to the current HWFP.

The HWFP contains statements that make it clear that the Permittees are to impose requirements onto the generator/storage sites, rather than perform these activities directly. Module II.C.1 iterates this point in section after section: the wording is in the form of “the Permittees shall require that generator/storage sites...”, followed by various

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6The EEG assumption is based on a perusal of a DOE document, TRUPACT-II List of Chemical Compounds in Each Content Code in TRUCON (Revision 8, June 1996). This document is a part of the TRUPACT-II Safety Analysis Report for Packaging (SARP).
requirements to comply with WAP requirements. The WAP itself begins with the following statement (HWFP Attachment B, Waste Analysis Plan Introduction and Attachment Highlights Section):

Before the Permittees manage, store, or dispose transuranic (TRU) mixed waste from a generator/storage site (site), the Permittees shall require that site to implement the applicable requirements of this WAP.

A June 11-15, 2001 surveillance of the SRS assistance program demonstrated that Permittee personnel or personnel contracted to the Permittees, rather than to the storage/generator site (SRS) were performing the method requirements listed in the WAP. Thus, contrary to the statement in the modification proposal, the assistance activities provided to the generator/storage site do not seem to meet the stated HWFP requirements. The EEG observer report on the CCP-SRS surveillance (June 27, 2001 Walker-to-Silva memorandum, transmitted to the DOE and NMED attached to a July 11, 2001 Silva-to-Triay letter) noted several concerns related to this issue, and stated that (p. 3):

The CCP was not a part of the vision when the HWFP was written, and it appears logical to conclude that the HWFP must be adjusted to include the CCP before CCP activities can be certified by the NMED.

It would seem that modification of both Module II and the WAP of the HWFP would need to be initiated, and a temporary authorization under 40 CFR 270.42(e) would need to be granted prior to receiving wastes under the CCP assistance program.

12. The “DOE’s Proposed Solution” section also contains a paragraph describing an intermediate stage of the CCP, to be performed after this proposed modification is in effect. However, one statement concerns waste “characterized at the generator site”.

Under the current HWFP generators, or the CCP working under a contract with the generators, may use any method necessary to provide the required characterization program, as long as those methods are well-documented and the results can be assembled in an acceptable knowledge package that meets the data quality objectives (DQOs) and quality assurance objectives (QAOs) of the HWFP.

This statement is in error; the “current HWFP” makes no such allowances. As noted in a previous comment, the CCP does not appear to be authorized by the HWFP. The waste characterization program methods are clearly defined in the various Attachments B, and these methods are reiterated numerous times. For example, Section B-3 states:

The characterization techniques used by generator/storage sites includes acceptable knowledge, which incorporates confirmation by headspace-gas
sampling and analysis, radiography, and homogeneous waste sampling and analysis.\[7\]

Note that AK for the WIPP is said to “incorporate” the other techniques (see Attachment 2 to these comments for more discussion of this paragraph). Section B4-1 states:

Acceptable knowledge includes a number of techniques used to characterize transuranic (TRU) mixed waste, such as process knowledge, records of analysis acquired prior to RCRA, and other supplemental sampling and analysis data (EPA, 1994). Radiography and/or visual examination, headspace gas sampling and analysis, and homogeneous waste sampling and analysis (specified in Permit Attachment B1) are used to acquire supplemental sampling and analysis data to meet the requirements of the Waste Analysis Plan (WAP) specified in Permit Attachment B.

Clearly, the methods to be used for waste characterization are prescribed in the current HWFP. “Any method” is a rather wider latitude than what even the text changes in this proposed modification would seem to allow.

13. The “DOE’s Proposed Solution” section ends with a paragraph concerning how waste characterization is proposed to be performed at some future time, after not only this proposed modification is enacted, but after another yet-to-be-proposed modification is also enacted. This future modification would require only a statistically representative sample of the waste to be characterized. The EEG’s comments on the withdrawn Class 2 modification noted that knowledge of the waste at several of the larger small quantity sites that are said to be the target of the CCP program, representing about 90% of the small quantity site wastes, is uncomfortably weak. The Permittees provided no response to this comment.\[8\] Since the EEG comments would seem to be pertinent to the Permittee’s proposed solution, they are included as Attachment 1 to these comments on the currently proposed modification. From the information currently available, it seems highly unlikely that the acceptable knowledge for small quantity sites would be adequate to support a statistical sampling program.

The paragraph itself ends with the following statement (p. 14):

\[7\]This statement appears to be another that may need to be changed if this proposed modification is to be accepted.

\[8\]The NMED’s letter on the withdrawn Class 2 modification (Bearzi-to-Triay and Epstein, October 19, 2000, “Re: Comments on Centralized Waste Characterization Permit Modification Request, July 21, 2000”) states that “any future submittal by the Permittee” should address “as appropriate, public comment” (p. 2-3). The EEG believes that the EEG comment reproduced in Attachment 1 to these current comments were comments that should have been, but are not, addressed in this proposed modification submittal.
More importantly, the verification program moves the emphasis toward checking waste instead of checking documents.

The Permittees should be informed that it will be very difficult to accept a waste characterization program that does not include a complete documentation of waste characterization activities.

14. The “Discussion” section ends with a sub-section entitled “Small Quantity Sites As a Driver:” which quotes from Section 3.2.1.1 of the National TRU Waste Management Plan (cited previously) as follows (p. 15 of the modification request):

Experience at the large-quantity sites over the past year using the audit process established under the HWFP demonstrates that implementation of this process at the 17 small-quantity sites may not be feasible. For example, the costs for establishing an audit process at each site are estimated at $3 million to $5 million for each waste summary category. Once established, an additional estimate of $1 million to $2 million per site is required on an annual basis to maintain certification. This estimate does not include the infrastructure, personnel, and equipment to actually collect the data and characterize waste, but only the record keeping and infrastructure to document the quality assurance program.

The current audit process was not “...established under the HWFP”. Substantially the same audit process preceded the promulgation of the HWFP by years, and is also specified in DOE documents in order to comply with 40 CFR 194. The DOE’s Transuranic Waste Characterization Quality Assurance Program Plan (QAPP; CAO-94-1010, Revision 0, April 1995), the principal WIPP waste characterization document prior to the promulgation of the HWFP, contained essentially the same characterization requirements, and required the same annual audits (see EEG-75, and the QAPP, Section 2.1.1). The DOE’s Compliance Certification Application to the EPA (DOE/CAO-1996-2184; October, 1996) also specifies annual audits of each waste characterization site (see Appendix QAPD, Section 3.2.4.1.A), and cites the QAPP as describing the requirements for characterization of TRU wastes (Sections 5.1 and 5.1.1). Thus, auditing and waste characterization costs are not wholly determined by the HWFP.

The example cited also appears to have inflated auditing costs. Only one of the three waste summary categories will be covered by this modification proposal (see p. 2 of the proposal). A June 16, 2000 presentation by CBFO personnel given separately to the NMED and the EEG cited 18 small quantity sites, of which 11 were shown to have less than 150 drum-equivalents of CH-TRU wastes each (10 of these were shown to have less than 50 drum-equivalents of waste). These 11 sites would seem to be able to complete shipment within one year, so that there should be no reason for recertification audits, and no recertification expenses for these sites. A reasonably well-run program should be able
clear the waste from all but the three of the largest small quantity sites within a single 12-month period.\textsuperscript{9}

Appendix A to 40 CFR 194, and 40 CFR 194.8(a) and (b), would seem to require the EPA to perform inspections or audits of these sites anyway; since the EPA’s current process is to inspect a CBFO audit at each site, there may be no substantive cost savings related to auditing in this proposal whatsoever.

It should also be pointed out that the auditing costs, as well as nearly all of the infrastructure, personnel, equipment, and record-keeping costs that are added by the CCF, could also be eliminated by transporting the waste to the large-quantity generator sites, as suggested as the first option in the original ROD for the WM PEIS.

15. The “Small Quantity Site Driver:” section of the modification request is apparently included to show that this modification request is necessary for the DOE to resolve the TRU waste problems at the small quantity sites. However, as noted above, the proposed modification would only cover debris wastes. Several DOE documents make it clear that a number of small quantity sites have both solidified wastes or soils (the non-debris summary category groups of TRU waste). More recently, the descriptions of individual generator site wastes in Appendix 1 to the National TRU Waste Management Plan (cited above) indicate that RH-TRU is present at several small quantity sites (BCL, BAPL, ETEC, GE-VNC, KAPL) and at all of these sites except BAPL the majority of the TRU waste is RH. Thus, accelerated removal of the debris wastes at these sites through implementation of this proposed modification would not appear to resolve the small quantity site TRU waste problems for the DOE.

It also is noteworthy that the National TRU Waste Management Plan expected pathway for several of the small quantity site’s RH-TRU is to transship it to a larger site for processing and characterization—the same path that was stated as the likely alternative for CH-TRU in the original ROD to the WM PEIS. The DOE has not stated how non-debris CH-TRU wastes at the small quantity sites are to be handled.

Comments on “Permittee’s Response to Comments on Initial Submission” (p. 16 - 18)

16. The Permittees do not appear to have addressed all the NMED’s comments on the withdrawn Class 2 SQS modification request as required in the NMED’s Bearzi to

\textsuperscript{9}Some of the waste is still to be generated. The National TRU Waste Management Plan, DOE/NTP 96-1204, Revision 2 (December, 2000), Table 2.3.1.14-1 (p. 30), shows that at least some of the waste at CH-TRU waste at ANL-E, KAPL-NFS, and LLNL is still to be generated. However, ANL-E and LLNL are two of the larger small quantity sites that would still need at least one recertification under the current HWFP.
Permittees’ Triay and Epstein letter of October 19, 2000. The letter states of the appended comments (pp. 2-3):

Any future submittal by the Permittee should minimally address these deficiencies, and, as appropriate, public comment.

For example, the EEG believes that of the first three of the 21 General Comments by the NMED, only Comment 1 could be said to be addressed. The following examples are from the NMED’s General Comments 2 and 3 the EEG does not believe the Permittees have responded to in this modification request.

The technical basis for proposed on-site characterization is not sufficiently detailed in the Item 1 Permit Modification Request. For example, concern number 1 on page A-2 of the Permit Modification Request states that on-site characterization would decrease the waste transport time...if mobile vendors were used to characterize waste at generator sites, the transport time would be equivalent, and waste would be characterized in accordance with the WAP prior to waste shipment, as currently required in the WAP. [p. 1, under General Comment 2, of the NMED comments]

This currently proposed modification does not address the time-of-transport comment.

...no evidence of financial burden reduction to the taxpayers has been provided; that is, additional information is required to assess the cost for mobile vendors vs. the construction of on-site characterization facilities. [p. 1, under General Comment 2, of the NMED comments]

This currently proposed modification does not supply information related to the cost for mobile vendors versus the construction of on-site characterization facilities.

...the Permit Modification Request clearly applies to all DOE facilities generating TRU waste--not just small quantity sites as the Permittees have claimed...All of the major sites such as Hanford, RFETS, LANL, INEEL, and SRS currently have full waste characterization capabilities on-site, and construction of a new off-site facility to characterize waste apart from these sites that already have full characterization capabilities may be an unnecessarily duplicative and costly proposal. [p. 1, under General Comment 2]

This currently proposed modification continues to allow the major sites to use the Central Characterization Facility, but does not address the issues of duplication and costliness of this process.
The acceptance of “partially characterized waste” at the WIPP facility is insufficiently justified in the Item 1 Permit Modification Request... it is unclear how this particular request meets the National Academy of Science (NAS) requirement of risk reduction, as waste shipped to WIPP will not be fully characterized and, hence, potentially poses greater risk to the general public than fully characterized waste...NMED believes the Permittees must consider additional information, including technical and regulatory reasons and justification for existing waste characterization programs. [pp. 1-2, under General Comment 2]

The EEG does not believe the re-definition of the term “waste characterization” in the currently proposed modification addresses the technical and regulatory issue the NMED’s comment was intended to make the Permittees confront, as these issues are unchanged by the change in definition.

As written, the Permittees intend to allow shipment, receipt, and storage of wastes that have not been characterized in compliance with the WAP, and the Permittees will require only minimal WAP characterization requirements (i.e., partial completion of the Waste Stream Profile Form [WSPF] by the waste generator. [p. 2, under General Comment 3]

The currently proposed modification still requires only partial completion of the WSPF prior to shipment and storage at the WIPP.

...the Permittees have failed to demonstrate that sufficiently detailed chemical and physical information can be obtained to treat, store, and dispose of waste in accordance with 40 CFR §264.13. The Permittees assume that information needed to safely store waste is different than that needed to dispose of waste; however, the regulations, the permit, and the Permittees, during the permit hearing, did not differentiate along these lines, and the proposed modification does not provide sufficiently compelling arguments or discussions as to why the characterization requirements should differ. [p. 2, under General Comment 3]

The currently proposed modification appears to be wholly based on an assumption that the information needed to safely store waste is different than that needed to dispose of waste, yet no justification for this assumption is supplied.

The NMED’s “Specific Comments” were also not always addressed. For example, in commenting on modification a.4 of the withdrawn modification request, the NMED comments stated in part (p. 12):

The Permittees should require more AK information from off-site generator/storage sites that wish to ship waste to WIPP for complete WAP
characterization (i.e., completion of WAP AK requirements up to but not including AK confirmation, and provision of said information in an AK summary provided with the WSPF). The “Part A” of the WSPF (Figure B-1, Item 1.d.23) would then be revised to include information up to but not including sampling/analysis.

The currently proposed modification requires no additional AK information for off-site generator/storage sites, and does not offer a revised WSPF.

These are only examples, and are certainly not exhaustive; however, they do make it clear that the “Response to Comments on Initial Submission” section of the currently proposed modification request, nor the entire proposed modification, does not meet the expectation expressed in the NMED’s October 19, 2000 letter.

17. In responding to the NMED’s comment that the withdrawn Class 2 modification significantly changed the audit program, the modification request states (p. 16):

...the DOE is now proposing no changes to the audit program except for the location (WIPP instead of every site). Under this approach, the approved CCP Acceptable Knowledge (AK) waste characterization process will be audited (as specified in the HWFP) at the first generator/storage site that is ready to ship waste to the WIPP for confirmation. Following the audit, this same standardized CCP AK procedure will then be used at each of the other generator/storage sites in turn as they become ready to ship waste to the WIPP for confirmation. This policy will obviate the need for redundant audits of the same approved process at numerous locations.

The EEG believes that this proposed process would still significantly alter the current audit program, particularly for AK. The current audit program establishes that the AK process is sufficient to gather the necessary information for at least one waste stream at each site. At that site, development of AK for additional waste streams would be able to use much of the same background information, and would be using the same source materials, which are in many cases unique to the generator/storage site. The audit of the initial waste stream AK packages establishes not only that the AK procedure is adequate, but also that the procedure can be implemented properly in the circumstances in place at the generator/storage site.

The “supplemental” AK information is unique to each site, and supplies the data that is used to make many of the important decisions about the waste. The current HWFP states (Section B4-2c):

The amount and type of supplemental information is site-specific and cannot be mandated, but sites shall collect information as appropriate to
support required information. Adequacy of supplemental information shall be assessed by the Permittees during audits (Section B4-3f). Sites will use this information to compile the acceptable knowledge written record.

These statements are virtually repeated in the added Attachment B7 included in this proposed modification (Section B7-2a(iii), p. A-50). Should this proposed modification be instituted, the quality of this “site-specific” information would not be assessed for each site, and implementation of the CCP AK procedure under the unique circumstances that would be found at the second, and succeeding, generator/storage sites would not be assured.

Other elements of the auditing process also depend on the site. For example, if headspace gas samples were needed to augment the AK, the container age criteria data would likely be based on site, rather than CCP, data, and auditing of this function should be a part of the quality assurance process. Given these numerous factors, the EEG believes that the current practice of requiring a thorough audit of at least one waste stream at each generator/storage site should continue, and recommends that the parts of this proposed modification that would change the process not be added to the HWFP.

18. In responding to the NMED’s comment that the withdrawn Class 2 modification did not adequately address handling of prohibited items, the modification request states (p. 16):

The modification now contains a 10-day limit on all prohibited items... The revised modification also addresses detailed contingencies in Permit Attachment F for dealing with all prohibited items that could be reasonably expected to occur in WIPP wastes. However, emphasis remains on assuring that no such items are transported in WIPP waste. A table has been developed showing how each prohibited item may be detected and how each of those items will be managed. This table is included in Attachment A, Item 4, page A-112 (sic) (Table F-10). [Table F-10 appears on p. A-102 of the modification proposal, not p. A-112]

The currently accepted method for assuring that no prohibited items are transported in WIPP wastes is to perform radiography on the waste container prior to shipment—the requirement is to perform either radiography or visual examination on the contents of 100% of the waste prior to receipt of the waste at the WIPP. This modification would eliminate that requirement, but offers no alternative method for assuring that prohibited items will not be in the waste shipped.

The proposed modifications to Attachment F, including Table F-10, also seem to miss at least one important consideration when they address “detailed contingencies”, in that there are no requirements for any sort of nonconformance report generation if prohibited items are found, nor is any other method for correcting the flaws in the pre-transport “characterization” of waste described in the Attachment.
The revised ROD for the WM PEIS (see earlier comment for discussion of this ROD) also addressed prohibited items (65 FR 251, p. 82987):

DOE considers it highly unlikely that waste forms or items prohibited from disposal at WIPP would be shipped to WIPP because the generator sites’ quality assurance programs for transportation are designed to ensure that prohibited items are not shipped to WIPP. DOE’s Office of General Counsel is working with CBFO to revise the standard Memorandum of Agreement between CBFO and generator sites in order to clarify the obligations of the generator sites regarding the management of prohibited items.

This modification request does not contain any information about the progress or eventual language within this standard Memorandum of Agreement. Since two of the five management dispositions listed in the proposed Table F-10 are “Return to generator or other appropriate non-WIPP location”, this information is necessary to determine whether or not the actions in the proposed Table F-10 can be implemented. Note also that under the CCP, the “generator sites’ quality assurance programs for transportation” will not apparently be in effect at small quantity sites--the CCP will be responsible for shipments, not the generator storage sites.

The Permittees may believe that “...emphasis remains on assuring that no such items are transported in WIPP waste”, as stated above, but the current HWFP requires radiography or visual examination be performed in order to provide that assurance. The Permittees should provide evidence that supports the assumption that the proposed reduction in generator/storage site waste characterization will result in an unlikely possibility of shipment of prohibited items. Without such data, any HWFP modification should be written under a conservative assumption that prohibited items are a possibility in each shipment.

19. In responding to the NMED’s comment that the withdrawn Class 2 modification did not adequately address the limitations of acceptable knowledge, the modification request states (p. 17):

The DOE understands this concern and believes several features of the permit allay this concern. First the AK requirements in the Permit are comprehensive. If a generator or their contractor can identify all the information required by the AK portion of the permit, then that generator will have sufficient information to make decisions about the shippability of the waste to WIPP.

Aside from the concern addressed in Attachment 2 to these comments--that AK itself includes radiography/visual examination--these statements would seem to be short of a compelling argument. The use of AK as “comprehensive” waste characterization was not
an acceptable solution for the original HWFP, due at least in part to the data limitations in the AK for retrievably stored wastes. The AK information required in the HWFP was considered only a part of the waste characterization that would be necessary prior to receipt of waste at the WIPP. For debris waste, only when AK would be supported and confirmed by radiography/visual examination and headspace gas sampling and analysis would its “shippability” be established. This modification proposal provides no data which would support a change to the requirement. The modification request continues (p. 17):

Second, under the permit, if a generator does not have all the required information and all the applicable supplemental information, the waste cannot be shipped until the information is obtained. If a generator’s AK indicates that a waste stream may contain a prohibited item, that waste stream simply cannot be shipped until some method (e.g., radiography) is used to segregate acceptable waste from unacceptable waste.

This proposed process may not be considered acceptable. AK for retrievably stored wastes will likely only indicate the presence of prohibited items—it would be a rare document, indeed, that stated that the items on the prohibited list promulgated in November of 1999 are not present in a waste container packaged in April of 1985. This would seem to be the reason that radiography/visual examination is currently required prior to receipt of waste at the WIPP.

**Item 1 - Waste Confirmation at the WIPP Facility**

**Item 1 - Introductory Material**

20. The Item 1 “Description” begins:

The WIPP HWFP WAP establishes two fundamental activities: waste characterization and waste confirmation.

This statement is incorrect. The WAP establishes the requirements for one fundamental activity, waste characterization; waste characterization itself consists of development of an acceptable knowledge (AK) package, and examination of individual packages of waste to both confirm and extend the data of the AK package. “Waste confirmation” appears in the HWFP as an integral part of “waste characterization”, and not a separate activity—and “waste confirmation” is not the sole purpose of the non-AK waste characterization processes required by the WAP.

The “Basis” section of Item 1 attempts to distinguish between use of radiography/VE and sampling and analysis programs used for confirmation of AK from use of the same techniques to fill in missing gaps in AK data. This distinction is not currently in the
HWFP, nor has it ever previously been a part of WIPP waste characterization terminology. In fact, the “Basis” portion of Item 1 quotes a section of Attachment B-3 in the current HWFP which clearly states that confirmation is a characterization technique (p. A-2):

The characterization techniques used by generator/storage sites includes acceptable knowledge, which incorporates confirmation by headspace-gas sampling and analysis, radiography, and homogeneous waste sampling and analysis.

Item 1 even adds language to Tables B-1 and B-6 to include AK as a waste characterization technique—in the current HWFP, headspace gas sampling and analysis, radiography, and visual examination were the only “waste characterization” techniques listed (see pp. A-20, A-23, and A-25 of the proposed modifications).

Despite the consistent use of the terminology over the years throughout both DOE documents and the HWFP, as well as in practice, Item 1 of the draft modification request is insistent that the “confirmation” activities are independent of waste characterization, rather than an integral part of it. This insistence even goes so far as to indicate that any other interpretation is incorrect (p. A-2):

This modification proposes changes to the HWFP text to clarify that headspace gas sampling, NDE, and/or visual examination are required methods for confirmation and may be performed at the WIPP...This modification also proposes changes to the HWFP to correct inconsistencies across HWFP attachments in using the terms characterization and confirmation.

Instituting this incorrect redefinition of terms is central to the modifications proposed in Item 1. The “Description” section also states (p. A-1):

To allow the option of waste confirmation at the WIPP, changes to the HWFP are needed. First, identification of characterization activities versus confirmation activities must be clarified in order to assure that required information is collected prior to shipment. Second, text must be clarified that will allow shipment of characterized waste to the WIPP. Third, facility changes must be delineated that accommodate the waste handling activities associated with confirmation activities at the WIPP.

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10 The EEG pointed this out in comments on a draft version of this modification request solicited by the DOE, listing the principal WIPP waste characterization documents in use since 1995 and citing occasional portions of text that clearly include waste confirmation techniques as part of the waste characterization process (Comment 1, pp. 1-3 of the March 30, 2001 Silva-to-Triay letter).
In basing Item 1 on this incorrect assumption the Permittees have created an unsupported framework for HWFP changes. The resulting modification request therefore does not appear to be one for which additional information supplied under 40 CFR 124.5(c) would ameliorate the error—that is, the allowed processes for modifying this Item do not appear to be sufficient to make it an acceptable modification.

The EEG pointed out the flaws of attempting to alter the fundamental definition of waste characterization in comments on a draft version of this modification request, and suggested a possible alternative (Comment 1, pp. 1-3 of the March 30, 2001 Silva-to-Triay letter). The Permittees apparently have rejected that alternative.

As noted in a previous comment, the EEG believes that the expressed intent of this proposed modification, to allow the confirmatory portions of waste characterization to take place at the WIPP site, should be achieved without developing an unsupported and unnecessary separation of waste confirmation from the waste characterization that would affect the currently implemented waste handling processes.

21. The “Basis” section for Item 1 of the proposed modification states (p. A-2):

Section B4-1 of the current HWFP states that AK, as an alternative to sampling and analysis, can be used to meet all or part of the waste characterization requirements under 20.4.1.500 NMAC (incorporating 40 CFR § 264.13(a)(1) and 264.13(a)(2)).

This statement is in error. The exact statement in Section B4-1 does not refer either to 20.4.1.500 NMAC or to the Code of Federal Regulations—the text is as follows:

Acceptable knowledge is described in *Waste Analysis: EPA Guidance Manual for Facilities That Generate, Treat, Store and Dispose of Hazardous Waste* (EPA, 1994). Acceptable knowledge, as an alternative to sampling and analysis, can be used to meet all or part of the waste characterization requirements under the RCRA (EPA, 1994).

This EPA guidance document\(^{11}\) does not refer to any NMAC requirements. The text of this guidance document also indicates several constraints on the use of AK to meet all waste characterization requirements. The EEG pointed out in its comments to the DOE on the draft modification that this EPA guidance document (p. 4 of the March 30, 2001 Silva-to-Triay letter):

\(^{11}\)The document was released under two document numbers, OWSER 9938.4-03 and EPA 530-R-94-024.
...notes in several places and several ways that the sole use of AK for waste characterization is for special cases. For example, the introduction states (p. 2; emphasis in the original):

_Waste analysis involves identifying or verifying the chemical and physical characteristics of a waste by performing a detailed chemical and physical analysis of a representative sample of the waste, or, in certain cases, by applying acceptable knowledge of the waste..._

The EPA guidance also makes it clear that waste characterization by AK is not the preferred method (Section 1.5, p. 1-11):

_Whenever feasible, the preferred method to meet the waste analysis requirement is to conduct sampling and laboratory analysis because it is more accurate and defensible than other options._

One of the “certain cases” for which AK alone may be used is in the case that (EPA guidance document, Section 1.5.2, p. 1-14):

_Health and safety risks to personnel would not justify sampling and analysis (e.g., radioactive mixed wastes)._  

Section 1.5.2 also notes that use of AK alone involves “...several special concerns that you should be aware of if you rely on acceptable knowledge to manage your wastes”.

The EEG comment ends by stating that the Permittees should enhance the modification request by explaining why “the preferred method” of sampling and analysis would be a secondary process for WIPP wastes, demonstrate how the WIPP wastes meet the “certain cases” proviso, and explain how the AK “special concerns” would be addressed for this waste. The Permittees have not chosen to follow this route, likely because the intent of the modification request is to not depend solely on AK for waste characterization, but only to delay the sampling and analysis until after the waste is transported to the WIPP. Thus, even though the HWFP does state that AK can be used for all or part of the waste characterization process, that statement would seem to have no relevance to Item 1.

Attachment 2 to these comments addresses a requirement for radiography/visual examination and headspace gas analysis to be a part of the AK supplemental information process. This proviso may be in the HWFP to address the special concerns that the EPA Guidance mentions.
22. The “Basis” portion of Item 1 states (p. A-2):

This modification proposes changes to the HWFP text to clarify that
headspace gas sampling, NDE, and/or visual examination are required
methods for confirmation and may be performed at the WIPP site.

This statement is erroneous. This proposed modification alters the HWFP text to
establish, not “clarify”, that headspace gas sampling, NDE, and VE may be performed at
the WIPP site. It is also clear in the text of the current HWFP that headspace gas
sampling, NDE, and/or visual examination are required waste characterization techniques
used only in part to confirm AK data prior to receipt of wastes at the WIPP.

23. The “Basis” portion of Item 1 also states (p. A-2):

Under no circumstances will waste be shipped to the WIPP that does not
meet the AK requirements specified in Attachment B4. This modification
would not change these requirements.

The concluding paragraph of the EEG’s comment on the draft of this proposed
modification redefinition of the terms “waste characterization” and “waste confirmation”
was as follows ((March 30, 2001 Silva-to-Triay letter, p. 3):

The EEG also believes, however, that modifying the terminology will not
eliminate the principal objections to Item 1. Confirmation of AK by
radiography, VE, and headspace gas sampling and analysis were originally
included in waste characterization requirements documents because of
uncertainties in the validity and completeness of AK data for retrievably
stored wastes. The EEG believes the HWFP Permittees will need to
demonstrate that AK is sufficient to meet storage requirements for
hazardous wastes before the approach proposed in Item 1 will be
considered tenable.

The EEG should apparently have specified that “AK in general” was meant, rather than
the limited requirements specified in Attachment B4 to the HWFP. The Permittees have
supplied in this finalized modification request a process to use non-AK waste
characterization techniques when the HWFP AK process finds insufficient information.
However, the EEG’s comment was directed at the validity and completeness of all AK
data for retrievably stored wastes, not just that which the current AK requirements is
deficient.

This is especially evident in the data from the small quantity sites. The EEG’s comments
on the withdrawn Class 2 request included a fairly extensive discussion of the current AK
at several of the larger small quantity sites (see Attachment to the September 26, 2000
Silva-to-Zappe letter, comment 4, pp. 4-8). Since these same sites are considered by this
Class 3 modification request as the primary target for the CCP, the EEG comments are also applicable to Item 1. The EEG notes that one of those sites (ORNL) has initiated a program to treat and repackage WIPP-bound wastes that would seem to eliminate concerns about AK. However, changes to the HWFP might result in elimination of the ORNL program as an unnecessary cost.

More stringent quality assurance requirements could be necessary for AK should a form of this modification request be accepted. For example, the AK data qualification requirements for retrievably stored AK could also require documentation of the qualification of the personnel and organizations that generated the data (the original data, not the AK compilation of it), the technical adequacy of the equipment and procedures used to collect the original data, the quality requirements of any prior uses of the data and the associated verification processes, the extent and reliability of other documentation associated with the data, the extent and quality of corroborating data or confirmatory testing, and the degree to which these data generating processes were independently audited.

The AK would also seem to need to include sampling and analysis data from each waste stream in order to meet the 40 CFR 264.13(a)(1) requirement for a detailed physical and chemical analysis of a representative sample of the waste. While it may not be necessary to perform additional sampling and analysis, for the retrievably stored debris waste that is apparently intended to make up the bulk of centralized waste confirmation such a requirement could enhance confidence that the CFR requirement is being met. The NMED should consider whether AK collected under the current HWFP requirements is sufficient waste characterization data to meet the 40 CFR 264.13(a)(1) requirement for a detailed physical and chemical analysis of a representative sample of the waste before creating a draft permit using Item 1 of this modification request.

24. The “Basis” section of Item 1 states (p. A-2):

This modification also proposes changes to the HWFP to correct inconsistencies across HWFP attachments in using the terms characterization and confirmation.

As noted in a previous comment, confirmation has long been considered an integral part of the characterization process, rather than a separate activity. This modification is an attempt to establish, not “correct”, the use of the terms.

25. The “Basis” section of Item 1 also states (p. A-3):

No changes to...the requirements for compiling, evaluating and auditing AK information are proposed under this modification.
This statement is in error. See Attachment 2 to these comments, and the comments on Item 1 proposed modification f.2, for one area in which compiling and evaluating AK information is altered. Auditing requirements are also changed see --the AK process is currently required to be audited at each generator/storage site, which this modification submittal would alter for the CCP. This auditing change is particularly significant for auditing of supplemental information, as is noted in other EEG comments (see next comment, for example).

The EEG observer's report on the July 30 - August 3, 2001 INEEL re-certification audit (Walker-to-Silva memorandum dated August 15, 2001) noted that AK personnel had stated that INEEL "almost always" adds hazardous waste numbers (HWNs) to waste stream profile forms (WSPFs) after AK is developed, as a result of testing of drum contents. Such testing would therefore seem to be necessary to establishing an accurate WSPF prior to shipment of wastes to the WIPP.

26. The "Discussion" section of Item 1 states that a principal driver for the CCF is to (p. A-3):

...reduce the number of sites that must undergo audits and approvals...The ability to perform all of these nationwide on an annual basis (approximately 2 per month) is beyond the current staffing capabilities of both the NMED and the Permittees.

As noted in a previous comment, nearly all of the small quantity sites would likely only need to undergo a single audit, as the amount of waste at these sites (less than 150 drum-equivalents, or less than four shipments) should be able to easily be characterized and shipped within a 12-month period. As noted in another previous comment the EEG also believes that the AK process for each site will be sufficiently unique that the process should be audited at each of the sites. In fact, the current HWFP requires that supplemental acceptable knowledge information, which is unique to each site, be audited (Section B4-2c):

The collection and use of supplemental information shall be assessed by the Permittees during site audits to ensure that hazardous waste characterization is supported, as necessary, by supplemental information.

This requirement is not only not altered in this proposed modification, but is included in the proposed Attachment B7 (see Section B7-2a(iii), p. A-50).

27. The "Discussion" section of Item 1 states that (p. A-4):

...combining many programs into one centralized program provides additional assurances for data quality and comparability.
The EEG believes this to be the most effective argument presented by Permittees in support of this modification request.

28. The “Discussion” section of Item 1 states (p. A-4):

The CCP AK process will be audited as specified in the HWFP prior to shipping any waste to the WIPP for confirmation. This audit will occur at the first generator/storage site to send waste to the WIPP for confirmation. The audited CCP AK procedures will not change at subsequent sites; therefore, an audit will not be required at every generator/storage site that ships waste to the WIPP facility for confirmation provided the previously audited and approved CCP procedures are used for characterizing the waste.

As noted in previous comments, the EEG believes that the AK at each generator site will present sufficiently unique problems and opportunities that the AK process at each site should be audited.

29. The “Background for Using AK for Characterization” section of Item 1 states that (p. A-5):

The current HWFP requires that headspace gas data be used to determine the type and quantity of VOCs and confirm the USEPA hazardous waste numbers assigned based on AK.

Headspace gas data is also used to establish additional hazardous waste numbers to be applied to a waste stream. As noted in a previous comment, such testing has “almost always” been used to assign additional HWNs to a waste stream at the INEEL—a site with as much experience with WIPP waste as any in the DOE complex.

30. The “Background for Using AK for Characterization” section of Item 1 uses the Joint NRC/EPA Guidance on Testing Requirements for Mixed Radioactive and Hazardous Waste (62 FR 62079, November 20, 1997) in a lengthy support of using AK as the sole waste characterization methodology. While a surficial glance at this document would indicate support for the Permittee’s argument, the relevance of the document to waste characterization for the WIPP becomes much more questionable on closer examination.

This joint guidelines summarize the contents as follows (p. 62080):

The guidance emphasizes the use of process knowledge, whenever possible, to determine if a waste is hazardous as a way to avoid unnecessary exposures to radioactivity. The guidance also provides guidelines for generators wishing to rely on process knowledge as the basis for evaluating their waste.
This appears to be a strong statement in support of using AK (which includes process knowledge) for RCRA waste characterization. However, there are also several caveats in using this NRC/EPA guidance. For instance, the Guidance contains a fairly strong disclaimer (p. 62080):

The policies discussed in this document are not final Agency actions, but are intended solely as guidance. They are not intended, or can they be relied upon, to create any rights enforceable by any party in litigation with the United States. The Environmental Protection Agency and Nuclear Regulatory Commission may follow the guidance, or act at variance with the guidance, based on an analysis of specific site circumstances.

The Guidance also limits its scope (p. 62080):

The information below is intended for use by Nuclear Regulatory Commission (NRC) licensees that may not be familiar with the hazardous waste characterization and testing requirements that apply to mixed waste.

The WIPP project is not subject to NRC license. On the WIPP, the EPA’s involvement is more what the NRC’s normal role is—regulation of radiation control— and the NMED is responsible for regulating the RCRA component. Therefore neither the NRC nor the EPA is performing the roles that this joint interpretation of the regulations was meant to cover.

The EPA/NRC joint regulation the guidance is designed to support appears primarily over commercial utility wastes, over which the NRC has imposed rather stricter controls from the beginning than what was required in the AEC/ERDA/DOE complex; the EPA has noted the quality of past management of NRC-regulated mixed wastes in proposing a conditional relaxing of RCRA requirements at NRC-regulated LLW sites (64 FR 63470, November 19, 1999). As has been noted elsewhere in these comments, the controls on DOE’s retrievably stored wastes, and controls on the data previously generated on that waste, do not appear to be of comparable quality (see Attachment 1). The utility of joint NRC/EPA guidance for the concerns of the WIPP would seem to be somewhat peripheral.

The Guidance also identifies itself specifically with low-level radioactive mixed waste, as separated from transuranic or high-level mixed wastes (p. 62080):

This guidance addresses testing activities related to mixed low-level waste (LLW), which is a subset of mixed wastes. Additional information on the testing of hazardous wastes, which could apply to both mixed LLW and other types of mixed waste (e.g. high-level and transuranic mixed waste), is found in Appendix A.
For debris TRU waste—the type under consideration in this HWFP modification request—the Joint NRC/EPA Guidance would seem to specify use of Appendix A. Appendix A is titled “RCRA Regulations That Require Specific EPA Test Methods”—test methods meaning sampling of the waste and performing chemical analysis of the samples. Of the 14 listed regulations in Appendix A, two would seem to be applicable to RH-TRU waste bound for WIPP (p. 62093):

Section 261.22(a)(1) and (2)—Evaluations of waste against the corrosivity characteristic;
Section 261.24(a)—Leaching procedure for evaluation of waste against the toxicity characteristic...

Use of AK as the sole analysis tool would therefore seem to be in conformance with the joint EPA/NRC guidance only insofar as the AK includes tests performed to the methods specified in the sections of RCRA CFRs listed above. The Permittees apparently do not intend to provide any evidence that CH-TRU slated for shipment to the WIPP has undergone corrosivity or leach testing in accordance with SW846 methods specified in 40 CFR 261, nor is it likely that any significant part of stored RH-TRU wastes have undergone such testing. Thus, the “acceptability of relying on AK as the sole analysis tool” for WIPP wastes would not seem to be consistent with this portion of the joint EPA/NRC interpretation.

If one accepts some sort of equivalency between the NRC and the EPA, the EPA and the NMED, as well as CH-TRU wastes with LLW, then the Joint NRC/EPA Guidance supplies the following statement (p. 62082):

Hazardous waste, including mixed waste, may be characterized by waste knowledge alone, by sampling and laboratory analysis, or a combination of waste knowledge, and sampling and laboratory analysis. The use of waste knowledge alone is appropriate for wastes that have physical properties that are not conducive to taking a laboratory sample or performing laboratory analysis. As such the use of waste knowledge alone may be the most appropriate method to characterize mixed waste streams where increased radiation exposures are a concern. Mixed waste generators should contact the appropriate EPA regional office to determine whether they possess adequate waste knowledge to characterize their mixed waste.

This modification request provides no indication that the appropriate EPA regional offices have been contacted to determine whether or not sites possess adequate waste knowledge to characterize debris TRU wastes. The “acceptability of relying on AK as the sole analysis tool” will be consistent with the joint EPA/NRC interpretation would seem to depend on the quality of the AK data. There has been little reliance on AK as the
sole analysis tool for WIPP wastes in the past, and the descriptions from some DOE
documents (see statements in Attachment 1) do not appear to support such reliance.

It appears that the Joint NRC/EPA Guidance was (1) not meant to apply to the WIPP or
any other DOE waste characterization process; (2) was written for wastes for which
excellent data has been maintained, which is not the case for retrievably stored WIPP
wastes; (3) lists stricter requirements for TRU wastes than what is currently required of
WIPP wastes; and (4) suggests that waste generators use EPA regional offices to
determine the adequacy of their AK, a process which has not been performed in order to
support this modification request.

31. The “Background for Using AK for Characterization” section of Item 1 also uses the EPA
guidance document, *Waste Analysis at Facilities That Generate, Treat, Store, and
Dispose of Hazardous Waste* (listed as OSWER 9938.4-03; also published as EPA/530-
R-94-03) in support of using AK as the sole method for waste characterization. This
document also contains several caveats and limitations on the use of AK as the sole waste
characterization technique which the Permittees do not address. The EEG had previously
notified the DOE of these limitations; a brief discussion of these caveats is included
above (see Comment 22). The requirement in the current HWFP for radiography/visual
examination and headspace gas analysis as a part of AK supplemental information, as
noted in Attachment 2 to these comments, may be due to these additional caveats.

**Proposed Text Modifications for Item 1**

EEG comments are numbered using the alphanumeric identifications in the submittal (e.g.,
“a.1.”, “a.2.”, etc). When multiple comments are made on the same change, sequential numbers
are added to distinguish between them (i.e., “a.1-1.”, “a.1-2”, etc. for comments on the changes
to “a.1”.

While the EEG does not believe that the separation of “waste confirmation” from “waste
characterization” (discussed in several comments above) will be considered an acceptable change
to the HWFP, the comments on the proposed text changes are written under the assumption that
the NMED will approve of these changes. If the NMED does not approve of this distinction then
the proposed text changes would also seem to fall under this rejection, and comments on them
would not be useful.

a.1-1. Several additional definitions are proposed for inclusion in Module I.D (pp A-8 and A-9).
These modifications are numbered beginning with “I.D.7”, which would place them after
the current definitions in the HWFP. If these definitions are added it would seem for
efficient to add them in alphabetical order, interspersed among the current definitions.

a.1-2. The proposed added definition at Module I.D.8 of the term “Generator/Storage Site” is as
follows (p. A-8; itallic font as well as redline is used to represent added added text):
"Generator" or "Generator/Storage Site" means any site which generates and/or stores TRU and TRU mixed waste and which performs waste characterization on that waste in accordance with the WIPP Waste Analysis Plan (WAP) prior to shipping waste to the WIPP facility.

This definition appears to be a considerable alteration of the 40 CFR 260.10 definition of a generator site:

\[\text{Generator means any person, by site, whose act or process produces hazardous waste identified or listed in part 261 of this chapter or whose act first causes a hazardous waste to become subject to regulation.}\]

The definition "generator" is essentially self-describing in its current form; EPA/600/R-92/033, *Characterizing Heterogeneous Wastes: Methods and Recommendations*, states regarding definitions (p. 8):

Past regulatory development practice has resulted in the redefinition of some standard, non-technical English words...This practice may jeopardize the public’s right to know and, more importantly, its right to understand environmental legislation and must be avoided.

This proposed definition would seem to be an example of such a redefinition.

a.1-3. The proposed definition of "Waste Characterization" (p. A-8) includes the following statement (p. A-8; italic font as well as redline is used to represent added text):

\[\text{"Waste Characterization" information is required by the Waste Analysis Plan (Attachment B) to complete the Waste Stream Profile Form (Figure B-1), except for the "Sampling and Analysis Information" portion of the Waste Stream Profile Form.}\]

As noted in a previous comment, INEEL personnel have indicated that hazardous waste numbers are "almost always" added to the WSPF from the results of the testing that is performed for the "Sampling and Analysis Information" portion of the form. It appears that the proposed practice would allow potentially incompletely described wastes to be received and stored at the WIPP. This appears to be contrary to the 40 CFR 264.13(a)(1) requirement for a detailed chemical and physical description of a representative sample of the waste prior to storage of the waste.

The EEG believes that WSPFs should be completed and certified prior to waste receipt at the WIPP, and that the current WSPF should continue to be required for wastes received under the current processes. This proposed modification would allow all waste streams to be shipped to the WIPP prior to confirmation of containers and certification of the WSPF, not just those intended centralized waste confirmation.
a.1-4. The definition of "Waste Confirmation" states in part (p. A-8 and A-9; italic font as well as redline is used to represent added text):

Headspace gas sampling and analysis is included in the definition of waste confirmation although it provides information on the type and concentration of VOC's [sic] because these data are only needed prior to disposal and not prior to storage.

This statement appears to be in error. The "type and concentration of VOCs" in the waste would seem to be a part of the detailed physical and chemical description of waste required by 40 CFR 264.13(a)(1). This information is used to establish the hazardous character, or lack thereof, of the waste, and the intent of §264.13(a)(1) is clearly to establish this information from a representative sample of the waste prior to waste storage. Since this statement provides no useful addition to the definition, the EEG recommends that it not be included in the HWFP modification.

The possessive apostrophe in the term "VOC's" should be removed from this sentence prior to any incorporation into the HWFP.

It should be noted that "type and concentration" of flammable VOCs is often required for compliance with the TRUPACT-II SARP, as noted in a previous comment.

b.1-1. Module II.C.1.a is altered in part as follows (p A-9; italic font as well as redline is used to represent added text):

Implementation of Requirements - the Permittees shall require that generator/storage and confirmation sites implement applicable requirements of the WAP, specified in Permit Attachment B, prior to the Permittees' receipt of TRU mixed waste from a generator/storage site.

This statement would seem to need to be further altered in order to implement the intent of Item 1, which is to allow confirmation to take place after receipt of TRU mixed waste from a generator/storage site, as it prohibits receipt of unconfirmed wastes at the WIPP.

b.1-2. Module II.C.1.a is altered in part by the addition of the following statement (p. A-9; italic font as well as redline is used to represent added text):

Waste characterization of TRU mixed waste shall be performed at generator/storage sites and shall be completed prior to receipt of TRU mixed waste at the WIPP facility.

The EEG suggests that, without a completed Waste Stream Profile Form, waste characterization cannot be considered complete. This statement would then be in
conflict with the statements that generated comment a.1-3 above. This internal inconsistency should be resolved prior to adding this statement to the HWFP.

b.1-3. Module II.C.1.a is altered in part by the addition of the following statement (p. A-9; italic font as well as redline is used to represent added text):

Waste confirmation of TRU mixed waste characterization shall be performed at a confirmation site prior to disposal.

When non-WIPP confirmation is to be performed (i.e., at the generator/storage sites) the requirement should be that confirmation as well as all data reviews and certifications should be completed prior to shipment, as the current HWFP requires. The intent of Item i was to modify the HWFP to allow use of confirmation at the WIPP, not to alter the requirements for the current programs under way.

b.1-4. Module II.C.1.a is altered in part by the addition of the following statement (p. A-9; italic font as well as redline is used to represent added text):

Waste confirmation performed by the Central Characterization Project is described in Permit Attachment B7.

Since the CCP will also perform waste characterization, this statement should refer to waste characterization as well.

b.2. (Editorial) The proposed alteration of Module II.C.1.c deletes the underline format of opening phrase, and adds an “i” to the word “waste”. These changes are likely inadvertent, but in any case should not be included in actual changes to the HWFP.

b.8.-1. Module II.C.3 (the TSDF-WAC) is altered so as to drop the prohibition against receiving specific kinds of waste at the WIPP. Instead, a requirement for “documented evidence” of meeting most of--but not all--of the TSDF-WAC prohibitions is substituted. This proposed modification also drops the TSDF-WAC requirements for both reported VOC concentration values from headspace gas analysis and for radiography/VE of each waste container prior to acceptance of the container at the WIPP.

These would appear to be significant modifications to the HWFP that are not specifically addressed in the introductory material. The introductory material specifically states (p. 12) that the TSDF-WAC prohibitions (sacrificing accuracy for brevity) are for the following: liquids, non-TRU pyrophoric materials, incompatible wastes, ignitable, corrosive, or reactive wastes, RH-TRU, PCB-containing wastes, wastes not preceded by a certified WSPF, wastes which have not undergone headspace gas sampling and analysis or radiography, non-TRU mixed wastes, and PCB-containing wastes.

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12The TSDF-WAC prohibitions (sacrificing accuracy for brevity) are for the following: liquids, non-TRU pyrophoric materials, incompatible wastes, ignitable, corrosive, or reactive wastes, RH-TRU, PCB-containing wastes, wastes not preceded by a certified WSPF, wastes which have not undergone headspace gas sampling and analysis or radiography, non-TRU mixed wastes, and PCB-containing wastes.
10, Introduction) that this modification is only concerned with centralized waste confirmation; this modification would change the prohibitions in the TSDF-WAC to the entire WIPP project, not just confirmation performed at the WIPP. This additional modification does not appear to have been introduced in a way that addresses 40 CFR 270.42(c)(1), which requires that a submitted Class 3 modification not only describe the exact change to be made to the permit conditions (at (I)), but also explain why the modification is needed (at (iii)).

The EEG believes that, even if the concept of Item 1 is accepted, the current TSDF-WAC should continue to be applied for waste that is not being processed by the centralized waste confirmation process. A separate set of waste acceptance criteria should be established for the unconfirmed wastes if Item 1 is incorporated into the HWFP.

"Documented evidence" of compliance with the TSDF-WAC would likely be unobtainable for retrievably stored wastes. It is unlikely that documents for waste packaged in 1985 would state that the TSDF-WAC promulgated in November 1999 have been met, and it is just as unlikely that 1985 documents would contain statements clearly establishing that each elements of TSDF-WAC has been met. If this alteration to the TSDF-WAC be considered acceptable, or should a separate WAC for the CCF waste be added, then the term "documented evidence" seems to be a rather indistinct requirement. The EEG recommends that in either of these two cases the specific information that would constitute acceptable "documented evidence" should be described, and the quality of that information should be prescribed. To be in accord with other parts of Item 1, a minimal set of "documented evidence" would consist of the AK information required to be developed by the Waste Analysis Plan. The NMED may also want to consider whether assignments of level of confidence to the information used for these determinations should be required.

b.8-2. Module II.C.3 (the TSDF-WAC) is altered to require only that headspace sampling and analysis, and radiography and/or VE be performed prior to disposal, rather than the full list of current TSDF-WAC prohibitions. The modification request does not provide any discussion of altering the TSDF-WAC requirements for disposal--in fact, the information supplied indicate that there are to be no changes in the requirements for disposal. Should Item 1 be incorporated into the HWFP, the full TSDF-WAC of the current HWFP should still apply for disposal of wastes.

e.1. The Attachment B Introduction and Highlights section is in part altered to the following statement (p. A-12; italic font as well as redline is used to represent added text):

The Waste Stream Profile Forms for the waste stream resulting from waste characterization activities and the waste container data (via the WIPP Waste Information System (WWIS)) shall be transmitted to the Permittees, reviewed for completeness, and screened for acceptance prior to loading.
any TRU mixed waste into the Transuranic Package Transporter (TRUPACT-II) at the generator facility, as described in Section B-4.

There appears to be a logical impossibility in this statement. Completed WSPFs will contain information about headspace gas analysis and radiography/visual examination (see p. 2 of the form), yet the function of Item 1 is to allow placement into TRUPACT-IIIs for shipment to the WIPP so that these functions can be performed. Previous comments have noted other concerns related to completion of WSPFs; in general, it appears that considerations related to the completion of WSPFs have not been well-thought out for this proposed modification.

e.3. Section B-1c is altered to create the following statement (p. A-13; italic font as well as redline is used to represent added text):

Prior to accepting TRU mixed waste at WIPP, the Permittees must ensure that there is documented evidence that each waste container does not have the following prohibited items:...[list of prohibited items]...any waste container from a waste stream which has not been preceded by an appropriate, certified Waste Stream Profile Form.

As noted in the comment b.8-1 above, “documented evidence” lacks appropriate specificity, a condition that should be amended if Item 1 is included in the HWFP. Also as noted at comment e.1 and elsewhere, a certified WSPF would include information that for the CCF would only be supplied after acceptance of TRU mixed waste at the WIPP. The term “certification” implies an acceptance signature which is not proposed to be added to the WSPF until after confirmation and reconciliation activities. Thus, after this alteration, it would seem logically impossible to accept unconfirmed waste at the WIPP.

f.2. Section B-3 is altered in part as follows (p. A-14; italic font as well as redline is used to represent added text):

The characterization techniques used by generator/storage sites includes acceptable knowledge, which incorporates supplemented by headspace-gas sampling and analysis, radiography, and homogeneous waste sampling and analysis, as necessary to meet the requirements for shipping waste to the WIPP facility.

This modification alters the acceptable knowledge process—the methods that were integral to AK are changed to supplemental, as-needed methods. The introductory material provided no rationale for a change to the acceptable knowledge process, nor any indication that such a change would be made. The NMED should ascertain the need and efficacy of this alteration prior to including it into the HWFP.
Section B-3c is altered to indicate that radiography and/or visual examination is only used to confirm acceptable knowledge. Other portions of this modification request state that radiography/visual examination will be used when necessary for waste characterization as well (see the added language at modification f.2, p. A-14, for an example). This section should be amended to reflect that concept also.

Text in Section B-3d is altered to incorporate references to “confirmation” (separated from “waste characterization” in Item 1), but the title to the section, “Characterization Techniques and Frequency for Newly Generated and Retrievably Stored Waste”, should also be altered to denote that the techniques are to be used during confirmation activities.

Section B-3d is altered in part in the following manner (p. A-15; italic font as well as redline is used to represent added text):

Generator/storage sites will use acceptable knowledge to delineate all TRU mixed waste containers into waste streams for the purposes of grouping waste for further characterization confirmation. The confirmation activities analyses performed will not...

The introductory material to Item 1 indicated that AK used for waste characterization may need to be supplemented by non-AK waste characterization techniques. This might also be true for separating out waste streams, and this possibility should also be noted in the HWFP text.

Section B-3d is altered in part in the following manner (p. A-15; italic font as well as redline is used to represent added text):

Radiography and/or VE will be used to verify the physical form of retrievably stored TRU mixed waste...Radiography and/or VE will also be used for confirmation of in conjunction with the acceptable knowledge used to characterize heterogeneous debris wastes.

Again, waste characterization for debris waste may also need to have radiography/VE, as indicated at modification f.2 (p. 14). This possibility should be included in Section B-3d.

Sampling and analysis methods used for confirmation of waste characterization are discussed in Section B-3a.

Section B-3a, “Sampling and Analytical Methods”, also applies to supplemental waste characterization processes, and should so be noted in this section. It appears that this portion of the modification of Section B-3d is simply unnecessary.
f.6. Section B-3d(2) is altered in part in the following manner (p. A-16; italic font as well as redline is used to represent added text):

All retrievably stored waste containers will be characterized using acceptable knowledge as specified in Attachment B4. All retrievably stored waste containers will be examined using radiography to confirm the physical waste form (Summary Category Group), and to verify the absence of prohibited items, and to determine the waste characterization techniques to be used based on the Summary Category Groups (i.e., S3000, S4000, S5000).

The major effect of this alteration is to eliminate the use of radiography to determine whether or not core sampling will be needed. This alteration would apply to all sites characterizing and confirming stored wastes (over 500,000 drum-equivalents), only a small part of which relates to the centralized waste confirmation process. This appears to be a significant alteration to the current HWFP requirement which would apply to more than the central waste confirmation that Item 1 is supposed to encompass. The EEG believes the current HWFP requirement should continue to apply to the current programs in use for WIPP wastes. A method of incorporating central waste confirmation into the HWFP should be utilized which does not significantly alter requirements for the currently operating programs.

f.12. Section B-4b is altered in the following manner (p. A-16; italic font as well as redline is used to represent added text):

Waste screening is a two-phased process. Phase I will begin prior to transporting the TRU mixed waste to the WIPP facility and will be completed prior to disposal.

The requirement is changed from requiring Phase I waste screening to be completed prior to shipment to one which allows waste to be shipped to the WIPP prior to completion of Phase I screening. This appears to be a significant alteration to the current HWFP requirement which would apply to more than the central waste confirmation that Item 1 is supposed to encompass. The EEG believes the current HWFP requirement should continue to apply to the current programs in use for WIPP wastes. A method of incorporating central waste confirmation into the HWFP should be utilized which does not significantly alter requirements for the currently operating programs.

If the alteration is accepted as proposed, additional portions of the HWFP would seem to need to be altered also. For example, the current Section B-4b(1) contains the following statement:

The first phase of the waste screening and verification process will occur before TRU mixed waste is shipped to the WIPP facility...Another portion
of the Phase I verification is the Waste Stream Profile Form approval process. At the WIPP facility, this process includes verification that all of the required elements of a Waste Stream Profile Form are present and that the summarized waste characterization information meet the acceptance criteria required for compliance with the WAP (Section B3-12b(1)).

The implication is that the complete first phase screening, including the Sampling and Analysis Information section of the WSPF, will be completed prior to shipping any of the waste stream.

f.13-1. Section B-4b(1) is altered at several places to significantly change current HWFP requirements that apply to more than the central waste confirmation that Item 1 is supposed to encompass. The EEG believes the current HWFP requirements should continue to apply to the current programs in use for WIPP wastes. A method of incorporating central waste confirmation into the HWFP should be utilized which does not significantly alter requirements for the currently operating programs.

Two examples of alterations that would affect the requirement for current waste characterization programs are provided below. However, the analysis of Modification f.13 is complicated in that the modified text is built on a text base from a Class 1 modification which has yet to be incorporated into the version of the HWFP on the NMED web site (August 31, 2001 version). The EEG believes that the NMED may eventually reject some or all of these Class 1 modification changes; for the purpose of providing examples of the problem, the following are from the text as it appears in the proposed modification (p. A-16; italic font as well as redline is used to represent added text):

Prior to the first shipment of containers from the approved waste stream, the approved Waste Stream Profile Form will be provided to NMED; and the accompanying The associated Characterization Information Summary will be provided to NMED prior to disposal.

This alteration would apply to current waste shipping programs as well as waste intended for the proposed Centralized Waste Confirmation process. Sites would be able to ship wastes first, then finish and forward the Characterization Information Summary data only prior to disposal, and WIPP could receive wastes for which a completed WSPF (much less a certified one) had not been obtained.

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13This quotation is from the version on the DOE’s website, and it includes Class 1 HWFP modifications that may yet be rejected by the NMED (these Class 1 modifications have yet to appear in the HWFP version on the NMED web site). However, the text is the same in the current NMED version (of August 8, 2000) with the exception of the reference to Section B3-12b(1), which does not exist in the NMED’s version.
A second example appears in a discussion of a Permittee comparison of approved WSPFs to the sampling/analysis characterization and confirmation data for each container. The following alteration is made (also p. A-16; italics as well as redline used to represent added text):

If this comparison shows that containers have hazardous wastes not reported on the Waste Stream Profile Form, or a different Waste Matrix Code applies, the data are rejected and the waste containers are not accepted for shipment disposal.

Again, the requirement would apply to all sites, not just those at which the CCP was involved. For waste characterization/confirmation/shipping programs currently in operation, the requirement should continue to be that the waste containers are not acceptable for shipment, rather than for disposal.

The NMED’s comments on the withdrawn Class 2 modification noted that (General Comment 8, p. 4):

The apparent intent of the proposed modification is to allow all sites to ship waste to WIPP that is only partially characterized and potentially without benefit of site audit—regardless of generator site—so long as full WAP characterization is performed prior to disposal. In so doing, the revised permit text consistently and without explanation allows blanket management and storage of waste not characterized in accordance with the WAP, even those wastes from sites that are fully capable of characterizing waste in accordance with the WAP prior to shipment. Another apparent intent of this modification is to allow partially characterized waste to be stored at WIPP for future WAP compliant characterization. However, this blanket modification leaves loopholes and open interpretations with respect to off-site and on-site waste characterization requirements.

This Class 3 proposed modification appears to continue to leave loopholes and open interpretations, in the same areas as were specifically pointed out in the NMED’s comments.

f.14. Section B-4b(1)(ii) is in part altered to add to the verification of WSPF completeness and accuracy a check of “NMED audit report approval” (p. A-19). While this alteration is a potentially useful addition to the HWFP it is not one that is related to confirmation of waste at the WIPP facility, the expressed purpose of Item 1 modifications.

f.20-1. The title of Figure B-3, Data Collection Design for Characterization of Retrievably Stored Waste, is altered so that it appears that on debris waste (S5000) will be considered. There is no Figure added to show the process for S3000 and S4000 wastes (soils and homogeneous solids), which are addressed by Figure B-3 in the current HWFP.
f.20-2. A box is added to Figure B-3 which requires a Waste Stream Profile Form to be prepared and submitted after acceptable knowledge has been used to characterize the waste, but only for that waste which is to be confirmed at the WIPP. The EEG believes that waste stream profile forms should be prepared and submitted for waste confirmed at the generator site, also; if the Figure is to be changed to add WIPP-confirmed waste, then the Figure should also note the requirement for generator/storage site confirmation also.

g.3. Section B1-3b(3), Visual Examination, is altered as follows (p. A-26; text additions are denoted by both redline and italicization):

Visual examination shall be performed on a statistically determined portion of waste containers to verify the results of radiography or, if in lieu of radiography, to confirm acceptable knowledge characterization.

The addition seems unnecessary; the previous sentence in the section had already addressed using visual examination in lieu of radiography (Section B1-3b(3)):

As an additional QC check, or in lieu of radiography, the waste container contents shall be verified directly by visual examination of the waste container contents.

h.2-1. The Section B3-1 discussion of Comparability is altered in part to state (p. A-27; text additions are denoted by both redline and italicization):

The comparability of waste characterization and confirmation data shall be ensured through the use of generator/storage and confirmation site data usability criteria. The Permittees shall ensure that data usability criteria are consistently established and used by the generator/storage and confirmation sites to assess the usability of analytical and testing data.

This alteration would seem to be acceptable if the concept of confirmation at the WIPP site is considered acceptable. However, it should be noted that nearly two years after the requirement for data usability criteria was established at the promulgation of the HWFP, the EEG is unaware that either the Permittees or the generator/storage sites have established data usability criteria for analytical testing data. The proposed Attachment B7 does not address data usability also does not address the topic. Others of the proposed modifications under Item 1 also alter text where data usability is an issue (see, for example, modification f.7, p. A-16).

h.2-2. The Section B3-1 discussion of Nonconformance to Data Quality Objectives (DQOs) is altered to state (p. A-27; text additions are denoted by both redline and italicization):
For nonconformances identified during confirmation analyses, the Permittees shall require the confirmation site to implement a corrective action which remedies the nonconformance prior to disposal of the waste.

This proposed modification should also require a process for marking, segregating, and periodic inventory of nonconforming containers when confirmation is performed at the WIPP facility, or reference the portion of the proposed Attachment B7 that does require such a process. However, the proposed Attachment B7 does not appear to include any such requirement—the closest is a requirement to (p. A-52):

*Develop a nonconformance process that complies with the requirements in Section B3 of the WAP to document and establish corrective actions.*

Section B3, and other parts of the HWFP, require the Permittees to establish controls over generator/storage sites because the WAP cannot establish direct controls over non-WIPP sites. For activities that take place at the WIPP, the HWFP should establish direct controls.

h.5. Section B3-10a(1) is altered as follows (p. A-28; text additions are denoted by both redline and italicization):

The independent technical review must be performed as soon as practicably possible in order to determine and correct negative quality trends in the sampling or analytical process. However, at a minimum, the independent technical review must be performed before any waste associated with the *characterization* data reviewed is managed, stored, or disposed at WIPP.

This modification should also have indicated that the independent technical review must be performed before any waste associated with confirmation data, as well as characterization data, is disposed at the WIPP. When confirmation takes place at the generator/storage site then the modification should show that independent technical review must be performed before any waste associated with that confirmation is managed, stored, or disposed at WIPP.

h.6. Section B3-10(a)(2) is altered as follows (p. A-28; text additions are denoted by both redline and italicization):

The technical supervisor review ensures that the independent technical review was performed completely, that the Batch Data Report is complete, and verifies that the results are technically reasonable. This review validates and verifies that the *characterization confirmation* performed in this area is ready for QA office review.
Any sampling and analysis data packages created as a part of waste characterization activities, as well as confirmation activities, should also undergo the technical supervisor review, and this portion of the proposed modification should be amended to ensure that it is required.

h.8. Section B3-10b is altered as follows (p. A.29; text additions are denoted by both redline and italicization):

Data validation and verification at this level involves scrutiny and signature release from the Data Project Manager (or designee) and the Site Project QA Officer (or designee). The Permittees shall require each site to meet the following minimum requirements for each waste container prior to disposal.

For data that is not a part of the confirmation process to be performed at the WIPP, the minimum requirement should remain as a requirement prior to shipment to, or storage at, the WIPP, and this portion of the proposed modification should be amended to ensure that it is required.

h.9. Section B3-10b(1) is altered as follows (p. A-29):

...at a minimum, the Site Project QA Officer signature release must be performed before any waste associated with the data reviewed is managed, stored, or disposed at WIPP.

For data that is not a part of the confirmation process to be performed at the WIPP, the minimum requirement should remain as a requirement prior to shipment to, or storage at, the WIPP, and this portion of the proposed modification should be amended to ensure that it is required.

Modification h.9 makes the same alteration to Section B3-10b(2), where the Site Project Manager’s signature is required. This comment also applies to that alteration.

h.13. Section B3-11a is altered in part as follows (p. A-31; text additions are denoted by both redline and italicization):

The statistical procedure presented in Permit Attachment B2 shall be used by participating Site Project Managers to evaluate and report waste characterization confirmation data from the analysis of homogeneous solids and soil/gravel.

Any analysis should use the statistical procedures in Attachment B2, whether it is for waste characterization or confirmation. The HWFP should continue to require it for waste characterization activities as well as confirmation activities.
h.15. Section B3-13 is altered in part by adding the following sentence to a discussion of nonconformances discovered during the Site Project Manager Review (p. A-31; text additions are denoted by both redline and italicization):

The confirmation site will implement a corrective action process and resolve the identified confirmation nonconformance prior to the Permittees disposal of TRU mixed waste at WIPP.

When confirmation processes take place at the generator site, rather than the WIPP, the nonconformance should be resolved prior to shipment to the WIPP. The expressed intent of Item 1 was to allow confirmation to take place at the WIPP, not to alter requirements for the currently implemented programs.

i.4-1. Section B4-4 is altered in part as follows (p. A-33; text additions are denoted by both redline and italicization):

In addition and prior to notifying a confirmation site that a waste stream can be managed, stored, or disposed of at the WIPP facility, the Permittees will review the Waste Stream Profile Forms, the WIPP Waste Information System (WWIS), and association Characterization Information Summary to ensure that radiography or visual examination, headspace-gas sampling and analysis data, and homogeneous waste sampling and analysis data confirm hazardous waste characterization made using acceptable knowledge. The Permittees shall require all generator/storage sites to provide all of the required data associated with waste stream characterization, including summary acceptable knowledge information, radiography or visual examination, headspace gas sampling and analysis, and homogeneous waste sampling and analysis results used in characterization.

For generator/storage sites performing confirmation at their own facility, the requirements for the Permittees to ensure the acceptability of these information documents prior to management and storage at the WIPP, and the requirement for the generator/storage site to provide the required data from both characterization and confirmation activities, should not be changed from the current requirements. This portion of the modification request should be amended to retain the current requirement for the currently implemented processes.

i.4-2. Section B4-4 is altered in part as follows (p. A-33; text additions are denoted by both redline and italicization):

If data consistently indicates that discrepancies with acceptable knowledge information were identified at the confirmation site level (and were subsequently reconciled) the Permittees will require sites to reassess the
materials and processes that generate the waste and resubmit waste stream profile information and implement their corrective action system.

This alteration does not appear to be necessary to the expressed intent of Item 1, and should not be included in any revised HWFP. The alteration also eliminates consideration of continued discrepancies during waste characterization sampling and analysis.\footnote{It may be that this modification was written under the assumption that the re-defined waste characterization will not utilize sampling and analysis techniques but will be solely based on acceptable knowledge.}

\textbf{i.4-3.} Section B4-4 is altered in part as follows (p. A-33; text additions are denoted by both redline and italicization):

Repeated nonconformances by a generator/storage site in implementing and documenting WAP requirements (Permit Attachment B) will result in the termination of management, storage, or disposal of the site's waste, waste stream(s), or summary category group(s), as applicable. Management, storage, or disposal of the subject waste summary category at WIPP will not resume until the Permittees find that all characterization corrective actions have been implemented and the generator/storage site complies with all applicable requirements of the WAP.

Corrective actions for the repeated nonconformances may be related to confirmation activities as well as to those for characterization. Any modification of the HWFP should continue to require corrective actions related to repeated confirmation nonconformances to be implemented prior to resumption of management, storage, or disposal of that site's waste also.

\textbf{i.4-4.} Section B4-4 is altered in part as follows (p. A-33; text additions are denoted by both redline and italicization):

Any drum/container with unresolved discrepancies associated with hazardous waste characterization will not be managed, stored, or disposed at the WIPP facility until the discrepancies are resolved.

"Discrepancies" as used here refer to nonconformances. For wastes sent to the WIPP for confirmation this requirement would be violated as soon as the discrepancy is discovered by the confirmation process. This sentence would need to be further altered in order to prevent such an automatic lapse in meeting HWFP requirements every time a characterization discrepancy is discovered during the WIPP-site confirmation process.
j.2. The Table B6-1 WAP audit checklist alterations appear to contain several errors, some of which are listed below:

a. Checklist item 26 (p. A-35) appears to limit checks of radiography/VE procedures to confirmation of physical waste form. Auditors should verify that procedures for radiography/VE are used for characterization of physical waste form also.

This item also modifies radiography/VE from identification of liquids and containerized gases to confirmation of the absence of liquids and containerized gases; radiography/VE should either identify prohibited items or establish their absence, and both possibilities should be denoted.

b. Checklist item 33 (p. A-36) alters a question relating to procedures for data validation and verification (V&V) from referring to waste characterization to referring to waste confirmation. V&V procedures should cover both characterization and confirmation.

c. Checklist item 33 (p. A-36) exchanges the word "confirmation" for the word "characterization" in a question concerning procedures for data validation and verification. Both characterization and confirmation data should have procedures for V&V, and the question should reflect this.

d. Checklist item 34 (p.A-36) eliminates the word "characterization" and adds the word "confirmation" to a question concerning formatting of waste data. Under the Item 1 definition of the terms, both should be used--"...a pre-approved format for reporting waste characterization and confirmation data...".

e. Several checklist items (38, 39, 41, 60) do not have any apparent alteration, but were included in the modification request anyway. The NMED may want to ascertain the Permittees’ purpose in including these items prior to approving this portion of the modification request.

Item 38 (the only one checked) appears to be identical with the question included in the HWFP by the May 21, 2001 Class 1 modification—a modification which the NMED states has been reviewed, but that “administrative action” has been deferred to an unspecified later date (August 31, 2001, Bearzi-to-Triay-and-Lee letter, p. 1). This checklist item creates the following question (p. A-36):

Are procedures in place to ensure that 100 percent of all batch data reports receive a technical supervisory signature release with an associated review checklist prior to characterization of the associated waste and shipment to the WIPP.
The EEG believes that this question should be re-organized, so that it is clear that
the “prior to characterization” phrase does not refer to “technical supervisory
signature release” but to the “procedures in place” phrase.

f. Checklist item 60a (p. A-38) adds a question concerning procedures which require
a Site Project Manager to complete a Characterization Information Summary
“...which includes reconciliation with data quality objectives (DQOs) once a
waste stream is fully characterized”. DQOs should not be reconciled until waste
has been fully confirmed; the question likely should end as “...characterized and
confirmed”.

j.3. The Table B6-3 WAP audit checklist, which is for acceptable knowledge only, contains
alterations which appear to contain several errors, some of which are listed below:

a. Checklist item 149 (p. A-38) is altered to add the word “and confirmation” to an
AK requirement. The word “confirmation” should be defined--under the
definition supplied for “waste confirmation” in this proposed modification this
addition does not fit, as confirmation is not an AK function (in AK, headspace gas
analysis and radiography/visual examination are supplemental data, not
confirmation; see Attachment 2 to these comments).

b. Checklist item 178 (p. A-39) deletes the portion of the question that determines
whether the site has procedures that require “unresolved discrepancies associated
with hazardous waste characterization” to be cleared prior to management and
storage of wastes at the WIPP. The original question should still apply to the
programs currently under operation at these sites.

c. Checklist item 181 (p. A-39) is altered so as to create a similar problem--the
question is altered to change the question from one for “shipment” to one for
“disposal”, but the original question should still apply to the generator/storage site
programs currently operating.

d. Checklist item 250 (p. A-39) adds a question specific to confirmation performed
at the WIPP facility which appears to dilute the intent of the checklist item. The
item questions whether or not the training program ensures that radiography
operators are instructed in the specific waste generating practices and packaging
for the containers they will view; the added question allows procedures for WIPP
confirmation to be “sufficiently broad” to include all the wastes from the different
generating/storage sites that may be confirmed at the WIPP. Radiography and VE
personnel should be trained to the specific waste they will be analyzing, not
generalized requirements.
The same problem exists with the additions of questions to checklist items 253 and 254, and (in modification j.5, for Table B6-6), for checklist items 297 and 300.

k.1-1 The B7 attachment was apparently established based on a suggestion to make the proposed centralized waste characterization into a separate attachment to the HWFP. The suggestion appears to have been a good one, but the implementation concerning the re-defined waste characterization requirements (Sections B7-2) has been to copy only some of the HWFP changes into the new Attachment, consisting of mostly of various portions of Attachments B to the current HWFP with some minor alterations. Since one of the most common complaints about the current HWFP is that the same requirement exists with slightly different wording in several places, this technique would seem to be counter-productive. Whole pages are essentially copied into this proposed attachment with the only differences being that the word “site” is replaced by the term “CCP”. The only other changes for whole groups of pages is simply dropping requirements for non-debris wastes (which are not proposed to be confirmed by the centralized waste confirmation process at the WIPP).

Perhaps a better practice was used in the waste confirmation sections (Sections B7-3) and in the data review sections (Sections B7-4). The technique used in these portions was to simply refer to the appropriate sections of the existing HWFP, and explain the few alterations that apply specifically to the CCP. When future modifications are performed then there would be fewer places that would need to be altered, or at least checked, in order to retain consistency throughout the HWFP.

The greater problem, however, is that the portions of the current HWFP that are copied or referenced assume that all characterization and confirmation activities would take place at the site of waste origin, as a part of a single process. The development in this proposed modification of separate processes for characterization and confirmation as two separate operations creates changes to the interpretation of the requirements that are difficult to either track or explain when materials have simply been copied, and interpretation of references are similarly altered. This would appear to have been a major part of the reasoning behind the suggestion that centralized waste characterization be presented as a separate attachment to the HWFP.

For this greater problem neither the waste characterization sections nor the waste confirmation sections provide any changes in the approach to the processes. If characterization and confirmation are to be considered as two independent activities as this proposed modification indicates, then these sections, and the sections referenced, would seem to need to be rewritten to accommodate this major change in perspective.

k.1-2 The proposed Attachment B7 refers to the CCP as if it is an entity separate from the Permittees, but there are no requirements within the proposal to ensure that the CCP remains separate from those activities that are to be performed by the Permittees. This
means, for instance, that CCP personnel might be put in charge of the required Permittee level reviews and WWIS activities.

The WAP is currently organized so that the Permittees perform an independent review of data certified by the generator/storage site before it can be disposed of at the WIPP (or even shipped to the WIPP). This attachment would have the CCP act as a generator/storage site, but neither the attachment nor the entire modification request establish requirements which would maintain a separation of Permittee functions from the CCP-as-storage/generator-site functions.

k.1-3 The proposed Section B7-1, “Introduction”, should clearly state the type of waste that will be processed under its requirements (debris wastes, Summary Category Group 5000), and the types of containers that will be processed (apparently, 55-gallon drums only).

k.1-4 The proposed Section B7-1 states (p. A-45):

The CCP shall conduct the confirmation activities at the WIPP facility for waste generated at any generator/storage site.

The word “shall” means that all confirmation will be performed at the WIPP facility. The Permittees indicate in the modification request’s introductory material that a relatively small portion of the waste would undergo confirmation at the WIPP. The NMED should ascertain from the Permittees whether or not all confirmation shall be performed at the WIPP, or whether the statement should be changed (the EEG suggests replacing the word “shall” with “may”).

Other EEG comments have suggested that additional requirements should be placed on the re-defined waste characterization process proposed in Item 1 of this modification request. If the NMED adds such requirements, the statement quoted above should be amended to note that any waste confirmed at the WIPP must have been characterized to these additional requirements also, or a statement to that effect should be appropriately added to Section B7-1.

k.1-5 The proposed Section B7-1 states (p. A-45):

This attachment summarizes the WAP requirements for confirmation conducted at the WIPP facility.

The attachment should prescribe or reference all the requirements for confirmation conducted at the WIPP facility, not merely summarize them.

k.1-6 The proposed Section B7-1, “Characterization Method” copies a section of the current WAP (Section B4-1) which reads as follows (p. A-47):
Acceptable knowledge includes a number of techniques used to characterize TRU mixed waste, such as process knowledge, records of analysis acquired prior to RCRA, and other supplemental sampling and analysis data. Radiography and/or visual examination and headspace gas sampling and analysis (specified in Permit Attachment B1) are used to acquire supplemental information and to confirm acceptable knowledge to meet the requirements of the Waste Analysis Plan (WAP) specified in Permit Attachment B.

This statement indicates that radiography/visual examination and headspace gas sampling are to be performed as an element of the waste characterization method. See Attachment 3 to these comments for a more thorough discussion of this issue.

k.1-7 The proposed Section B7-1 states (p. A-45):

This attachment summarizes the requirements for confirmation conducted at the WIPP facility.

The attachment should describe or reference all HWFP requirements for confirmation at the WIPP facility, not just “summarize” them.

k.1-8 The proposed Section B7-2 states (p. A-47):

Acceptable knowledge is described in Waste Analysis: EPA Guidance Manual for Facilities That Generate, Treat, Store and Dispose of Hazardous Waste (EPA, 1994). Acceptable knowledge, as an alternative to sampling and analysis, can be used to meet all or part of the waste characterization requirements under the RCRA (EPA, 1994).

This is a copy of the statement already in the HWFP (at B4-1). As noted in a previous EEG comment (Comment 22 above), the EPA Guidance also states that there are special considerations in using AK as the sole basis for waste characterization. As noted in Attachment 2 to these comments, it appears that the current HWFP addresses these special considerations by requiring radiography/visual examination and headspace gas sampling and analysis as part of the supplemental AK information. Also as noted in Attachment 2, this proposed Attachment B7 continues, apparently inadvertently, to require these techniques as a part of AK supplemental information. Use of these techniques as a part of waste characterization would seem to obviate the need for this permit modification.

k.1-9 The proposed section B7-2a(ii) states (p. A-49):
The Permittees shall obtain from each site, at a minimum, procedures that comply with the following acceptable knowledge requirements: [list of various types of procedures]

The intent of this proposed modification is to eliminate the need for each site to generate procedures, and this requirement conflicts with other statements in the proposed Attachment B7 for CCP control of the waste characterization process (see B7-2b(ii), for example). That this added Attachment B7 would require each site to develop AK procedures may be taken as a measure of the rigor and quality with which this proposed modification was prepared and reviewed.

k.1-10 The proposed section B7-3 states (p. A-59):

Confirmation of TRU mixed waste may be conducted in waste stream lots (Section B-1a). CCP personnel will perform waste confirmation in batches as describe in Section B-3.

These statements appear to be in conflict with one another, in that the second statement requires use of batches, the first indicates that batches are optional. Either confirmation “may” be performed in batches, or it “will” be performed in batches, but not both.

k.1-11 The proposed Section B7-4a, AK Characterization Data, indicates that the CCP Site Project Manager will submit a WSPF and AK Summary Report to the Permittees for approval, and the Permittees will verify these data prior to supplying a copy of the WSPF to the NMED (p. A-61). However, the WSPF at this point has no signatures or approvals, though these would be required prior to disposal (see proposed Section B7-4b). The EEG believes that WSPF signature and approval responsibilities should be documented and sent to the NMED prior to receipt of any waste stream at the WIPP.

k.2-1 The proposed Figure B7-1, Characterization and Confirmation Audit Flow, indicates that the generator site and CCP development and implementation of their respective TRU Waste Program and AK characterization activities is audited prior to the development and implementation of the confirmation program. This change would cause disruption of current storage/generator site programs already in existence, which appears to be contrary to the intent of this proposed modification. The EEG believes that the Permittees did not intend this disruption, and that the Figure should be modified prior to inclusion into the HWFP.

k.2-2 The proposed Figure B7-1 has identically parallel flows for generator sites and the CCP, which could therefore be combined.

k.2-3 The proposed Figure B7-1 shows no auditing process for cases in which the generator/storage site characterizes the waste and the CCP confirms the characterization at the WIPP.
k.2-4 The proposed Figure B7-1 should be confined to considerations related to waste confirmation at the WIPP only, since the Attachment B7 of which it is a part is titled so as to be limited in that way.

k.3-1 The proposed Figure B7-2, Characterization and Confirmation Audit Flow, has exactly the same title as Figure B7-1. The figure should have a unique title.

k.3-2 Figure B7-2 requires the generator/storage site to perform headspace gas sampling prior to performing radiography. Currently, most generator/storage sites perform radiography first, in part to be sure that the subsequent methods will have reliable knowledge of the waste container contents for safety purposes. The change in order may not be acceptable under generator/storage site Safety Analysis Reports, and is contrary to the expressed intent of this proposed modification to not alter the current programs.

k.3-3 Figure B7-2 should be confined to considerations related to waste confirmation at the WIPP only, since the Attachment B7 of which it is a part is titled so as to be limited in that way.

k.4 The diagram in the proposed Figure B7-3, Compilation of Acceptable Knowledge Documentation, appears to be based on the assumptions that AK supplemental information is optional rather than a required part of the AK package, and that the required AK without the supplemental information is the only data that is necessary for the decision process. This interpretation is contrary to the current practice, and the current HWFP Section B4-2c clearly states that generator/storage sites shall obtain supplemental acceptable knowledge information.

k.5-1 The proposed Figure B7-4, Confirmation of Acceptable Knowledge, indicates that if during confirmation the physical form of the waste is different from the AK then the process should be to reassign the waste to the proper waste stream, re-evaluate the hazardous waste codes, and continue processing the container. However, the physical form difference may result in reassignment to a non-debris waste stream, for which neither this figure nor central waste confirmation at WIPP as a whole appears to offer a path forward.

k.5-2 The proposed Figure B7-4 indicates that confirmation at the WIPP will sample and analyze for flammable gases. This requirement is a valid one for pre-transportation requirements, but seems to have little relevance after the TRUPACT-II shipping container has been opened at the WIPP and the containers removed without incident. In any case, flammable VOCs are not a HWFP consideration. Since determining that >500 ppm of flammable VOCs was present in the headspace gas would constitute violation of transportation requirements, and is not required elsewhere in the HWFP, the NMED should consider removing this requirement from the proposed B7-4.
k.5-3 The proposed Figure B7-4 indicates that if waste is not determined to be debris waste then the CCP should simply “Prepare Batch Data Reports and Waste Stream Profile Prior to Burial”. Since this proposed modification is limited to debris wastes the CCP would have no authority to develop a non-debris WSPF, nor would the preparation of Batch Reports be able to be completed without core sampling, which is not intended to be implemented at the WIPP. This portion of B7-4 should be rewritten.

k.5-4 The proposed Figure B7-4 indicates that if the solidified waste matrix contains detectable concentrations of VOCs then the CCP should simply “Prepare Batch Data Reports and Waste Stream Profile Prior to Burial”. Since this proposed modification is limited to debris wastes and confirmation activities do not include core sampling of solidified waste matrices, the CCP has no authority to develop a non-debris WSPF, nor would the preparation of Batch Reports be able to be completed.

m.1-1 Section F-1, General Information, of Attachment F, RCRA Contingency Plan, is altered to add a segment entitled “Waste Confirmation”, and a phrase to the segment entitled “Disposal Phase Overview” to add waste confirmation to the list of disposal phase activities. Waste confirmation would seem to be a “management phase” activity, or a “characterization phase” activity, not a disposal phase one, and a segment covering management phase activities associated with waste confirmation should be added to the Section.

The term “disposal phase” appears at other locations in the HWFP, where they similarly encompass all current WIPP waste handling activities. These other uses of the term should be checked to ensure that the additional management processes inherent in the central waste confirmation process would not also require alteration of those sections, also.

m.1-2 Other portions of Section F-1 would also seem to need to be altered. Some examples follow:

A. The current Section F-1 states:

   The WIPP facility is designed to receive containers of TRU waste, which will be transported to the WIPP facility from the ten major and other minor DOE TRU mixed waste generator and/or storage sites. The waste will be emplaced in the bedded salt of the Salado Formation, 2,150 feet (ft) (655 meters [m]) below ground surface.

The EEG believes the addition of waste confirmation processes to WIPP activities is a major change to this description. The RCRA Contingency Plan should note this additional scope in its description of the purpose of the WIPP. There may be other such descriptions of the WIPP facility in the HWFP that should also be altered.
B. The following statement also appears in Section F-1, under the segment titled "Containers":

TRU mixed waste containers, containing off-site waste, will not be opened at the WIPP facility.

It appears that this statement should be altered in order to be in conformance with the expressed intent of the proposed modification.

C. Section F-1 of the current HWFP also contains the following description, in a segment titled "CH Bay Operations":

Once unloaded from the TRUPACT-IIIs, CH waste containers (7-packs, SWBs, or TDOPs) are placed in one of two positions on the facility pallet. The 7-packs or SWBs are stacked, as they arrive in the TRUPACT-II, on the facility pallets (one- or two-high, depending on weight considerations). The use of facility pallets will elevate the waste approximately 9.5 inches (in.) (24 centimeters [cm]) from the floor surface. Pallets of waste will then be relocated to the northeast area of the CH bay for normal storage. This storage area will be clearly marked to indicate the lateral limits of the storage area. This storage area will have a maximum capacity of seven facility pallets of waste during normal operations. These pallets will typically be staged in this area for a period of up to five days.

The EEG believes that an analogous description should be added for the processing and storage of containers awaiting confirmation, which other parts of this modification request indicate will be stored on a different type of pallet and in different rooms of the facility.

D. Visual examination, the removal of prohibited items from waste containers, and headspace gas sampling are significantly different processes from those described in the Section F-1 quoted sub-comment "C" above. Brief descriptions of these processes would also seem to be necessary in Section F-1.

The EEG made essentially these same comments on the subsequently withdrawn Class 2 modification request of July 21, 2000 (Comment 1, p. 1, Attachment to September 26,

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15A proposed Class 1 modification dated July 21, 2000 slightly altered this paragraph (added "3-packs" to the list of containers), but the NMED's August 31, 2001 Bearzi-to-Triay-and-Lee letter states that the NMED is "...deferring administrative action on it until a later date" (p. 1). In any case, the EEG comment still holds.
2000 Silva-to-Zappe letter). The NMED's October, 19, 2000 Bearzi-to-Triay-and-Epstein letter transmitting comments on the withdrawn Class 2 stated that any future submittal by the Permittee should address such public comments (pp. 2-3).

0.2 Section M1-1c(1) alters a description of container-checking on receipt of wastes only to add the word "storage" to the term "generator/storage site". However, the last sentence in the copied portion of the modification states (p. A-80):

The area previously designated as the Overpack and Repair Room will not be used for TRU mixed waste management in any instances.

The room previously designated as the Overpack and Repair Room is Room 108 of the Waste Handling Building (WHB), where 7-packs of unconfirmed wastes received at the WIPP are planned to be disassembled (see Figure C-3, Waste Handling Building Plan, to Revision 3 of DOE/WIPP 91-005, Resource Conservation and Recovery Act Part B Permit Application, and Figure M1-15 in Attachment B of this proposed modification). This statement would appear to need to be altered before this modification request is instituted.

The preciseness with which the Overpack and Repair Room was eliminated from use would seem to indicate that there were specific concerns that led to the statement. The NMED may wish to review its comments on earlier drafts of the Part B request to determine if the specific concern would also apply to this proposed use of WHB Room 108.

0.4 Section M1-1d, Container Management Practices, is amended to add to the list of possible off-normal events that could interrupt normal operations; the addition consists solely of "Prohibited items identified during confirmation" (p. A-81).

Confirmation at the WIPP could easily identify other conditions that should be considered off-normal—indeed, that is the principle reason confirmation is required. For example, radiography could determine that a drum had been characterized into the wrong waste stream, or that the physical form of the waste does not meet the definition of debris waste; headspace gas sampling could find hazardous compounds not noted by the characterization effort. The list of off-normal events that could interrupt normal operations would seem to need to be expanded.

Item 2 - Additional Storage Capacity and Additional Storage Locations

Item 2 Introductory Material Comments
33. The introductory material to Item 2 appears to contain two explanations of the need for the proposed modification. The second explanation encompasses the first one, but is worded so that it may not express the actual intent of the Permittees.

The “Basis” portion of Item 2 states (p. A-82):

This permit modification is required to ensure that sufficient storage capacity exists to allow the storage of waste requiring confirmation analysis.

Thus only if Item 1 to this proposed modification is approved would there be a need to approve of Item 2. It also implies that the additional storage space would be used solely for centralized waste confirmation, and that the processes and storage areas for currently received wastes would be unaffected. However, the “Discussion” portion of Item 2 states (p. A-82):

With the increase in the volume of waste being shipped to the WIPP facility and the advent of confirmation at the WIPP site, it is necessary to provide operational flexibility for storing waste within the WHB Unit.

This indicates a dual reason for storage capacity expansion, which would allow consideration of Item 2 even if Item 1 was not approved. It also implies that the additional storage area could be used as storage for wastes received under the current program. Neither the remaining portions of the introductory material to Item 2 nor the proposed text modifications make it clear whether the first or second quotation represents the actual intent of Item 2.

The NMED should determine from the Permittees exactly why this modification is needed, and whether generator/storage site confirmed wastes will be stored in this area.

40 CFR 270.42(c)(1)(iii) requires that for a Class 3 modification the permittee must submit a request which “Explains why the modification is needed...”. There is no requirement that this explanation be simply presented, that it be confined to one area of the request, that it be specifically identified, or that multiple conflicting explanations are prohibited. However, the mere presence of the requirement would seem to indicate that these practices should be followed.

34. Table 1 of the “Discussion” section of the Item 2 introductory material indicates that the “Maximum Capacity” of the Waste Handling Bay CH-TRU Storage Unit is not the “official” storage capacity of the unit. A footnote to Table 1 states (p. A-84; emphasis in the original):

The total design storage capacity of the individual storage areas is 6,321.4 ft\(^3\) (178.98 m\(^3\)). Regardless of this value the permitted waste storage
capacity of 3,795 ft$^3$ (107.4 m$^3$) shall not be exceeded. By the same principle, the drum equivalent calculations are based on the design storage capacity of 6,321.4 ft$^3$, rather than the permitted storage capacity of 3,795 ft$^3$. Simply put, not all storage areas can be filled to capacity simultaneously. The total number of containers in the CH Bay can never exceed the permitted capacity of 516 drum equivalents.

These statements also were added to footnote “b” of the proposed text changes to Table III.A.1 (modification a.2). The Permittees apparently want to include working areas in the storage volume, as Room 108 is depicted as a disassembly area for 7-packs (and no waste confirmation areas are identified).

The Permittees may be confusing storage space with waste management space. The EEG perception is that storage areas are to be clearly designated areas where waste containers are to be placed when not in use, out of the way of work and other activities, so that both the waste containers and the other activities will be free from possible dangers created by one another. Under this perception storage areas should be clearly delineated, and separated from work areas as a safety consideration--this appears to be the present arrangement of storage areas in the Waste Handling Bay.

It would seem that if the Permittees intend to use the entire volume of the additional rooms and storage areas for storage, then the proposed modification should be for an increase to the full 6,321.4 ft$^3$; if portions of these areas are to be used for other activities, then storage areas within them should be clearly delineated, and the storage volume should be limited to the volume of those areas.

**Proposed Text Modifications for Item 2**

EEG comments are numbered using the alphanumeric identifications in the submittal (e.g., “a.1.”, “a.2.”, etc). When multiple comments are made on the same change, sequential numbers are added to distinguish between them (i.e., “a.1-1.”, “a.1-2”, etc. for comments on the changes to “a.1”).

a.2-1. Table III.A.1 is altered in part by the addition of footnote “b”, one comment to which is which is addressed in the EEG’s Comment 2 to the introductory material for Item 2, and also applies to this proposed text modification.

a.2-2 Footnote “b” to Table III.A.1 also states in part that (p. A-85; text additions are denoted by both redline and italicization):

>The total number of containers in the CH Bay can never exceed the permitted capacity of 516 drum equivalents.
The EEG was unable to determine how the “516 drum equivalents” value was reached. Using the column in the proposed Table III.A.1 labeled “Container Equivalent”, the EEG came up with the following drum-equivalents for each storage area:

<table>
<thead>
<tr>
<th>Storage Area</th>
<th>Drum-equivalents</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRUDOCK Storage Area</td>
<td>56</td>
<td>(4 TRUPACTs of 14 drums each)</td>
</tr>
<tr>
<td>NE Storage Area</td>
<td>196</td>
<td>(7 pallets, 28 drums per pallet)</td>
</tr>
<tr>
<td>SE Storage Area</td>
<td>28</td>
<td>(1 pallet of 28 drums)</td>
</tr>
<tr>
<td>Derived Storage Area</td>
<td>~10</td>
<td>(estimate of 1 SWB equivalency)*</td>
</tr>
<tr>
<td>NW Storage Room (108)</td>
<td>540</td>
<td>(taken directly from the Table)</td>
</tr>
<tr>
<td>WC Storage Area</td>
<td>88</td>
<td>(taken directly from the Table)</td>
</tr>
<tr>
<td>Room 112</td>
<td>184</td>
<td>(taken directly from the Table)</td>
</tr>
</tbody>
</table>

*Based on internal SWB (2.14 m³) and 55-gallon drum (.216 m³) volumes.

Excluding Rooms 108 and 112 (which do not appear to be part of “the CH Bay” in the proposed Figure M1-15) the total is 378 drum-equivalents, considerably short of the 516 drums cited. Including either or both of the rooms exceeds the 516 drum value (adding Room 108 results in 918 drum-equivalents; including Room 112 results in 562 drum equivalents; including both gives 1102 drum-equivalents).

The NMED should request, and check, the DOE method for calculating the total number of container drum-equivalents allowed in the CH Bay, and if necessary amend Footnote “b”, or delete the statement, prior to incorporating this proposed modification into the HWFP.

Other portions of the HWFP indicate that waste storage boundaries are to be clearly marked. Section M1-1c(1), for example, states that the NE Storage Area “will be clearly marked to indicate the lateral limits of the storage area”. If rooms 108 and 112 are to be used for work activities as well as for storage, the HWFP should also require that the storage areas in these rooms be clearly defined.

Footnote “b” to Table III.A.1 also states in part that (p. A-85; text additions are denoted by both redline and italicization):

*The DOE currently has a Class 2 modification request submitted to NMED. Upon approval of this modification the permitted capacity stated in this request will change. This modification requests an increase of 25% over the permitted facility capacity at the time modification is approved.*

These sentences do not appear to be either appropriate or necessary addition to the HWFP. The Class 2 modification request—apparently the 05/01/01 TDOP volume increase request—has been rejected by the NMED (August 30, 2001 Lewis-to-Triay-and-Lee letter). However, even if the modification had been approved this information would still be an inappropriate and unnecessary addition to the HWFP.
c.1. Section D-1b(1), Container Inspection, is altered as follows (p. A-86 A-85; text additions are denoted by both redline and italicization):

The waste containers will be visually inspected to ensure that the waste containers are in good condition and that there are no signs that a release has occurred. This visual inspection shall not include the center drum of 7-packs and waste containers positioned such that visual observation is precluded due to the arrangement of waste assemblies on the facility or containment pallets.

Note that even with this modification the center drums of 7-packs are not required to be inspected. The centralized waste characterization will disassemble the 7-packs, and visual inspection requirements during this process should be added to the text, particularly for the center drum.

d.3-1 Section E-2b, Runoff (p. A-86), would be better for containing the following alteration, which modification d.3 does not supply, in order to bring it in line with the proposed modification to the referenced Permit Attachment M1 (see modification g.4, p. A-89; EEG's proposed alteration is in both redline and italics):

Calculations in Permit Attachment M1 demonstrate that one percent residual liquid in confirmed TRU mixed waste containers is easily contained by the WHB Unit floor.

d.3-2 Section E-2b, Runoff, is altered by the addition of statements on the calculation of liquid amounts that could be released from unconfirmed waste containers. The calculations are based on "...ten percent of ten percent of the volume of all containers, or ten percent of the capacity of the largest single container, whichever is greater", but the reason for choosing this basis are not given.

For retrievably stored drums, several sites have noted that the drums were partially submerged during storage, or were rained on, and have taken water in though filter vents. Since there is evidence that unconfirmed containers may contain greater than 1% liquids, the basis for establishing the bounding amount should be included in the discussion of possible runoff.

f.1. Section G.1, Traffic Information and Traffic Patterns, is altered to include information about containment pallets. The section requires that "Waste Containers will be secured to the facility pallet prior to transfer"; however, no similar requirement is added for containment pallets.

It may be that containment pallets are constructed such that securing the containers to them is not necessary. However, there are no descriptions or diagrams of containment pallets included in this modification submittal, nor are containment pallets described in
the current HWFP. It would appear that a diagram comparable to the one for facility pallets (Figure M1-10) should be added for containment pallets if the Item 2 modifications are incorporated into the HWFP.

g.1 Section M1-1a is altered by adding the same calculation basis for liquids in unconfirmed containers that is added at modification d.3. The same EEG comment applies—the basis for establishing the bounding amount should be included in the discussion, at least once, somewhere in the HWFP.

g.2 Section M1-1c(1) is altered by adding text that states that after receipt of waste and placement in a storage area, unconfirmed containers will be transferred from facility pallets to containment pallets. The area in which this transfer takes place is not specified.

Item 1 adds Attachment B7 to the HWFP, which contains a requirement that (proposed Section B7-5, p. A-61; text additions are denoted by both redline and italicization):

Waste that has not been confirmed will be stored on containment pallets in the Waste Handling Building container storage unit and segregated from waste that has been confirmed.

The only indication of segregation supplied elsewhere in the modification proposal is the type of pallet that they are on. Additional requirements should be added to the HWFP to ensure that unconfirmed containers remain segregated from confirmed containers after unloading, and are clearly marked as unconfirmed in some way. Section M1-1c(1) would seem an appropriate place to add these requirements.

Section M1-1e contains language similar to that in Section D-1b(1), that visual inspection of drums need not include the center drum of 7-packs (see comments to modification c.1 above). The centralized waste characterization will disassemble the 7-packs, and visual inspection requirements during this process should be added to the text.

Section M1-1f is altered by adding the same calculation basis for liquids in unconfirmed containers that is added at modification d.3, and at g.1. The same EEG comment applies—the basis for establishing the bounding amount should be included in the discussion, at least once, somewhere in the HWFP. is altered by addition of statements that establish containment of liquid for unconfirmed wastes as follows:

Section M1-1f(1), Secondary Confinement Requirements for the WHB unit, is modified in part by the addition of the following statement (p. A-90; text additions are denoted by both redline and italicization):

1 containment pallet @ 8 55-gal drums = 440 gal. waste capacity. 440 gal. x ten percent of total volume = 44 gal. of liquid x ten percent liquids
4.4 gal. of liquid for which secondary containment is needed for waste confirmation analysis.

This last statement is an error. The modification to Section M1-1f establishes that secondary containment volume is to be the calculation listed, "...or ten percent of the capacity of the largest container, whichever is greater." (p. A-89). The largest container would be a nominally 55-gallon drum, of which 10% would be nominally 5.5 gallons; 4.4 gallons would be at least a 20% undersized secondary containment.  

This modification submittal contains no descriptions of containment pallets or any material which lists the pallet containment capacity. The NMED’s comments on the Class 2 modification withdrawn September 29, 2000 states (Attachment to October 19, 2000 Bearzi-to-Triay-and-Epstein letter, Comment 11, p. 6):

...the term “containment pallets” is not specific enough since the Permit Modification Request does not provide containment pallet design information such as the dimension and depth of the pallets. In addition, since the containment pallet material of construction is not specified, waste-pallet compatibility cannot be assessed.

The Permittees should at least supply the calculation of the minimum liquid storage capacity for these pallets, to demonstrate that the pallets will supply the needed secondary containment.

g.8 The “Legend” for Figure M1-1 shows two symbols (actually, the same symbol twice, one in redline, one not) but only a single description. If the modified Figure M1-1 is included into the HWFP one of the symbols should be removed.

g.9 Figure M1-7, Waste Handling Building - Waste Storage Area, is modified to show that the entire area of rooms 108 and 112 will be used for storage. This modification submittal does not describe where waste certification activities are to take place, and the

Nominal 55-gallon drums actually contain slightly more than 57 gallons of capacity, in order to allow for expansion of the liquid contents for which the drums were originally designed. If this capacity is used then secondary containment volume would need to be at least 5.7 gallons. However, the calculation of secondary containment for confirmed waste in Section M1-1f(1) uses the capacity of a TDOP, which is described as “4550 liters”. The actual capacity of a TDOP is 4640 liters (based on the TRUPACT-II SARP values of internal dimensions of a 70.5-inch height and 71.5-inch diameter); the differences in the TDOP values are in the same 3-4% range as between the 55-gallon and 57-gallon values. It would appear that if the 57-gallon capacity is used for calculation for unconfirmed wastes then the calculations for confirmed wastes should be revised, also. Since other assumptions on the need for secondary storage capacity would seem to far outweigh this 3-4% difference it may not be necessary to make these changes.
modification to Table II.A.1 indicate non-storage usage of portions of these rooms, as well as the WC Storage Area, may be planned (see comment at modification c.2-1). The actual areas planned to be used for storage purposes should be accurately delineated in this Figure.

g.10 Figure M1-13.1, WIPP Facility Surface CH Transuranic Mixed Waste Confirmation Process Flow Diagram, indicates that an unconfirmed facility “Pallet Transferred to Confirmation Area”, after which “Containers Stored on Containment Pallets”. However, there is no “Confirmation Area” identified in this modification submittal. As noted in other EEG comments, the areas used for waste confirmation and the storage areas for unconfirmed waste should be clearly delineated.

Item 3 - Increase in Storage Time

35. The EEG believes that the proposed increase in allowed storage time from 60 days to one year is not an unreasonable request. However, the EEG notes that the EPA Region 6 letter of September 13, 2000, expressing support for the one-year storage time is not in Attachment B to the modification submittal, as stated in the “Discussion” section of the introductory material to Item 3 (p. A-92).

The “Discussion” section also cites the EEG comment in the attachment to the September 26, 2000 Silva-to-Zappe letter, and also states that this letter is in Attachment B. Again, the letter is not in Attachment B. The NMED should already have this letter in the WIPP docket; the comment is to modification b.5 of Item 1, on page 13 of the comments attachment. Since the “Discussion” section uses the EEG statement out of context, the full text of this comment is as follows (from p. 13 of the EEG SQS comments):

The Module II.A.1.e modification eliminates the requirement that TRU mixed waste containers cannot be stored in the WHB storage unit for more than 60 calendar days. As noted in a previous comment the Permittee’s argument for eliminating the requirement is nearly groundless. However, if waste characterization is to be allowed at the WIPP site a longer limitation on storage time should be in effect, so that waste characterization is not impeded, but at the same time warehousing of containers that fail to meet the WIPP Waste Acceptance Criteria is discouraged. The EEG suggests that one year, as originally proposed by DOE, would be a reasonable limit as an overall time-in-storage at the WIPP for hazardous wastes.

The NMED may wish to review the full text of the September 13, 2000 EPA Region 6 letter also.
36. The Permittees have provided no argument for an increase in storage time except those related to Item 1 of this modification submittal. Thus, if Item 1 is not approved, the basis for this Item 3 is not established. It should be noted that the WIPP has been operating for nearly two years now under the 60-day limitation, and the Permittees were able to meet the 60-day limit even with the WAGs waste that was stored at the WIPP during the weeks-long wait for EPA approval for disposal.

However, if Item 1 is approved, the EEG believes the proposed revised permit text for Item 3 could be accepted without further modification.

Item 4 - Prohibited Items

37. The introductory material to the entire modification request states in regard to prohibited materials (p.2; repeated on p. 3):

The revised Record of Decision (ROD) considered the possibility of prohibited items arriving at the WIPP facility. The probability is low since the identification of prohibited items is a major tenet of characterization (or transportation characterization).

The revised ROD addresses a proposed process for returning identified prohibited items to the generator site, but this modification submittal does not show that these plans have been implemented. The ROD does not provide evidence that the incidence of prohibited items will be low, nor that the “transportation characterization” program will be able to adequately locate prohibited items.

38. One of the prohibited items in the TSDF-WAC is “...hazardous wastes not occurring as co-contaminants with TRU wastes (non-mixed hazardous wastes)” (Module II.C.3.c). Thus, if containers which do not meet the requirements to be TRU waste are shipped to the WIPP, and also contain RCRA hazardous waste, then the container would be a prohibited item. The differentiation of containers between those that are TRU waste and those that are LLW by acceptable knowledge often leads to a relatively high rate of re-categorization when non-destructive assay is performed. In order for this modification submittal to be effective, non-destructive assay would be performed at the WIPP along with radiography, visual examination, and headspace gas sampling and analysis, rather than at the generator site. The possibility that non-mixed hazardous wastes will be received at the WIPP should have been considered, but Item 4 contains no consideration of this form of prohibited items.

It should be noted that Item 4 also does not appear to address the possibility that entire drums would need to be dealt with as prohibited items.

Item 4 - Introductory Material Comments

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39. The "Basis" section of the introductory material to Item 4 states (p. A-94):

All waste that will be subject to confirmation analysis at the WIPP must have been characterized using acceptable knowledge (AK) that shows there are no prohibited items in the wastes. The AK documentation will consist of detailed records containing characterization information that describes the waste (including the absence of prohibited items).

As noted in a previous EEG comment, it is unlikely that AK documentation for drums packaged in 1985 will state that the 1999 TSDF-WAC has been met. For retrievably stored wastes radiography or visual examination would be necessary to adequately document that the wastes did not contain prohibited items. As noted in EEG comments to Item 1, the current HWFP requires confirmation analysis as a part of the waste characterization process in part because of this reason.

There is no evidence provided that AK documentation will be as cited in this quotation. See Attachment 1 to these comments for evidence that it may not contain adequate, or accurate, information. As noted elsewhere in these comments, the NMED expected the Permittees to address the EEG comments found in Attachment 1.

40. The "Basis" section and the "Discussion" section, state the following (p. A-94):

In addition to HWFP requirements, before a generator/storage site can transport waste items in the TRUPACT-II to the WIPP, there must be information to show that there are no prohibited items in the waste shipment. This information must be assembled and evaluated under an NQA-1 compliant quality assurance program. [from the "Basis" section]

...The Safety Analysis Report for the TRUPACT-II Shipping Package (TRUPACT-II SARP) requires that characterization take place under an NQA-1 compliant quality assurance program prior to shipment to demonstrate that there are no prohibited items in the waste...[from the "Discussion" section]

These statements are in error. The TRUPACT-II Authorized Methods for Payload Control (TRAMPAC)\(^\text{17}\) which contains the SARP requirements for waste containers and their contents, states in the "QA Requirements for Payload Compliance" Section that (Section 7-1, p. 7-1):

\(^{17}\)The TRAMPAC was formerly Attachment 1.3.7 of the Safety Analysis Report for the TRUPACT-II Shipping Package; in Revision 19 (April, 2000) the TRAMPAC became a separate document referenced by the SARP, but it still retains the same function.
Certification of authorized contents for shipment in the TRUPACT-II shall be performed under a written QA program that provides confidence, for both the shipper and receiver, that the TRAMPAC requirements have been met.

Thus, there is no requirement in the SARP that either characterization or any other consideration related to prohibited items be in compliance with NQA-1. The only requirement for NQA-1 compliance is in 40 CFR 194, which does not regulate transportation of wastes or prohibited items.

It should be noted that the current CBFO Quality Assurance Program Description (QAPD) does state that “waste characterization activities” shall address the “additional requirements”, which is usually interpreted to cover the NQA-1 program (CAO-94-1012, Revision 3, Section 1.1.2.3, p. 1-6). The QAPD is currently under revision by the CBFO.

41. The “Discussion” section of Item 4 states of the TSDF-WAC list of prohibited items (p. A-94):

These items are prohibited mainly to comply with the requirements for transportation to the WIPP in the TRUPACT-II and some operational limitations at the site.

The EEG notes that the items in the TSDF-WAC are mostly hazardous materials, or are in a relationship to hazardous materials, that they should be regulated under the Hazardous Waste Facility Permit independently of transportation and WIPP-site operational considerations.

42. The “Discussion” section of Item 4 states (p. A-94):

In addition to the TRUPACT-II SARP requirements on prohibited items, the waste must be characterized using AK that has undergone a successful audit to ensure that there are no RCRA prohibited items present prior to shipment to the WIPP.

This statement is in error--auditing of AK will not ensure that there are no RCRA prohibited items in the waste. The auditing process is to provide a measure of assurance that the quality-affecting processes used will meet documented requirements for these processes. The processes that can help AK to ensure--but not absolutely ensure--that prohibited items will not be in waste shipments to the WIPP are primarily the radiography, visual examination and analysis of headspace gas samples processes that this modification proposal would eliminate from the pre-shipment waste characterization.

43. The “Discussion” section of Item 4 considers the question of whether the removal of prohibited items constitutes “treatment” of the waste, citing a “Los Alamos National
Laboratory Permit Modification, February 28, 1997", and quoting a letter from the EPA (p. A-95). The EEG’s comments on the Class 2 modification withdrawn September 29, 2000 questioned whether removal of prohibited items from waste containers might be considered treatment of the waste, as it is a method designed to change the composition of the waste so as to render the waste safer for disposal (Attachment to September 26, 2000 Silva-to-Zappe letter, comment 9, p. 10-11) Others may also have addressed the potential issue.

If the NMED considers the question of treatment to be an issue then the LANL modification and the full text of the EPA letter should be reviewed to determine their applicability to this potential issue. The portion of the EPA letter quoted refers only to “characteristic waste mixed by transporters”, which is not an area of concern for consideration of the WIPP as a treatment facility.
ATTACHMENT 1
Use of AK For Small Quantity Sites
(Cited in Footnote 8, Comments 13 and 30, and 36)

[The following is are the pertinent parts of comment 4 in the attachment to the September 26, 2000 Silva-to Zappe letter transmitting EEG’s comments on the Class 2 Proposed Modification withdrawn by the Permittees on September 29, 2000]

The EEG has strong concerns about the quality of AK information available at the generator sites from which the DOE has indicated uncertified wastes will be sent to the WIPP. In a presentation to the EEG on June 16, 2000 (immediately following a similar presentation to the NMED) a list of small quantity generator sites for which this modification is apparently being written included wastes from LLNL, ORNL, and NTS.\textsuperscript{18} According to the data presented on this list, about 90% of the waste to be characterized at the WIPP will be from these three sites. The following summarizes information the EEG has about AK data from these sites.

**NTS and LLNL:** Most of the TRU waste at NTS was originally generated at LLNL; during a series of audits in 1998 and 1999 the AK information at NTS was never able to receive CAO approval. The CAO audit report from the last of these audits (June 7-11, 1999) states for AK (Audit Report of the Nevada Test Site, Audit Number A-99-20, Section 5.3.7, p. 6):

The evaluation of the acceptable knowledge (AK) process included the review of the AK Summary Report and supporting documents. The results of the evaluation indicate that the AK documentation is missing information and that some of the provided information is incomplete. The summary report and supplemental information does not support documented conclusions (CAR 99-018 remains open). The audit team concluded that the written program for AK is adequate and that implementation of the AK process is unsatisfactory and ineffective.

CAO CAR 99-018, generated during a November 2-6, 1998 audit by the CAO, is still open; NTS recently asked, and received, an extension of the completion date (May 5, 2000 memorandum from CAO’s Vega to NTS’s Di Sanza, CAO:QA:SAV:00-0288:UFC 2300.00).\textsuperscript{19} A major part of the problem is that AK for NTS depends on the information

\textsuperscript{18}These three sites were grouped with Hanford, INEEL, LANL, SRS, and RFETS and considered as “major” sites during the planning and certification of the WIPP; see, for example, Revision 3 of the *Transuranic Waste Baseline Inventory Report* Volume 1, Figure 1-1 (p. 1-2).

\textsuperscript{19}Remediation activities for this CAR have since been completed, and the CAR resolution was reviewed and closed by the CBFO in May of 2001.
Acceptable knowledge (AK) was one of the areas cited as indeterminate by the auditors, and the complications that led to this evaluation may be repeated at other generator sites. The bulk of the NTS wastes came from LLNL, where research and development activities produced the waste. Each activity usually produced only small amounts of waste, and the wastes from 20 or more different glove boxes may be found in a single drum. Further, multiple waste streams may have been using the same glove box while these drums were filled, so that describing all the waste stream processes that contributed to each drum is a major undertaking. The AK document (Acceptable Knowledge Document for NTS Stored Transuranic Waste—LLNL Waste, May 8, 1998) indicates many other potential problems; the waste was initially placed in plastic bags, with a paper bag as a liner, so the waste cannot be visually identified until removed from the innermost containment; the percent of combustible wastes was determined in part by “...the sound of the waste when compacted” (p. 3-10); item description codes (IDCs) in databases are not the same as those found on the shipping papers to NTS; time of waste generation is not documented for 20 waste containers; LLNL’s Building 251 wastes may contain any mix of Am-241, Np-237, Cu-244, Cu-248, Ca-249, Ca-250, Ca-252, and “...isotopes of thorium, palladium, uranium plutonium, berkelium, and einsteinium...”; Building 232 wastes may contain any combination of 16 radionuclides plus weapons-grade, fuel-grade, mixed-grade, and americium-enriched plutonium materials. In brief, it appears that AK for these wastes will be difficult to reconcile with the requirements of the WIPP program, many of which have been included almost verbatim in the draft RCRA permit.

This information is supported by the NTS AK document cited in the above quote (document number L-E10.334.HWC, Revision 1), which states (pp. 3-14 and 3-15):

The TRU waste inventory was generated from numerous processes at LLNL and LBL, which are described in detail in Sections 4.0 through 7.0. However these processes generated parcels of waste that were not segregated into separate drums. That is, multiple processes may have contributed to a single drum. Furthermore, at the time of generation, no information was recorded about the contents of the parcel or from which process it was generated. The only available information is the building in which the drum originated, and sometimes the room number. Therefore a given drum cannot be traced back to a specific process or processes. For this reason, waste streams identified by acceptable knowledge are based on the generation building and matrix parameter category.
The mobile vendor effort at NTS performed chemical and physical analysis on many of the NTS waste containers, and the data from these analyses are now a part of the acceptable knowledge. However, without better knowledge of the origins of the waste, it would seem necessary to perform testing of each container of waste--cans within the drums included--in order to meet the requirements of 40 CFR 262.11 and §264.13.

These statements would also seem to apply to LLNL wastes, to which the same problems would seem to apply. An additional problem at LLNL is that some of the more recent data that will likely become part of the AK package is suspect. A February 17-18, 1999 CAO surveillance of RTR performed at LLNL discovered that RTR forms were changed by the RTR operator after data packages had been finalized by the supervisor/QA officer; that non-conformance reports (NCRs) on containers had been issued, but there was no NCR process or procedure for ensuring followup; that two nonconforming waste drums were discovered for which no follow-up process was instituted; that the subcontractor performing the work had no QA program, and that LLNL “constantly falls outside” their QA program. With the apparent concurrence of LLNL, the surveillance team leader abbreviated the surveillance, and no formal surveillance report was written (February 23, 1999 EEG Walker-to-Neill memorandum). The EEG believes that such data generated by such processes should not be considered reliable enough to be “acceptable” knowledge.

**ORNL:** Published reports on ORNL wastes indicate that AK data collected since TRU waste began to be stored in 1970 is simply unreliable--and that this unreliability is still in existence today. A 1983 report, *Characteristics of Transuranic Waste at Department of Energy Sites* (RFP-3357) notes that for TRU wastes (p. 38-39):

> At Hanford, ORNL, and SRP, the records usually distinguish only between combustible and noncombustible, and these data are known to questionable. By going to the production facilities, an approximation of the physical characteristics was obtained for the current waste streams...Even on those sites that kept extensive records, examination of some of the drums indicates that the records do not always match the contents.

ORNL/TM-11050, *Remote-handled Transuranic Solid Waste Characterization Study: Oak Ridge National Laboratory* (1989) may have been the first attempt at establishing non-radioactive hazardous constituents in ORNL TRU waste (the three RCRA categories of lead, mercury, and “oil” were reported in the study). This report states that (p. 9):

> Because of the high quantity of waste containers and lack of waste documentation, determination of the specific contents of each waste container was difficult.
The report also notes that records often differ on the origins of waste (p. 13), and describes many assumptions used to determine the contents of containers (see p. 10, 15, 16, 17).

The 1995 *Feasibility Study for Processing ORNL Transuranic Waste in Existing and Modified Facilities, Management Summary* (ORNL/M-4693) performed by Parallax, Inc. for Lockheed Martin Energy Systems, states that (p. 17):

TRU waste streams at ORNL are not as yet fully characterized. Moreover, there are uncertainties in the characterization data available for TRU waste sludge...Chemical data on tank contents are not completely known. To a lesser extent, uncertainties also exist in available characterization data on TRU solid wastes. Generally data are available on the physical and radiological content of remotely and contact-handled TRU waste solids, but there are numerical disparities within this documentation.\(^\text{20}\)

The quality of records that would be used to establish AK at ORNL continues to be suspect. The DOE Inspector General’s office recently (June 2000) released an audit report, *Waste Characterization at Oak Ridge* (ER-B-00-03), which states (p. 2):

Bechtel Jacobs and its predecessor contractors at Oak Ridge did not accurately characterize the Department’s waste. Specifically, the contractors misstated the weight, volume, and physical description of the waste in inventory. These conditions occurred because the Department and its contractors did not develop procedures for determining accurate weights, volumes, and physical descriptions of containerized wastes.

As a specific example, the DOE IG audit report notes (p. 6):

In FY, 1999, Bechtel Jacobs visually inspected the waste in 1,180 containers and determined that the physical descriptions of the waste were inaccurate for 452 of the containers. For example, a waste population of 75 containers was reported to contain carbon. However visual inspections revealed that only 1 container held carbon and the remaining 74 containers held trash and personal protective equipment.

\(^{20}\)The same material is quoted in EEG-61, *Review of the WIPP Draft Application to Show Compliance With EPA Transuranic Waste Disposal Standards*, pp. 4-5 and 4-6. The ORNL report concludes with the statement that the DOE “...should also reexamine the criteria to determine if the legislation or regulations should be changed to clarify the acceptance criteria and to reduce the analytical requirements associated with waste characterization.”
If physical descriptions of the waste are no more accurate than this it is would seem imprudent to accept chemical descriptions from the same records. Determination of hazardous waste codes, development of shipping descriptions for the waste, assignment of waste stream descriptions by Waste Matrix Codes, and determination of the absence of prohibited items and waste compatibility based on AK can should only be allowed when the AK can be shown to supply an accurate, detailed physical and chemical analysis of the waste. For 90% of the wastes the Permittees have said are planned to be processed under this Modification Request there is ample evidence that AK may be neither accurate nor detailed.
ATTACHMENT 2

Radiography/VE and Headspace Gas as Components of AK
(Cited in Comments 4, 12, 21, 31, and Item 1, k.1-8)

The intent of this modification appears to be to alter the HWFP so that the process of testing the wastes through radiography, visual examination, and headspace gas sampling and analysis can be performed at the WIPP rather than at the sites where the wastes are currently stored or are being generated. However, unless the waste storage/generator site has already performed sampling and analysis or testing of the waste containers, it is not clear that the alterations provided by this modification will attain this desired goal.

The changes proposed in Item 1 separate the term “waste characterization” into two components, one of which is to be performed prior to shipment of wastes to the WIPP (in order to meet waste storage criteria). This component, which is to retain the term “waste characterization”, is defined as follows as a part of the proposed HWFP text changes (p. A-8):

“Waste Characterization” is defined as the process for obtaining the documentation/data that depicts characteristics of the waste required by 20.4.1.300 and 20.4.1.500 NMAC (incorporating 40 CFR § 262.11 and §264.13(a)). This documentation/data may be obtained by the use of acceptable knowledge (AK), sampling and analysis, testing or a combination of any.

Thus collection of AK, unspecified sampling and analysis, unspecified testing, or a combination of these would be necessary prior to shipment of the waste. For AK, Attachment B4-1 of the current HWFP states:

Acceptable knowledge includes a number of techniques used to characterize transuranic (TRU) mixed waste, such as process knowledge, records of analysis acquired prior to RCRA, and other supplemental sampling and analysis data (EPA, 1994). Radiography and/or visual examination, headspace gas sampling and analysis, and homogeneous waste sampling and analysis (specified in Permit Attachment B1) are used to acquire supplemental sampling and analysis data to meet the requirements of the Waste Analysis Plan (WAP) specified in Permit Attachment B.

Note that radiography/visual examination and headspace gas analysis are specifically cited as supplemental data that is a part of the acceptable knowledge. It therefore appears that either supplemental data for the AK, consisting in part of radiography/visual examination and headspace gas analysis, or other unspecified sampling and analysis and/or testing, would still be necessary as a part of the re-defined “waste characterization” effort that would take place prior to shipment of the waste to the WIPP.

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The proposed modification does change the quoted portion of Attachment B4-1 (modification i.1, p. A-31), but only to add a phrase ("...and to confirm acceptable knowledge...") which does not alter the requirement. Essentially the same statement is repeated in a proposed new Section B7-1, where it is undergoes further modification that still retains the requirement (p. A-47):

Acceptable knowledge includes a number of techniques used to characterize TRU mixed waste, such as process knowledge, records of analysis acquired prior to RCRA, and other supplemental sampling and analysis data. Radiography and/or visual examination and headspace gas sampling and analysis (specified in Permit Attachment B1) are used to acquire supplemental sampling and analysis data and to confirm acceptable knowledge to meet the requirements of the Waste Analysis Plan (WAP) specified in Permit Attachment B.

Another portion of the current HWFP also clearly lists headspace gas and radiography as a part of acceptable knowledge. Section B-3 states:

The characterization techniques used by generator/storage sites includes acceptable knowledge, which incorporates confirmation by headspace-gas sampling and analysis, radiography, and homogeneous waste sampling and analysis.

This modification does propose alteration of this statement (see EEG comments to Item 1, f.2), but the current intent remains clear. In at least two places the original HWFP clearly specifies that the supplemental sampling and analysis data for AK will include both radiography/visual examination and headspace gas sampling and analysis, and this requirement is not altered by the proposed modification. Even with this proposed modification AK activities are to be completed prior to shipment. Thus, even if this proposed modification is enacted, the goal of performing radiography/visual examination and headspace gas analysis at the WIPP would not be attained.