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February 1, 2002

Mr. James Bearzi
Director, Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Bldg.1
Santa Fe, New Mexico 87505-6303

Reference: Initial Review of the Response to Request for Supplemental Information: Technical Adequacy Review, RCRA Permit Application Waste Analysis Plan. Los Alamos National Laboratory (Comments 37-69) and Additional Comments on the LANL WAP, Revision 1.1

Dear Mr. Bearzi:

Enclosed please find our preliminary review comments on the Response to Request for Supplemental Information: Technical Adequacy Review, RCRA Permit Application Waste Analysis Plan, Los Alamos National Laboratory (Comments 37-69) and Additional Comments on the LANL WAP, Revision 1.1. Assessment of LANL's responses to NMED's comments is presented first, followed by additional commentary.

LANL proposes the use of Acceptable Knowledge (AK) to characterize all waste addressed in the permit, both mixed and non-mixed, with sampling and analysis generally performed only where AK is inadequate. The use of acceptable knowledge is endorsed to some extent by EPA and NRC in 1997 guidance for low-level mixed waste, and Acceptable Knowledge is a key characterization of the WIPP Waste Analysis Program. However, EPA favors sampling and analysis over Acceptable Knowledge for non-mixed hazardous waste (EPA, 1994). The Permit could follow one of three approaches with respect to waste characterization using Acceptable Knowledge:

- Use Acceptable Knowledge as the basic characterization methodology for all waste (mixed and non-mixed), with sampling and analysis performed when AK is insufficient (sampling and analysis would also be performed on a very limited basis to confirm AK). This would require explicit and detailed criteria for AK adequacy, and preparation of Sampling and Analysis plans when AK is insufficient.

- Require sampling and analysis of all waste, mixed and non-mixed, with Acceptable Knowledge allowed where it is a demonstrated necessity based on ALARA and other concerns. This would require preparation of Sampling and Analysis Plans (or explicit information regarding these plans) for inclusion in the Permit, as well as AK acceptance

32405

criteria and a strategy for when thorough sampling and analysis cannot be performed, but AK is also insufficient.

- Allow the use of Acceptable Knowledge for characterization of mixed waste, but require the explicit provision of AK adequacy criteria. If AK is inadequate, mixed waste would have to be sampled and analyzed and a Sampling and Analysis Plan would have to be submitted. Sampling and Analysis would be required for non-mixed waste, unless a demonstrated need for or justified use of AK is provided. AK acceptance criteria and Sampling and Analysis Plans (or explicit information regarding these plans) would be required.

The latter of the three options appears to follow EPA's suggested guidance, but is the more complex approach. TechLaw's comments to not specifically endorse an approach, so revision of our comments to emphasize a specific pathway could be warranted.

Also, the LANL permit application does not include much of the information required of WAPs, with the explanation being that sampling and analysis performed would be so complex and site specific that inclusion of detailed information would either be impossible or would result in a voluminous WAP that is difficult to implement. LANL also believes that a "detailed" WAP would unnecessarily constrain the Permittee, who may have to use various sampling protocols, etc., under a variety of circumstances. TechLaw has provided several comments identifying information that must be included in the WAP, but we also recognize that it would probably be impossible to anticipate every sampling and analysis circumstance and include these in the WAP. One approach would be to allow LANL to develop Sampling and Analysis Plans for each situation requiring one, with either provision of the Plan to NMED for approval or placement of the Plan in the Operating Record for review during enforcement inspections. NMED should consider whether this is a viable option under current State policy. Note that it is also our understanding that the General WAP, Revision 1.1 is the only WAP that will be in place, and there will be no Technical Area-specific WAPs.

Also note that TechLaw's evaluation of LANL's responses to NMED Original Comments 46, 50, 51, 57, and 66 made certain assumptions regarding the motivation for NMED's original comment. Please review these responses specifically to ensure that our interpretation of the comment motivation is adequate and consistent with NMED's original intent.

Please feel free to contact Connie Walker or me with any questions. We can be reached at 303-763-7188.

Sincerely

June K Dreith

June Dreith
Program Manager

Cc: Ms. Connie Walker, TechLaw
Mr. Carl Will, NMED
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ADEQUACY OF RESPONSE TO COMMENTS
AND ADDITIONAL COMMENTS
RCRA PART B PERMIT APPLICATION NOVEMBER 2001

ADEQUACY OF RESPONSE TO COMMENTS

1. Original NMED Comment 37. NMED requested a description or provision of procedures for complying with special procedural requirements for: receipt of off-site waste; shipment of waste off-site handling ignitable, reactive and incompatible waste; and determining compliance with Subpart AA, BB, and CC standards. The Permittee chose to respond by providing the following procedures:

    - DOP-FMU64-025, R.3, "MLW, Chemical and Hazardous Waste: Receipt and Storage at FMU-64"
    - DOP-FMU64-022 R.1 "Preparing Off-site Shipments from FMU-64"
    - LIG 404-00-03.1 "Hazardous and Mixed Waste Requirements".

Laboratory Implementation Guidance (LIG) for ensuring compliance with LDR was in development, and the Permittee indicated that it would be available in early 2002. The Permittee requested that provided procedures not be included as part of the Permit because they are often subject to frequent revision, may potentially contain additional procedures that are not RCRA regulated, and provide a level of detail not relevant to the "higher level compliance criteria" of a permit.

Evaluation of Response to Comment 37. The Permittee's response to NMED's comment is inadequate. DOP-22 and 25 are specific to FMU-64, and the Permittee did not provide a procedure or LIG addressing the management and handling of ignitable, reactive, and corrosive/incompatible wastes. Clarify whether waste receipt and storage is restricted to FMU-64, and provide a procedure or LIG dealing the management and handling of ignitable, reactive, and corrosive/incompatible wastes. Also provide the LDR LIG mentioned in the response to comments. NMED agrees that many aspects of procedures and LDRs are often too specific for inclusion in the permit, but NMED also expects the Permittee to provide applicable summaries that deal with general requirements pertaining to these issues. If the Permit Renewal Request (PRR) is not revised by the Permittee to include this information, NMED will examine the attached procedures and amend the PRR, as appropriate, to include the requisite information.

2. Original NMED Comment 38. NMED requested a summary of relevant portions of or the existing equivalent of procedures dealing with general waste management requirements, hazardous and mixed waste requirements, and acceptable knowledge guidance. The Permittee responded by providing the following:

- LIG 404-00-02.3 "General Waste Management Requirements"
- LIG 404-00-03.1 "Hazardous and Mixed Waste Requirements" and
- LIG 404-00-02.0 "Acceptable Knowledge Guidance".

The Permittee also indicated that these procedures were provided for informational purposes only and should not be included in the Permit.

Evaluation of Response to Comment 38. The Permittee's response to the comment is partially adequate as it addressed the comment requirement by providing the requested procedures. However, NMED requested these procedures with the expectation that they would provide relevant information for inclusion, in summary form, in the PRR. The referenced procedures do not always contain sufficient information from which to obtain a synopsis for inclusion of relevant information in the permit. The above procedures were requested in the hope that they would contain the following information, including but not limited to:

- Sampling and analysis information, including sampling methodologies and analytical parameters
- Explicit guidance on RCRA hazardous waste identification referencing appropriate regulations
- Any differences between characterization of stored and waste that is currently being generated

Provide additional references, procedures, or other documents containing this information, and provide a synopsis of contained information. These may include but not be limited to tables presenting the sampling protocols that may be used at each of the Technical Areas (TAs), waste analysis parameters specific to each TA, and any special waste handling considerations.

Section 3.1 includes somewhat general waste analysis information, relying primarily on acceptable knowledge for waste characterization, but does not specify the decision criteria under which sampling and analysis would be performed. This criteria should be included in the Permit Renewal Request (Procedure LIG 404-00-02.0 does not include or reference this information). Refer to Comment 3, Original NMED Comment 39, below.

3. Original NMED Comment 39. NMED requested a summary of relevant portions of or the existing equivalent of procedure DOP-FMU64-026 dealing with verification procedures at waste storage locations other than TA-54. The Permittee responded by stating that LIG 404-00-02.3 and LIG 404-00-02.0 both contain information pertinent to waste verification.

Evaluation of Response to Comment 39. The Permittee's response to NMED's comment is inadequate. The intent of NMED's question was to obtain procedures

that dictate how and when waste verification takes place when AK is insufficient, and the specific activities, sampling protocols, etc. associated with verification sampling. (Note that there are two issues: sampling/analysis performed when AK is insufficient, and sampling/analysis performed when AK is sufficient and is performed to simply verify AK information). LIG 404-00-02.3 states that waste verification (i.e. sampling/characterization) is to be determined by facility-specific waste acceptance criteria. LIG 404-00-02.0 states the TSDF and/or ESH-19 should be contacted for a case-by-case determination of AK acceptability based on the WAC and permit, but does not specify these criteria, nor does it include or reference sampling methodologies to be employed if AK is unacceptable.

Provide the specific procedures or other documents that identify how and when sampling is performed in lieu of AK, including criteria used by the TSDF and/or ESH-19 to determine when acceptable knowledge is sufficient. Provide those procedures or other documents that specify the type of samples that would be collected (i.e. sampling device, frequency, sample selection, etc). The type of information provided should be sufficient to address AK acceptance criteria and sampling/analysis for all units being permitted. Additionally, provide procedures dealing with verification of AK (which, presumably, are separate from procedures that detail sampling and analysis performed if AK is insufficient), including sample methods, selection of analytical suites, and all other pertinent information. The intent of this request is to acquire sufficient information to establish permit conditions for:

1) establishing adequacy of acceptable knowledge as a stand along characterization methodology;
2) determination of criteria when AK in combination with sampling and analysis should be performed;
3) situations where AK cannot be used and sampling alone must be performed;
4) sampling and analysis requirements for AK verification; and
5) general sampling and analysis requirements and criteria for all of the above.

It is understood that all of these elements could be highly variable based upon unit-specific considerations and the permit is not intended to constrain individual sites/units from performing unique and appropriate characterization specific to their wastes. That being said, the permit must establish general but enforceable criteria by which characterization pathways are established to ensure that sampling is performed when necessary.

4. Original NMED Comment 40. NMED requested provision of a narrative description of training to use Waste Profile Forms. The Permittee did not provide the narrative, but instead included course documentation for the course entitled "Waste Documentation Forms" (WDF) (Course 8504). The Permittee also indicated that this was for informational purposes, implying that none of the information should be included in the Permit.

Evaluation of Response to Comment 40. The Permittee's response to NMED's Comment 40 is inadequate. NMED's intent was to allow the Permittee to develop language for inclusion in the permit, which dealt with WPF training: this allowance gives the Permittee the opportunity to develop sufficient commitment to the training program without being overtly constraining. Instead, the Permittee provided a detailed procedure to demonstrate that said training occurs, but no language demonstrating continued commitment for WPF training, nor general commitment as to the content and nature of this training. Revise the PRR to include the requested narrative description, or NMED will be compelled to draw such a narrative from the provided procedure.

5. Original NMED Comment 41. NMED requested a narrative description of procedures for characterization of remediation and investigation-derived waste. The Permittee responded with a general narrative in which they committed to include a new Section B.3.4 "Remediation and Investigation-Derived Waste Characterization" in the WAP, and to include a new reference in the permit to the "Installation Work Plan for Environmental Restoration Projects Revision 7".

   Evaluation of Response to Comment 41. The Permittee's response to NMED's comment is partially adequate. The response lacks details, but does commit to charactrerization of investigation-derived wastes following approved plans and procedures. However, the Installation Work Plan for Environment Restoration Projects, Revision 7 should have been provided to aid NMED's comment review process. Provide this document.

6. Original NMED Comment 42. The NMED requested that the statement inferring that the permit "presents information" be replaced with "establishes requirements". The Permittee responded by stating that they would change the subject phrase by adding "describes sampling and characterization procedures for" after presents information. The Permittee state that this edit is aPRRopriate because the permit application contains information as well as requirements.

   Evaluation of Response to Comment 42. The Permittee's response to NMED's comment is inadequate. -Permits are enforceable documents containing requirements that the Permittee must follow; they are NOT guidance documents that include only information. Granted, EPA guidance does suggest the inclusion of some information, but this is provided so that personnel using the Permit will have some background information supporting the enforceable requirements within the Permit. Revise the Permit Renewal Application, Line 1 to state "This Waste Analysis Plan (WAP) presents information and establishes requirements on the chemical....."

7. Original NMED Comment 43. NMED requested that the statement that waste characterization information "may be used for information supporting treatment" be clarified, or that the subject language be removed. The Permittee suggested modification of the Permit language to read " The waste analysis information contained in this WAP....may be used to support treatment....".

Evaluation of Response to Comment 43. The Permittee's response to NMED's comment cannot be assessed. It is unclear why the Permittee suggested the proposed change, as the PRR is unspecific as to what information the WAP-acquired chemical and physical data will provide to determine appropriate treatment(s). Clarify why the phrase "The waste analysis information contained in this WAP... *will be used to determine* treatment...." is suggested. Is information outside of the WAP also used to make this determination? If so, why is this information not included in the WAP?

8. Original NMED Comment 44. NMED requested that direct reference to Attachment B-1 be included in a specific paragraph, but the Permittee believed this to be unnecessary because the subject paragraph directed the reader to a Section in the PRR which subsequently referred the reader to Attachment B-1.

   Evaluation of Response to Comment 44. The Permittee's response to NMED's comment is inadequate. It is a minor edit to add reference to Attachment B-1 to this discussion, although it is still technically correct to guide the reader to another section where the necessary reference is made.

9. Original NMED Comment 45. NMED requested inclusion of the word "physical" in the sentence "Hazardous waste streams may be of uniform *physical* composition (i.e. homogenous)...". The Permittee agreed to include this revision in the final Permit Renewal Application.

   Evaluation of Response to Comment 45. The Permittee's response to NMED's comment is adequate.

10. Original NMED Comment 46. NMED requested deletion of the word "homogenous" from the phrase "This *homogenous* waste stream consists of liquid spent solvents ..." The Permittee stated that the distinction was necessary because characterization methodologies differ by physical waste stream descriptions, and proposed no language change.

    Evaluation of Response to Comment 46. It is unclear why the original edit was requested by NMED, unless it was to clarify the use of the terms heterogenous and homogenous. See New Comment 37.

11. Original NMED Comment 47. NMED requested inclusion of the word physical in the following statement "Homogenous mixed low-level solid waste is of uniform *physical* composition". The Permittee agreed to include this revision in the final Permit Renewal Application. (Note that the actual location of the revision is line 32 of page B-6).

    Evaluation of Response to Comment 47. The Permittee's response to NMED's comment is adequate.

12. Original NMED Comment 48. NMED asked the Permittee to revise a sentence to include acceptable knowledge: "A detailed chemical and physical analysis [by] *process knowledge* will be performed on all...". The Permittee stated that the original language includes process knowledge, and declined to revise the Permit Application to include the requested language.

    Evaluation of Response to Comment 48. The Permittee did not agree to amend the Permit Renewal Application to include the requested language. However, the language, as currently presented, does cover the spectrum of potential information sources for the detailed chemical and physical characterization that must be obtained, so the proposed language modification does not appear to be necessary.

13. Original NMED Comment 49: NMED requested that a sentence be modified as follows: "These waste parameters will be selected to ensure that the characterization will provide all of the necessary information to properly ~~treat~~ *manage* the waste in accordance....". The Permittee agreed to make the suggested change.

    Evaluation of Response to Comment 49. The Permittee's response to NMED's comment is adequate.

14. Original NMED Comment 50. The NMED suggested the following changes to Section B.2.1:

    - ~~RCRA-regulated metals~~ *RCRA-regulated inorganic compounds*
    - ~~RCRA-regulated volatile organic compounds (VOC)~~ *RCRA-regulated organic compounds*
    - ~~RCRA-regulated semivolatile organic compounds (SVOC)~~
    - *Reactivity*

    The Permittee responded by stating that they would make none of the requested changes (save for the addition of reactivity) because the existing approved permit apparently relevant to TAs 50 and 54 includes the original language, and was specifically included to limit the necessary characterization (see Table A.2-3) and to make analyses consistent to that required for the WIPP.

    Evaluation of Response to Comment 50. The Permittee's response to NMED's Comment is inadequate. NMED requested the revision to ensure that analysis included the spectrum of wastes that could be present. It is possible that those using the LANL WAP might interpret the limited listing to exclude analysis that could be required. Revise the PRR to include NMED's edit, or to explicitly state that the "Additional Data" bullet would allow/require any and all sampling and analysis necessary to determine the hazardous nature of the subject waste. Note that it is not appropriate to argue that the listing should be limited to "match" characterization requirements for WIPP; this permit addresses all non mixed, LL, and HE waste and should not be restricted to match characterization required of TRU and TRU-Mixed Waste.

15. Original NMED Comment 51. The NMED recommended the addition of the following bullets under parameters that will be analyzed for:

- RCRA characteristic waste
- Radionuclides (including alpha, beta, and gamma spectroscopy and individual radionuclides

The Permittee responded by stating that the addition of a characteristic waste bullet was unnecessary with the addition of "reactivity" (see Comment 50). The Permittee also declined the addition of radionuclides to the listing because they believe that radionuclides are not hazardous parameters and are thus not regulated under RCRA

Evaluation of Response to Comment 51. The Permittee's response to NMED's comment is partially adequate. The addition of reactivity to the listing that includes flash point and pH characterization will cover elements of characteristic wastes (i.e. reactivity, corrosivity, ignitabilty), but it is probably more technically correct to include a single bullet "RCRA characteristic waste" than the three bullets currently in place (assuming reactivity is added). With respect to radionuclides, NMED requested this information, because the characterization processes for LL and TRU Waste are different, as specified in the permit. Without this information, it would be difficult to assess whether the proper characterization approach is being performed. Revise the PRR to include the requested radionuclide information.

16. Original NMED Comment 52. NMED asked that language be inserted to Section B.3.1, paragraph 1, addressing the need for sampling and analysis for reactivity of heterogenous waste potentially containing Highly Explosive Constituents (HE). The Permittee responded by stating that Section B.3.3 should be edited, not B.3.1, as follows:

- If *heterogenous* ~~the~~ waste contains visible HE, it is considered reactive.... and
- If *heterogenous* ~~the~~ waste came into direct contact with HE and all of the surfaces cannot be tested (e.g. debris or equipment), it is assumed that there is a reactive amount of HE associated with it.

Evaluation of Response to Comment 52: The Permittee's response to NMED's comment is inadequate because the proposed changes raise questions. The proposed modification has the effect of disallowing automatic consideration of homogenous waste as reactive based on the presence of visible HE or process knowledge. However, the fourth bullet on page B-38 appears to contradict Table B-17 with respect to how homogenous solids will be characterized with respect to HE. The fourth bullet states :

"HE concentrations *may* [emphasis added] be directly measured in homogenous materials (e.g. soil or water). This is usually done by High Performance Liquid Chromatography, SW-846 Method 8330. Parameters such as the concentration of HE, its sensitivity, and the media in which it occurs are used to determine whether the waste is likely to be reactive or not."

This statement implies that acceptable knowledge may be used to characterize homogenous waste in lieu of sampling and analysis. However, Table B-17 implies that acceptable knowledge will be used to characterize heterogenous waste only. The proposed changes appear to indicate that acceptable knowledge shall be used to characterize heterogenous waste, while sampling and analysis will be used to characterize homogenous waste, but this is very unclear from the proposed language changes. The Permittee should clarify the specific characterization processes with respect to heterogenous and homogenous waste contaminated with HE. It should be noted that the use of acceptable knowledge to characterize debris, as proposed in the Permit Application Renewal, is probably appropriate assuming adequate AK is available for these wastes.

17. Original NMED Comment 53. NMED asked that the following edit be made to page B-20:

"The characterization of hazardous, mixed low-level, mixed TRU, HE, and HE-contaminated waste is conducted by the waste generator before the waste is treated or stored *or shipped off-site*."

The Permittee responded by stating that inclusion of the requested phrase "may limit" future options. The Permittee proposed to edit the above by stating "The characterization of hazardous, mixed low-level, mixed TRU, HE, and HE-contaminated waste is conducted by the waste generator before the waste is *treated, stored, or disposed*".

Evaluation of Response to Comment 53: The Permittee's response to NMED's comment requires clarification. The Permittee implies that there will be options whereby waste generated at the site, but not treated/stored/or disposed of at LANL, could undergo limited – or no - characterization prior to off-site shipment, and that aPRRopriate characterization would be performed by the offsite entity. The Permittee must specifically clarify what "limitations" they are referring to before a determination of response aPRRopriateness can be made.

18. Original NMED Comment 54. NMED requested the following edits to Section B.3.1.2:

"Analytical methods for the determination of RCRA-regulated ~~metals, VOCs, and SVOCs~~ *organic and inorganic compounds* are conducted to meet with certain technical performance criteria and to be consistent with regulatory guidelines".

The Permittee responded by stating that they would make none of the requested changes (save for the addition of reactivity) because the existing approved permit apparently relevant to TAs 50 and 54 includes the original language, and was specifically included to limit the necessary characterization (see Table A.2-3) and to make analyses consistent to that required for the WIPP.

Evaluation of Response to Comment 54...See response to NMED Original Comment 50 (new Comment 14).

19. Original NMED Comment 55. NMED asked that the statement on page B-24 "consistent with Test Methods for Evaluating Solid Waste. Physical/Chemical Methods (SW-846) or other approved methods (EPA, 1986)" be replaced with: "and in accordance with the most recent version of Test Methods for Evaluating Solid waste Physical/Chemical Methods (SW-846) or other approved methods (EPA)". The Permittee agreed to this modification.

    Evaluation of Response to Comment 55: The Permittee's response to NMED's comment is adequate.

20. Original NMED Comment 56. NMED asked the Permittee to include a more detailed explanation of criteria used to determine when acceptable knowledge is sufficient and when sampling and analysis is required. The Permittee responded by stating that LIG 404-00-20.0, "Acceptable Knowledge Guidance" provides guidance for AK methods. including assistance in the appropriate use and procedures for AK. and present examples when AK is sufficient for waste characterization. The Permittee stated that if none of the criteria in the LIG can be met, sampling and analysis or a combination of AK and sampling and analysis by approved methods is required. However, the Permittee does not want any of the referenced LIG to be included in the Permit. The Permittee also states that the LIG does not limit AK to the examples provided, and the document is intended to provide a "general interpretation" of the relevant standards of AK and does not address all conceivable situations. Generator knowledge of the specific waste stream in conjunction with review and verification by the LANL organizations listed in the LIG will be used in "unique" situations. The Permittee doesn't want to be "limited" and therefore recommend no changes to the WAP to address this comment.

21. Evaluation of Response to Comment 56: The Permittee's response to NMED's comment is inadequate because the process used to determine AK adequacy must be thorough, complete, and consistently presented and applied within the Permit. The Permittee may have an AK process, but unless the process is included in the Permit application, NMED has no assurance that the procedures will continue to be implemented and used. The Permittee could change elements of the AK process considered critical by NMED without NMED approval through permit modification. thus changing the entire characterization process as understood by NMED without any NMED input or consideration of NMED concerns.

Additionally, the processes outlined in LIG-404-00-2.0 (LIG 2.0) appear incomplete and raise several questions and concerns. For example, LIG 2.0 states that the TSDF and/or ESH-19 is responsible for case-by-case determinations of AK acceptability. Does this mean that each and every generator submits an AK analysis request to the TSDF and/or ESH-19? How is the appropriate "authority" determined" ? What specific decision-making criteria does the TSDF and/or EHS-19 follow? What information is considered mandatory to this determination, and what information is secondary? How does the TSDF and/or EHS-19 make their AK determination and how is this documented and reviewed? Who, if anyone, checks the information to ensure that it is examined and assessed appropriately? The listing in Section 7.4 is a good start with respect to AK documentation (together with Attachment A).

The general process presented in Section 7.5 of LIG 2.0 does appear to capture many of the major AK elements that would be of concern, and is particularly good with respect to how AK documentation is referenced and retained (e.g. items 7, 8, and 9). However, the following questions are raised: What type of information is retained in the waste characterization package (i.e. summaries of AK information vs. copies of AK data; telephone log transmittals, etc.)? Is the use of sampling/analysis results that are part of the AK record considered mandatory with respect to examination of and inclusion in the AK record? How does one determine whether AK data are "accurate and relevant"? This would appear to require specific training of those examining the information, but AK training is not referenced. The TSDF is cited as the source of "adequate AK determination", but without consistent and enforceable criteria, it is unclear how the TSDF will make adequate determinations.

If the entire LIG 2.0 procedure is basically only guidance with respect to potential AK candidates, AK characterization techniques, etc., how does the TSDF determine whether additional considerations must be made and where is the determination documented? How does LANL ensure consistent application of AK criteria facility wide, such that all TSDFs and ESH-19 consistently review, assemble, and assess AK data? With respect to data assembly (Section 7.4), clarify how the "adequacy of the documentation based on criteria established by the final TSDF" is performed. Also, while LIG 20 does attempt to establish an AK process, none of the language in the procedure is a requirement as such, so literally every determination criteria, evaluation process, etc. in the procedure is optional. It is our experience that unless procedures have specific requirements, those using the procedure will interpret this as guidance, and the resulting procedural implementation can be widely variable and poorly controlled. While it is understood that the sites believe AK can vary by waste type, it is also our experience that AK procedures can and should be more strictly implemented to ensure adequate AK assembly and evaluation.

Also, LIG 20 is silent as to the specific elements that would trigger sampling and analysis, and how it will be determined whether sampling and analysis alone, or sampling and analysis in combination with AK, will be used. It also does not discuss or reference the type of sampling that would take place or how that sampling would be determined.

LIG 2.0 lists examples when AK may be used to characterize waste, stating that AK may be applied where F, K, P, and U listed wastes are generated, when radiological health concerns preclude sampling, and when the physical form of the waste (e.g. heterogenous waste) precludes sampling. These basic categorical listings are sufficiently broad as to encompass the spectrum of situations, and could easily be made more complete by including allowances when specific chemical parameters in waste are documented through laboratory documentation. NMED is concerned that the criteria used to select AK instead of sampling and analysis are well defined, consistently applied, and of sufficient detail as to ensure that AK used is technically satisfactory, and that these elements be included in the PRR.

The Permittee must revise the PRR to address the above questions and to present a thorough and complete discussion of Acceptable Knowledge, including but not limited to the overall AK process (from waste stream identification, data assembly, data evaluation, and AK determination of hazardous constituents and associated hazardous waste codes), AK data assembly and documentation requirements, AK discrepancy resolution, and AK adequacy decision criteria. The process should be a mandatory rather than "optional" approach to characterization, with clearly defined trigger points where sampling and analysis would be considered.

22. Original NMED Comment 57. NMED requested the following edits to page B-27: "Homogenous waste streams in the solid process residue... soil/gravel... or aqueous liquids/slurries...categories may contain RCRA-regulated ~~VOCs, SVOCs, and metals~~ *constituents* (see Table B-5) that may be characterized using acceptable knowledge and/or sampling and analyisis..." The Permittee declined making this change because the word "constituent" has several potential meanings under RCRA, instead suggesting that the more generic word "component" be used".

    Evaluation of Response to Comment 57. The response to comment 57, while incongruent with NMED's request, is satisfactory. The Permittee is correct in that "constituent" could be construed to identification of all hazardous constituents (not just those specific to HWC); "components" does appear to adequately convey the term.

23. Original NMED Comment 58. NMED proposed the following changes " Therefore, debris waste will be characterized for the presence of hazardous constituents ~~(i.e. VOCs, SVOCs, metals)~~ using acceptable knowledge based one examination of the original materials from which the waste was generated." The Permittee declined making this change because the specificity of the analytical parameters was deemed necessary for LANL procedures and is consistent with Los Alamos TRU Waste Certification Plan.

    Evaluation of Response to Comment 58. The Permittee's response to NMED's comment is inadequate. NMED's intent was to broaden the examination performed via AK to include all hazardous constituents, and the limitation to metals, SVOC's,

and VOCs was found to be inappropriate. See Evaluation of Response to Comment 50. The Permittee's justification for NOT making the change is inadequate; the TRU waste Certification Plan is not part of the permit, and characterization for constituents beyond that recommended in this plan is the entirely possible and probable, and should be based on RCRA requirements, not those stated in an unrelated plan.

24. Original NMED Comment 59. NMED requested the following edit: "Therefore, debris waste will be characterized for the presence of hazardous constituents (i.e. VOCs, SVOCs, and metals) using acceptable knowledge based on examination of the original materials from which the waste generated *and/or sampling and analysis*. The Permittee declined changing the section because it was specific to the WIPP AK requirements, which do not require sampling and analysis of debris waste.

    Evaluation of Response to Comment 59. The Permittee's response to NMED's comment is inadequate. NMED has the clear right to request additional characterization of sites in addition to any imposed by disposal facilities that may be accepting waste. The added line does not change the characterization process for waste destined for WIPP (i.e. characterization by AK), but does allow the option of sampling/analysis characterization that would be performed if the AK information was not sufficient to meet standards that should be presented in the LANL permit.

25. Original NMED Comment 60. NMED requested that a bullet be added to Section B.3.2.2, Acceptable Knowledge, stating "reviewing of process knowledge and historical sampling and analysis results" shall be included as part of the AK certification program element activities. The Permittee declined making the requested change, stating that the bullet "procedures to evaluate acceptable knowledge information and to resolve discrepancies in documentation" addresses this concern.

    Evaluation of Response to Comment 60. The Permittee's response to NMED's comment is inadequate. NMED's intent in adding the bullet is to obtain a clear commitment by the site to review historical sampling and analysis results as part of the AK program. The bullet cited by the Permittee as addressing this concern does not make this explicit commitment. It is NMED's believe that the LANL AK record and AK program must mandatorily include the acquisition of historical sampling and analysis data, if such data are available.

26. Original NMED Comment 61. NMED requested the following revision: "Waste streams in the homogenous solids (Matrix Parameter Code S3000) category may contain RCRA-regulated ~~metals~~ *constituents*. The Permittee agreed to make an alternative revision, whereby the word "components" rather than "constituents" would be substituted.

    Evaluation of Response to Comment 61. See Evaluation of Response to Comment 57.

27. Original NMED Comment 62. NMED requested the following revision: "Initial predictions of hazardous constituents present in each treated waste stream will be based on process knowledge, with waste sampling and analysis performed as necessary to obtain qualitative and quantitative data for hazardous constituents ~~(i.e. metals)~~." The Permittee agreed to make the suggested revision.

    Evaluation of Response to Comment 62. The Permittee's response to NMED's comment is adequate.

28. Original NMED Comment 63. NMED requested the following revision: "For this additional sampling effort, LANL will use ~~statistically-based~~ sampling and analysis, along with RTR, visual examination, and headspace gas analysis, as described in Section B.3.2". The Permittee, however, proposed the following alternative modification: " For this additional sampling effort, LANL will use statistically-based sampling for processes maintained under formal process control (or sample once per batch for batch processes), along with RTR, visual examination, and headspace gas analysis, as described in Section B.3.2".

    Evaluation of Response to Comment 63. The Permittee's response to NMED's comment is partially adequate. NMED's intent was to remove the statistical basis for sampling of homogenous, treated TRU mixed waste. It is true that statistically based sampling may be appropriate for wastes generated under controlled processes, but the proposed modification does not address how waste generated outside of the controlled process will be sampled. Because of this, the response is inadequate (it is actually incomplete because it does not address how sampling with take place for those treated waste that were generated via uncontrolled processes).

29. Original NMED Comment 64. NMED requested the following modification " Mixed TRU liquid waste is periodically sampled and analyzed for ~~total metal content, VOCs, and SVOCs~~ *RCRA-regulated constituents*". The Permittee declined to make this change because it is inconsistent with the Certification Plan (which, apparently, is consistent with WIPP requirements).

    Evaluation of Response to Comment 64. The Permittee's response to NMED's comment is inadequate. WIPP does not accept liquid waste, and therefore WIPP Waste Analysis is not applicable to this waste form. Also, the Certification Plan is separate from this permit, and the Permit should be based on RCRA-requirements, not consistency with an unrelated internal plan.

30. Original NMED Comment 65. NMED requested the following change: "Qualified analytical laboratories at LANL and/or approved subcontractor laboratories that meet the above criteria will analyzed mixed TRU waste samples for RCRA-regulated hazardous constituents ~~(VOCs, SVOCs and metals)~~ and characteristics, according to SW-846 or documented and approved equivalent methods". The Permittee declined to make this change because it is inconsistent with the Certification Plan.

Evaluation of Response to Comment 65. See Evaluation of Response to Comment 64.

31. Original NMED Comment 66. NMED requested the following change: "Qualified analytical laboratories at LANL and/or approved subcontractor laboratories that meet the above criteria will analyzed mixed TRU waste samples for RCRA-regulated hazardous constituents ~~(VOCs, SVOCs and metals)~~ and characteristics, according to SW-846 or documented and approved equivalent methods *acceptable to NMED*". The Permittee does not believe this change is necessary because other analytical methods may be used by AK, and non-approved methods may be required due to the diverse nature of wastes LANL must deal with. The review and approval of such alternative methods is routinely subject to certification by "relevant industries", and the Permittee believes NMED approval only applies to methods specified in 20 4.1 NMAC Subparts II, V, and VI. The Permittee did suggest the following change: "Qualified analytical laboratories at LANL and/or approved subcontractor laboratories that meet the above criteria will analyzed mixed TRU waste samples for RCRA-regulated hazardous constituents (VOCs, SVOCs and metals) and characteristics, according to SW-846 or ~~documented and approved equivalent methods~~ other documented and approved equivalent methods (e.g. American Society for Testing and Materials [ASTM]' "Methods for Chemical Analysis fo Water and Wastes," EPA Document NO. 60/4-79-020, revised March 1983) for analysis not specified in 20 4.1 NMAC, Subparts II and V, Parts 261 and 264".

Evaluation of Response to Comment 66. The Permittee's response to NMED's comment is inadequate. NMED's intent was to allow NMED review of alternative methods prior to site use. Note that RCRA does not mandate the spectrum of analysis methods that must be performed, and EPA or authorized states can and do regulate non-SW-846 methods that are included in permits.

32. Original NMED Comment 67. NMED requested the following edit: "HE concentrations...This is usually done by High Performance Liquid Chromatography. SW-846 Method ~~8330~~ *8300 series*". The Permittee said that expansion to the 8300 series is inappropriate because the series includes methods not used for HE analysis. However, the Permittee agreed to make the following change: "HE concentrations...This is usually done by High Performance Liquid Chromatography. SW-846 Method 8330 *or the most recent version*".

Evaluation of Response to Comment 67. The Permittee's response to NMED's comment is adequate. The Permittee's are correct in that the 8300 series does address constituents other than HE, and inclusion of the statement "or the most recent version" does account for any 8330 changes that NMED could be concerned about.

33 Original NMED Comment 68. NMED requested changing "RCRA-regulated metals, VOCs, and SVOCs" with "RCRA-regulated constituents" throughout Table B-9. The Permittee declined because the specificity of the analytical parameters presented in

Table B-9 is necessary for the LANL characterization procedures described in Section B.3.

Evaluation of Response to Comment 6.: See Evaluation of Response to Comment 50

34. Original NMED Comment 69. NMED requested revision of Table B-17 to address the 8300 series rather than specific method 8330. The Permittee declined to make the change because they believe that expansion to the 8300 series is inappropriate because the series includes methods not used for HE analysis.

    Evaluation of Response to Comment 69. See Evaluation of Response to Comment 67.

ADDITIONAL COMMENTS

35. Table B-2 is somewhat unclear with respect to waste descriptions. For example, contaminated solid wastes should specify that these include debris waste, etc. Revise Table B-2 to include a more specific waste description where it is not currently included. This is required to understand the proposed basis for characterization and to ensure that the processes generating wastes, resulting wastes, and proposed characterization processes correlate (i.e. are appropriate). Also, add the TA associated with each waste generated.

36. EPA/NRC guidance (1997) addresses mixed waste characterization, and indicates that the use of acceptable knowledge to characterize these wastes is an appropriate option under certain conditions (i.e. to address ALARA concerns, where matrices are not amenable to sampling, etc.). However, the extensive use of acceptable knowledge for non-mixed hazardous waste (i.e. Table B-2) requires additional justification, particularly since EPA has clearly indicated in 1994 guidance that " wherever feasible, the preferred method to meet the waste analysis requirements is to conduct sampling and laboratory analysis because it is more accurate and defensible than other options".

37. The distinction between heterogenous and homogenous waste should be taken a step further to indicate whether the heterogenous or homogenous waste is comprised of liquid, soil/sludge, or debris waste. NMED's comments indicate that the State interprets the homogenous and heterogenous nature of waste to be based on physical characteristics; i.e. there may be homogenous debris waste comprised of all metals, and homogenous sludges comprised of all sludges. However, the PRR is sometimes inconsistent. For example, the paint and related waste category on table B-9 implies that all waste would be liquid in nature, but the discussion (page B-4) indicates that the waste is either heterogenous or homogenous, implying that this designation would be made based on the chemical composition, not physical characteristics of the waste. Revise the PRR to include a definition of homogenous and heterogenous waste, and to ensure that the PRR consistently uses the terminology. This is important because

the inference is that homogenous waste can be sampled and heterogenous waste is not amenable to sampling, but that may not be the case if, for example, a sludge is considered heterogenous based on chemical composition.

38. Note that waste treatment is not discussed in this PRR, but is deferred to TA-specific permit applications, permit modification requests, or permit renewal documents. However, Section 3.1 states that a separate WAP will be prepared to address Treatment Characterization, if required, inferring that treatment is considered under this PRR. (This "Treatment WAP" must contain detailed chemical and physical analysis of a representative sample of wastes being treated and must contain all the information required to treat the waste. A WTRF (Hazardous Waste Treatment Report Form) is also to be prepared.) The PRR does address treatment in some fashion (Section B.1.3.1 and B.3.3) but this appears incomplete. Revise the Permit Renewal Request to include more information specific to waste treatment, including the preparation of WTRFs, WAPs specific to the treatment activity, etc.

39. Section B.2.1 states that Tables B-9 through B-12 present analytical parameters and characterization methods that *may* be used for hazardous, low-level, mixed TRU and He and HE-contaminated wastes generated at LANL. The Permittee also states that some or all of a listing presented in Sectin B.2.1 will be used to determine the regulatory status of wastes (i.e. AK, Sampling and Analysis, headspace gas/physical form, flashpoint, pH, and "additional characterization data"). However, comparison of the listings presented in Tables B-2 through B-7 and these tables indicate that some parameters on the listings are not reflect in the individual parameter discussion (although they may be discussed in the rationale section). Please examine all tables to be sure that all hazardous wastes presented in Tables B-2 through B-7 are represented in Tables B-9 through B-12.

40. The PRR must include a table presenting specific sampling techniques that would be employed for the different waste descriptions, as well as how a representative sample shall be obtained and collected. While it is understood that a vast array of waste types are being managed at the facility, LANL can and must include this information as required under 40 CFR 264.13 (b).

41. Attachment B-1 presents those Technical Areas (TAs) that this PRR applies to, and page B-18 references TA-specific permit applications, permit modification requests, or permit renewal documents for detailed information regarding the TA. However, it is unclear whether these referenced documents actually exist, particularly since the PRR is to be the governing document with regard to Waste Analysis and no other documents will apparently be generated. Revise the PRR to include applicable information in the referenced documents. Also see Comment 38.

42. Section B.2.1 presents the listing of "analytical parameters and methods" that *may* be used for LANL wastes, referencing tables B-9 through B-12 for additional information. It is assumed that the actual linkage between sampling parameters and analytical methods that will be used is achieved by comparing these tables to Table

B-14. However, the language throughout implies that the listed parameters and analytical methods are only potential examples of parameters/analytes/methods that may be used, but such flexibility complicates permit enforcement and is inappropriate. Also, without inclusion of LDR-specific information, it is unclear whether this information completely supports requirements at 40 CFR 264.13 (a) which requires that the analysis must contain all of the information necessary to treat store, or dispose of the waste in accordance with this part *and* [emphasis added] part 268 of this chapter. Also, Section B.2.2 and referenced tables, together, do not always clearly explain the rationale for parameter selection, etc. For example, Table B-10 states that the parameter of interest for Noncombustile Debris is RCRA-regulated metals, but it is unclear how this will completely satisfy the need to assess reactivity, as stated in the "rationale" column. Also, referenced Tables do not address the sampling method (i.e. how the sample will be taken), sample frequency, sample selection, etc. Revise the PRR to address concerns regarding commitment to perform specific analysis, LDR information, parameter selection rationale, and inclusion of additional sampling information.

43. Section B.3.1 does not specifically provide criteria whereby sampling and analysis would be performed in lieu of acceptable knowledge. As previously mentioned in Comment 36, EPA clearly has shown preference to hazardous waste characterization by sampling and analysis as it provides more "accurate and defensible" information. With regard to mixed waste, it is understood that EPA/NRC guidance supports the use of AK to reduce the potential for worker exposure, but even the 1997 document provides alternative sampling strategies to achieve similar ends. This PRR must clearly spell out the criteria associated with the use of Acceptable Knowledge, and when sampling and analysis will be the preferred methodology. Simple use of AK because it is convenient without showing a specific need to use this information in lieu of sampling and analysis is inappropriate and an improper use of EPA and EPA/NRC guidance, particularly with respect to non-mixed hazardous waste.

44. Section B.3.1says that "occasionally, chemicals of an unknown nature require disposal". The Permittee states that the waste will be "tentatively" characterized by knowledge of operations and activities that were performed in the specific area in which the waste was generated. However, sampling of less than one-gallon containers will not occur; these wastes will only be analyzed for pH, flash point, and reactivity because, according to the Permittee, full analysis of less than one gallon liquids cannot be performed. However, this is not entirely true. Depending upon the available volume, some if not all of the analyses could be performed, considering that SVOCs require 1 liter of sample, VOCs require 40 ml, and metals require 100 ml. Additionally, EPA/NRC guidance appears to advocate the use of small (less than 100 gram) samples to reduce personnel exposure to radioactivity. Revise the PRR to address determination of sample analyses based on available sample size and process knowledge, rather than to blanketly state that all 1 gallon or less "unknown" samples will undergo minimal analyses.

45. While the Permittee states in Section B.3.1.1 that there are certain circumstances whereby obtaining a representative sample for analyses may not be possible, the Permittee appears to make the blanket assumption that a representative sample will never be obtainable and therefore acceptable knowledge will be used to characterize waste. As stated in EPA guidance, sampling and analysis is the preferred methodology, and rather than assuming it is "impossible" to collect such information, the Permittee must provide clear justification for the use of acceptable knowledge rather than sampling analysis, and also criteria whereby the "acceptability" of acceptable knowledge will be established.

46. Section B.3.1.1.1 presents information on Acceptable Knowledge. However, this section must clearly indicate mandatory information and processes that must be followed, how AK will be assessed for useability, and when sampling and analysis will occur is AK is not of sufficient quality, etc. Refer to Comment 21 (Response to Original NMED Comment 56)

47. B.3.1.2. The PRR states that sampling and analysis is "generally performed when a waste lacks sufficient process information to adequately characterize the waste based on acceptable knowledge". However, acceptable knowledge criteria to make such a determination are not presented in the PRR; revise the PRR to include this information.

48. B.3.1.2.1. and B.3.1.2.2. The PRR provides a very general discussion of solid and liquid sampling, but includes no specific information regarding sampling methodology, sample location, selection of a representative sample, etc. While SW-846 and ASTM are referenced, permit applications must include more detailed information specific to the waste encountered to ensure that the facility has a sufficient understanding of the sampling methodologies and a strategy in place to perform the necessary sampling and analysis. EPA (1994) provides several examples of WAPs, which clearly demonstrate the need and inclusion of this information in WAPs. Revise the PRR to include more specific information regarding potential sampling methodologies, how sample location will be selected, selection of a representative sample, etc.

49. B.3.1.3. The PRR states that verification of the initial characterization by AK *may* be performed to confirm the initial accuracy of waste characterization, verify that applicable treatment standards have been met, when there is a change in a waste-generating process, when the generator requests a review, or when analytical results indicate a change in waste stream. The PRR goes on to state that random selection of waste for verification will take place at a rate of 1 percent of received waste streams characterized by AK per year, and states that verification of factory sealed containers and original containers and lab packs will not take place. The PRR states that "all routinely generated waste streams will be re-evaluated annually to verify that they have not changed", and this will be accomplished through "review and recertification of applicable waste characterization documentation. The PRR also states "any information that indicates a change in the process that generates the waste and may

affect the waste shall cause the waste to be recharacterized no later than the next time the waste is generated".

While it is commendable that the site recognized the need to verify it's AK, the above statement raise several questions and concerns, including but not limited to:

- Verification of waste should not be an option, as use of the word "may" indicates.
- Clarify how the 1% value was determined; this number appears very low.
- Clarify whether the verification activities and "verification of initiation waste characterization" are different. Wording in the PRR implies that specific verification may take place if, for example, process changes occur, but later statements imply that verification will occur irregardless of these other events.
- Clarify how random waste selection for verification will take place, and why this random selection is not done on a waste stream/waste type basis.
- Specify what actions are taken if verification shows AK to be incorrect.
- Re-verification of "routinely generated" waste is to occur through review and recertification of documentation, not actual sampling and analysis. This approach requires justification and clarification (i.e. if that is actually the intent). Also, will this re-evaluation determine whether the noted process change impacts waste already generated? If so, additional characterization of this waste would appear warranted.
- Clarify whether the verification process will be reflected in a sampling and analysis plan and resulting information package that will be place in the operating/site record.

50. It is understood that the Mixed TRU-Waste Characterization discussion in Section B.3.2 is meant to mirror overview requirements presented in the WIPP WAP. However, LANL must understand that the statement that characterization by process knowledge is "suitable for storage" is incorrect in that full characterization via the WIPP WAP is required by WIPP and will be required in this permit to ensure full and satisfactory waste characterization. The following additional general comments concerning LANL PRR language with respect to the WIPP WAP and mixed TRU waste characterization are also raised:

    - Remove all language making waste characterization via the WIPP WAP "optional" – i.e., remove the word "may" from said discussions. LANL *will* comply with the WIPP WAP; compliance and associated characterization is not an option.

- The WIPP WAP uses Waste Matrix Codes as presented in the Treatability Guidance, not Matrix Parameter Codes. While the categorizations appear to be equivalent, confusion will arise if consistent language is not used. Revise the PRR accordingly.

- On page B-28, clarify that while debris waste will not undergo destructive analysis, headspace gas, and RTR/VE will be performed to confirm acceptable knowledge.

- NMED recognizes that the WIPP WAP is a dynamic document. However, if the LANL permit is not changed to match appropriate changes in the WIPP WAP, workers will use the LANL WAP to incorrectly characterize waste. It is recommended that the LANL WAP include overview information on the various processes, with the commitment to follow detailed requirements in the WIPP WAP, and that the LANL WAP be modified, as appropriate to reflect WIPP WAP changes to ensure complete compliance.

- Does the TWCP reflect the WIPP WAP? It is assumed that this is the case based on PRR language under section B.3.2.2, but clarification is warranted. Also, the PRR should specifically state that the discussion in Section B.3.2.2 is incomplete with respect to acceptable knowledge, and should refer the reader to the TWCP (assuming is it equivalent to the WIPP WAP) or the WIPP WAP for additional information.

- Note that the WIPP WAP requires VE/RTR to verify at the individual the waste matrix code level, not general Summary Waste Category level. Ensure that the PRR adequately reflects this requirement. Also, as noted in bullet four, above, all discussions of Radiography, VE, HSG and solid sampling and analysis should refer the reader to the WIPP WAP (or TWCP, if this incorporates the WIPP WAP; referencing the latest version of the WIPP WAP is appropriate) for complete characterization requirements. Also note that changes to the PRR to reflect changes made to comply with the WIPP WAP would be made to "conform with agency guidance or regulation", and could be considered Class 1 in nature. As such, changes to the LANL PRR to reflect changes in the WAP are not as major as LANL purposes, so inclusion of WIPP WAP requirements in the LANL PRR should be considered.

- Clarify that waste destined for WIPP is exempt from LDR, and that treatment of TRU mixed waste is done, for example, to comply with WIPP waste prohibitions (i.e. prohibition of liquid waste, etc.). Also be sure that all statements in Section B.3.2.2.3- B.3.2.2.5 are congruent with the WIPP WAP. Additionally, the statement "if a homgenous mixed TRU waste cannot be adequately characterized because of insufficient process knowledge, sampling and analysis are performed" implies that sampling and analysis is optional based on AK. However, the WIPP WAP mandates statistical sampling of all S3000 and S4000 waste; clarify this statement, as subsequent paragraphs imply otherwise.

- If post-treated waste is considered S4000 waste, why wouldn't statistical sampling/analysis be performed? Paragraph 4, page B-36 implies that this sampling is not mandatory. Clarify.

51. Section B.3.3 states that "OB and OD completely remove the reactive characteristic from HE-contaminated waste; what is the technical basis and evidence for this statement? Also, provide or reference information supporting the statement that untreated HE-contaminated waste does not usually contain metals in high enough concentrations to be considered hazardous. Clarify whether untreated HE undergoes sampling and analysis—the section implies that this characterization does not occur. While Table B-18 presents sampling methods, it does not address sampling frequency, sampling methodology, sample selection, etc., as is required for inclusion in the WAP. (see Comments 41 and 47)

52. The discussion in Section B.4 and Table B-8 are incomplete, as they do not present information about off-site wastes to be received at LANL. The PRR indicates that some sort of plan is to be developed for the acceptance and management of off-site wastes, but this information must be included with the PRR for off-site wastes to be considered in the permit application. Additionally, this plan must address all requirements in 40 CFR 264.13, including the potential need to sample/analyze each waste movement and fingerprint analysis. If LANL is to rely on off-site AK to provide sufficient characterization information, the WAP must reflect how LANL will obtain and evaluate AK information from an off-site source, AK sufficiency criteria, how waste will be managed if sufficient AK is not available, when data analysis occurs (i.e. pre or post shipment), and all other necessary considerations to ensure that only waste that is appropriately characterized in accepted at LANL. Also, what is done with this waste, i.e. is it stored for more than 90 days? It is assumed that all waste accepted would ultimately be subject to the same "destiny" as on-site generated waste, and must therefore meet all LANL WAP criteria. It is also assumed that no off-site wastes have yet been received.

53. In Section B.5.2, provide or summarize the procedures that describe the "necessary precautions" to prevent accidental ignition or reaction of wastes, as well as standard operating procedures for specific safety and handling associated with ignitable, reactive, or incompatible wastes. The section references HE wastes, which as considered reactive, but it is unclear whether these same procedures would apply to ignitable or incompatible wastes. Note that Section 7.0 of LIG 404-00-03.1 includes a statement requiring segregation of reactive and ignitable waste and protection of waste from sources of ignition.

54. Section B.5.3 indicates that while the proposed methodologies for meeting LDR standards may suffice in some instances, it is the WAP/WAC requirements of the accepting facility which truly impact and govern LDR determination requirements. For example, a disposal site may require destructive sampling and analysis of a representative waste sample to meet the "detailed chemical and physical analysis".

and the LANL PRR should be revised to indicate that it will comply with any accepting facility requirements. Also, this permit does NOT address any on-site waste disposal options, so it is unclear how this type of waste disposition will occur.

55. Section B.5.4 indicates that generators are responsible for determining subpart CC compliance and may do so based on AK. However, it is unclear when sampling and analysis will be required—i.e. when is AK "good enough" in and of itself to identify 500 ppm VOC concentrations? Revise the PRR to included more specific criteria should be included that state when sampling and analysis will be performed (e.g. if AK indicates management of any VOCs occurred, etc).