



## Department of Energy

Idaho Operations Office  
850 Energy Drive  
Idaho Falls, Idaho 83401-1563

August 12, 1998

ENTERED



Mr. Robert S. Dinwiddie  
RCRA Permits Management Program  
Hazardous and Radioactive Material Bureau  
2044-A Galisteo Street  
Santa Fe, New Mexico 87502

**SUBJECT: COMMENTS REGARDING WASTE ISOLATION PILOT PLANT DRAFT RCRA  
PART B PERMIT (OPE-WM-98-96)**

Dear Mr. Dinwiddie:

The Department of Energy - Idaho Operations Office (DOE-ID) and Lockheed Martin Idaho Technologies Company (LMITCO) have prepared the enclosed comments on the New Mexico Environment Department (NMED) draft hazardous waste storage and disposal permit for the Waste Isolation Pilot Plant (WIPP) facility issued May 15, 1998. The Idaho National Engineering and Environmental Laboratory (INEEL) manages the largest quantity of transuranic (TRU) mixed waste in the DOE complex.

The INEEL has participated in the DOE National TRU Program's TRU Waste Characterization Program since 1990 and has extensive knowledge and operational experience in implementing TRU waste management, characterization, and certification programs. DOE-ID has devoted significant resources to the TRU waste management program to ensure INEEL's compliance with the WIPP Waste Acceptance Criteria (WAC). This has resulted in the successful completion of a DOE Carlsbad Area Office (CAO) Site Certification Audit as well as a very positive Environmental Protection Agency certification audit.

The enclosed comments are identified by the draft permit section, page, and line numbers. The majority of our comments are associated with the conditions specified in Attachment B, Waste Analysis Plan (WAP). Our comments encompass the major areas of concern summarized below: (1) waste characterization requirements that are significantly different than those described in WIPP's permit application, and (2) administrative requirements that are impractical from an operational perspective.

### Waste Characterization Requirements

After NMED made its final determination on the administrative completeness and technical adequacy of the WIPP permit application DOE-ID initiated work to finalize its waste characterization and certification programs to comply with the requirements in the WAP. The NMED's draft permit contains significant changes to the WAP that would require

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the INEEL to retest, resample, and reanalyze several hundred containers. To characterize the solidified waste streams at the INEEL, the draft permit would require approximately 630 additional drums to be sampled and analyzed. The cost for this effort would be over \$12.5M. The NMED's proposed waste analysis requirements would also significantly increase the waste handling requirements, along with increased radiation doses to workers, while providing no additional protection to the public health or the environment.

Many of the proposed waste characterization WAP changes are more stringent than federal requirements under the RCRA Act of 1976, as amended. We believe NMED lacks the authority to impose such requirements. Per New Mexico Statutes Annotated, Section 74-4-4(A): "The board shall adopt regulations for the management of hazardous waste as may be necessary to protect public health and environment, **that are equivalent to and no more stringent than federal regulations** adopted by the federal environmental protection agency pursuant to the Federal Resource Conservation and Recovery Act of 1976, as amended...." (Emphasis added). The only exception to this requirement is when the board adopts regulations that are more stringent when the board determines, after notice and public hearing, that such federal regulations are not sufficient to protect public health and the environment per N.M.S.A. Section 74-4-4(D). No such determination or hearing has incurred in order to implement the statutory exception. Therefore, INEEL's evaluation indicates that comments 1,2,5,6,19,20,22,24,27,40,and 43 have requirements that are more stringent than federal law (as implemented by RCRA) which is specifically prohibited by regulations and should be modified as outlined.

#### Administrative Requirements

The proposed permit condition that DOE obtain a permit modification to receive off-site waste from each generator is unreasonable and unnecessary to ensure compliance with the WAP. Permit modifications are necessary to address additional wastes, new waste management units, or changes to operations. Site-specific waste characterization protocols do not change the waste analysis requirements or types of waste that will be managed. In fact, the entire fabric of the tiered waste characterization documentation (Quality Assurance Program Description, Quality Assurance Program Plan, generator site Quality Assurance Project Plans, etc.) is to ensure compliance with the WAP. Permit modifications to specify generator sites would provide no additional information to the public or NMED, nor any additional assurance of compliance with the permit conditions. In addition, the proposed reporting requirements are unnecessary to enforce permit conditions, DOE and the States should strive to strengthen communications and regulatory compliance by minimizing the burden while maximizing the utility of information generated, disseminated, and retained by the Permittees and the waste generators.

We appreciate the opportunity to provide comments on the draft permit. The WIPP facility is of

national importance to ensure the safe, long-term management of TRU waste. The final hazardous waste permit for WIPP is important to ensure INEEL's continued compliance with State of Idaho agreements and regulations. If there are any questions, please contact Jerry Wells of my staff at (208) 526-5296.

Sincerely,



Lori L. Fritz, Acting Manager  
Waste Management Programs

Enclosure

Cc: E. K. Hunter, DOE-CAO  
M. A. Sullivan, DOE-HQ, GC-51  
P. Detwiler, GC-51, DOE-HQ  
R. D. Brown, DOE-CAO

# **INEEL RESPONSE TO NMED PART B PERMIT**

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### **Comment 1: WIPP RCRA Permit Modification to Include Sites for Shipment**

#### ***Requirement***

The Draft Permit requires the Permittees to obtain a permit modification to add each offsite waste source before receiving waste from that site.

#### ***Affected Draft Permit Sections***

Page II.1, II.B.1, II.C.1

#### ***Proposed Change to Draft Permit***

Delete the requirement for the Permittees to submit a request to modify the permit that demonstrates a generator/storage site compliance with, and implementation of, the waste analysis plan. The permit should specify the hazardous waste that may be managed at Waste Isolation Pilot Plant (WIPP), not the generators of that waste. The New Mexico Environmental Department (NMED) should enforce the permit conditions, including compliance with the waste analysis plan, through inspection of the WIPP facility and its Resource Conservation and Recovery Act (RCRA) records, which will include the generator sites Quality Assurance Project Plans (QAPjPs) and other relevant waste analysis records such as audit findings and corrective action reports.

#### ***Justification for Change***

This requirement is outside the scope of the RCRA permitting process and therefore exceeds New Mexico statutes annotated, Section 74-4-4(A). RCRA permits [40 Code of Federal Regulations (CFR) 270] are granted for specific waste management units (e.g., storage or disposal units) and for specific hazardous wastes managed in those units (e.g., listed spent solvent wastes designated by Environmental Protection Agency (EPA) hazardous waste code F001-F005). The Permittees develop a waste analysis plan to ensure the waste received at the facility meets the requirements specified in the permit (40 CFR 264.13). The permitted hazardous wastes or waste analysis requirements do not vary between waste generators. Therefore, the requirement to obtain a permit modification before accepting waste from each generator is not necessary to comply with the permit.

Pursuant to New Mexico hazardous waste requirements, the permit application completely and adequately describes the mixed wastes accepted and managed at WIPP. The application also fully describes the quality assurance program and waste certification process that supports compliance with the waste analysis plan. NMED may participate in both initial and annual audits of the sites waste characterization programs with respect to their conformity to WIPP requirements. Adding a requirement for a permit modification to recognize each site compliance is unnecessary and redundant, providing no added value relative to increasing public health or environmental protection.

The operational and resource burden to request permit modifications for each generator is unprecedented under RCRA regulations in New Mexico and throughout the nation. Under 40 CFR 270.42, Appendix I,

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Classification of Permit Modification, NMED does not address permit modifications to identify specific waste generators. Permit modification is only required to include additional hazardous wastes to Part A of the permit. Part A of the WIPP permit application includes all mixed TRU wastes currently planned for disposal at WIPP.

***INEEL Waste Characterization Program Impact***

The requirement to request a permit modification for Idaho National Engineering and Environmental Laboratory (INEEL) Transuranic (TRU) mixed waste will unnecessarily delay mixed waste shipments to WIPP. The magnitude of the impact is a function of the classification of the permit modification required. A Class 2 modification will likely defer planned shipments of mixed waste, and will require increased operating levels and additional funding to meet near-term milestones established with the State of Idaho concerning management of TRU waste. Costs for INEEL support to and participation in preparing the WIPP-permit modification (to add the INEEL as an authorized waste source) will need to be factored into baseline planning.

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### **Comment 2: Site QAPjPs and SOP Submitted to NMED as a Permit Modification**

#### ***Requirement***

The draft permit requires the Permittees to submit the Quality Assurance Program Plan (QAPP) and site QAPjPs, including any revisions, to NMED for review.

#### ***Affected Draft Permit Sections***

Page II-3, II.C.1.f, Page B-23, Section B-4b(1), lines 34-37, B5-2. Lines 30-33

#### ***Proposed Change to Draft Permit***

Delete the requirements that the QAPP and QAPjPs be provided to the NMED for examination. A process similar to that used by the EPA for compliance with 40 CFR 194 is recommended.

#### ***Justification for Change***

The generators site-specific documents are outside the scope of NMED authority and would add no additional assurance of compliance with the WIPP RCRA permit.

The permit application describes the waste analysis/waste certification process, including specifying a detailed audit process to document generator site compliance with the waste analysis plan. The quality assurance and quality control requirements described in the waste analysis plan ensure adequate oversight and documented evidence of compliance with the waste analysis plan requirements. NMED may verify WIPP and generator sites compliance with the waste analysis plan requirements through review of records at the WIPP site during its RCRA facility inspections, and by participating in audits of the generator sites.

#### ***INEEL Waste Characterization Program Impact***

The requirements to submit site QAPjPs to NMED for review could significantly delay approval process unnecessarily.

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**Comment 3: Suspension of Waste Shipments for Violation of Acceptable Knowledge Procedures**

***Requirement***

The Permittees shall immediately suspend waste acceptance from a generator/storage site and notify the Secretary in writing if audit findings at a generator site indicate any failure to comply with the approved acceptable knowledge procedures in Permit Attachment B4.

***Affected Draft Permit Sections***

Page II-3, II.C.1.g

***Proposed Change to Draft Permit***

Change to read: The Permittees shall immediately suspend waste acceptance from a generator/storage site and notify the Secretary in writing if audit findings at a generator site indicate hazardous waste codes have not been correctly assigned using acceptable knowledge as specified in the waste analysis plan.

***Justification for Change***

No RCRA Regulatory basis exists for the requirement that violations of any aspect of acceptable knowledge procedures should result in immediate suspension of waste acceptance when other findings have 30 days from issuance of final report to be resolved. The Permittees should have some discretion as to whether or not the violation requires immediate suspension of waste acceptance. A minor failure, that has no impact on the validity of acceptable knowledge or hazardous waste code assignments, should not be a reason to suspend shipments.

***INEEL Waste Characterization Program Impact***

If any discrepancy with an acceptable knowledge procedure could cause suspension of waste shipments until the issue is resolved, routine INEEL TRU waste management operations could be delayed by NMED and Carlsbad Area Office (CAO) when no WIPP RCRA permit conditions have been violated. Compliance with State of Idaho permit conditions and Federal/State agreements could be jeopardized and INEEL compliance schedule could be affected by CAO when no enforcement actions associated with INEEL operations are required.

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### Comment 4: Consistency of Terms for Findings

#### *Requirement*

The draft permit uses different terms to refer to the same concept. For example, paragraph ii uses the term "audit finding" whereas audit nonconformances are called "Corrective Action Requests (CARs)" in Attachment B6.

#### *Affected Draft Permit Sections*

Page II-3, II.C.1.g, text throughout permit

#### *Proposed change to Draft Permit*

Consistently use one term or define audit finding, nonconformance, and CARs. Assuming "findings" and "CARs" are identical; suggest using the term "CAR" for consistency.

#### *Justification for Change*

The CAO Quality Assurance Program Document (QAPD) uses the term "CARs." Numerous other inconsistencies exist in terms that need clarification to avoid questions regarding the requirements for program compliance. The inconsistencies lead to questions from the QA and technical organizations regarding program implementation.

#### *INEEL Waste Characterization Program Impact*

Inconsistent terminology will cause unnecessary confusion.

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**Comment 5: Location of Headspace Gas Sampling**

***Requirement***

All headspace gas sampling is performed on waste containers within a containment area (e.g., glove box or hot/warm cell). A description of the containment area and remote-handling equipment must be provided in the site QAPjP for each generator/storage facility.

***Affected Draft Permit Section***

Attachment B1, Section B1-1a, lines 12-14

***Proposed Change to Draft Permit***

Delete the requirement to describe the radiation containment area and remote-handling equipment in the QAPjP.

***Justification for Change***

This requirement is unnecessary to ensure a representative sample is collected. All Department of Energy (DOE) sites must comply with site-specific radiological control procedures that may allow headspace sampling outside containment area as is the case at the INEEL.

***INEEL Waste Characterization Program Impact***

Stored Waste Examination Pilot Plant (SWEPP)/Drum Vent Facility (DVF) uses a High Efficiency Particulate Air (HEPA)-vacuum with a hood for taking manual gas samples and uses a containment silo for online sampling. Argonne National Laboratory-West (ANL-W) samples inside a hot cell (Waste Characterization Chamber). Any modifications to operating facilities would require a modification of program documents even if no changes to sampling or analytical techniques are associated with the modifications.

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### **Comment 6: Trip Blanks**

#### ***Requirement***

The draft permit states that all shipping containers will contain appropriate blank samples to detect any Volatile Organic Compound (VOC) cross-contamination.

#### ***Affected Draft Permit Sections***

Page B1-26, lines 8-9

#### ***Proposed Change to Draft Permit***

Delete the requirement for solid sampling trip blanks to detect VOC cross contamination.

#### ***Justification for Change***

EPA often does not require the use of trip blanks for solid samples because of the difficulty in interpreting/correlating trip blank and sample data. Differences in VOC absorption and diffusivity characteristics between the blank matrix (water or sand) and real-matrix solid samples make trip blank data useless for interpreting solid/sludge sample data. The increase in analyses resulting from trip blanks is not justified given the limited benefit for solid samples from a public health and environmental standpoint.

#### ***INEEL Waste Characterization Program Impact***

The requirement for trip blanks would increase the VOC analysis load for two analytical methods, total purgeable VOCs and nonhalogenated VOCs resulting in increased cost for little benefit.

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**Comment 7: Indication of Sample Disposition on Chain of Custody Forms**

***Requirement***

The Draft Permit requires a description of the final waste container disposition, along with signature of the individual removing the waste container from custody on the sample chain-of-custody form (3<sup>rd</sup> bullet in Section B1-4, Sample Custody of Samples).

***Affected Draft Permit Sections***

Attachment B1, Page 25, Lines 9-10

***Proposed Change to Draft Permit***

Delete the requirement for the description of final waste container disposition on the sample chain-of-custody.

***Justification for Change***

Waste containers are tracked and managed per site operating procedures. Waste container tracking is a site waste management requirement not related to waste characterization or sample chain-of-custody.

***INEEL Waste Characterization Program Impact***

Site-specific procedures and operations would require modification to comply with this requirement with no added benefit.

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**Comment 8: Representativeness of core samples**

***Requirement***

The Draft Permit requires the entire depth of the waste be cored.

***Affected Draft Permit Sections***

Page B3-8, line 14-22

***Proposed Change to Draft Permit***

Modify permit to read: The entire depth of the waste must be cored minus a documented safety factor.

***Justification for Change***

Site safety personnel will not allow implementation of the requirement as stated in the permit application due to the potential release of radioactive material because it is not possible to core the entire depth of the waste without potentially penetrating the bottom of the drum. To require full depth sampling unnecessarily increases the risk of the coring operation and the potential exposure of workers to radioactive materials.

***INEEL Waste Characterization Program Impact***

INEEL determines the percentage recovery based on coring the entire length less a small safety factor; divided by the length of the core. This requirement has been previously discussed with safety personnel who have approved the current methodology. It would be difficult, if not impossible, to comply with the requirement as stated.

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### Comment 9: Signing and Dating Raw Data

#### *Requirement*

The Draft Permit requires raw data must be signed and dated in "black" ink.

#### *Affected Draft Permit Sections*

Page B3-18, Line 28

#### *Proposed Change to Draft Permit*

Revise the Draft Permit to allow the use of electronic records and digital signatures.

#### *Justification for Change*

An average of 1,000 pages per container for 120,000 containers exists at the INEEL (and a single analytical batch of lab analyses for sludge samples can produce over 2 ft of paper), Therefore, the new information system at RWMC is being developed to eliminate this wasteful and error-prone paper process by incorporating Public Key Cryptography Systems (PKCS) digital signatures.

These digital signatures are directly applied to the source data in the Transuranic Reporting, Inventory, and Processing System (TRIPS) relational database and not on separate electronic reports generated from them, increasing the validity of the source data. These database data are ultimately transferred to the WWIS system, not paper reports. CAO, current revisions of the QAPD/QAPP, and INEEL site procedures recognize TRIPS stored data as the master copy. Validity of data will be decreased because the electronic signed copy is no longer the single master copy of what was collected, and what is on paper can be different than electronic versions transferred to WWIS.

The TRIPS electronic approval process was specifically designed to be consistent with State of New Mexico, State of Idaho, and DOE rules and regulations. TRIPS digital signatures are compliant with the following laws, guidelines, and industry standards on digital signatures and supporting infrastructure, making them legally enforceable:

#### Laws:

- *New Mexico Electronic Authentication of Documents Act* [NMAC 3.51 5-15-97]: Describes the legal validity of digital signatures and their acceptance of those signatures, how the State will provide registry infrastructure for authenticating electronic documents, and the types of digital signatures they accept.
- *Idaho Electronic Signature and Filing Act* [Chapter 23, Title 67 Idaho Code, effective 7/1/98]: Dictates the use of electronic signatures will have the full force and effect of manual signature and general requirements for a legal electronic signature.

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- United States *Government Paperwork Elimination Act, 1998*: Presently in the US Senate. Would permit the submission of all forms to federal agencies electronically or over the Internet and would expand definition of digital signature beyond the commonly used PKCS definition.
- *Paperwork Reduction Act of 1995* and the *Information Technology Management Reform Act of 1996* : General federal mandates the reduction of unnecessary paper production when other alternatives, such as TRIPS, exist.
- CFRs and Federal Register: Searches of DOE CFRs have not revealed any rules requiring the sole use of black ink signatures or prohibiting electronic signatures and, in fact, other agency CFRs and the Office of the Federal Register itself require their acceptance.

#### Policies and Guidelines:

- *Digital Signature Guidelines: Legal Infrastructure for Certification Authorities and Secure Electronic Commerce*, American Bar Association, Information Security Committee, Aug. 1, 1996: It establishes why digital signatures are legally enforceable, including guidelines and infrastructure for their use.
- *DOE Policy for the Use of Public Key Cryptography and Key Management (Internal Draft)*, Aug. 5, 1997: Describes DOE direction on digital certificate infrastructure, technology standards, and management policies to support public/private key management.
- *Model Certificate Policy*, Discussion Draft, Government Information Technology Services, Federal PKI Task Force, March 25, 1998: Presents a model for Certificate Authority Policy for persons directly responsible for X.509 certificate management.

#### Industry Standards:

- PKCS #1:RSA Encryption Standard, Version 1.5 (Revised on Nov. 1, 1993). See also <http://www.rsa.com/rsalabs/pubs/PKCS/>
- PKCS #11:Token Interface Standard, Version 2.01 (Revised on Dec 22, 1997). See also <http://www.rsa.com/rsalabs/pubs/PKCS/>
- X.509 Public Key certificates that bind an individual's identity to a public key.
- Lightweight Directory Access Protocol (LDAP) standard implementations of X.500 directories (Internet RFC 822 standard) for digital certificates and signature history.
  - Xcert X.509 LDAP Certificate database
  - Netscape X.509 LDAP storage of signature history

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### *INEEL Waste Characterization Program Impact*

Not accepting TRIPS digital signatures will severely increase the cost of handling data for all agencies. (INEEL cost estimate for modifications to include paper signature is approximately \$1,000,000.)

Assuming no increase in "raw" data storage in TRIPS, just forcing ink/paper signatures of existing electronic:

- *New scope costs:* Formal report printing services for paper signatures are not supported or needed in the present TRIPS system. Adding this functionality is about six-month design, 18 months implementation and almost \$1M.
- *Lost savings:* Failure to achieve TRIPS projected-savings of \$9M/five-year period on INEEL record keeping on about 1,000,000 pages/per year and up to 40,000 signatures per year.

Additional Requests for Raw Data, With Ink/Paper Signature:

- The Federal Smart Card Implementation Plan estimates smart card based electronic transactions are 85% cheaper than paper processing. Total expense depends on definition and amount of additional "raw" data requested, but with up to 2 ft of raw data per container and 120,000 containers, it can easily total several millions of dollars for all agencies involved. Every office (New Mexico RCRA, DOE/CAO, DOE/INEEL) required to handle signed papers will see significant processing costs.
- This excludes costs to expand TRIPS to other interfaces, like internal to analytical labs.

Access to TRIPS Electronic Signatures and Data Besides That Already Transferred to WWIS:

- Access to data typically does not equal access to information, and RCRA/CAO views of INEEL data are likely to be different than existing views. Level of effort to implement RCRA/CAO views of information they want to verify is on the same order of magnitude as implementing the SPO subsystem. Estimate \$0.5M.

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**Comment 10: Reporting Requirements**

***Requirement***

In association with the project-level validation and verification, sites must prepare a Site Project QA Officer summary and a Data Validation Summary.

***Affected Draft Permit Sections***

Page B3-23, lines 25-35

***Proposed Change to Draft Permit***

Delete the report requirement that sites must prepare a Site Project QA Officers Summary and a Data Validation Summary from the permit.

***Justification for Change***

The purpose and content of these data summary reports are not defined. Furthermore, no data fields exist in WWIS to report the Site Quality Assurance Officer (SQAQO) summary and data validation summary.

***INEEL Waste Characterization Program Impact***

While the INEEL can generate these reports (the procedures are still in place), the costs associated with producing these reports routinely are substantial (~ 3-4 man hours per drum).

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**Comment 11: Data Reporting Requirements**

***Requirement***

Sampling batch data reports shall be forwarded to the site project office within 28 days of sample collection of the last sample in the sampling batch. Analytical batch data reports shall be forwarded to the site project office within 28 days of verified time of sampled receipt (VTSR) of the last sample in an analytical batch.

***Affected Draft Permit Sections***

Attachment B3, Page B3-27, lines 5-15

***Proposed Change to Draft Permit***

Delete the requirement to prepare data packages in 28 days of VTSR. Also delete lines 13-15 which specify unnecessary details such as serial numbering and where page numbers must be located.

***Justification for Change***

The time used to prepare data packages is an operational issue and is not related to data quality. Waste cannot be accepted until the data packages are completed and data are accepted by WIPP via the WWIS and waste stream profile form (WSPF) review and approval process. Details for data packages, such as when the packages must be completed or where the page numbers must be located, do not improve the data quality or provide increased assurance of compliance with the waste characterization requirements for WIPP increase protection of public health or the environment.

***INEEL Waste Characterization Program Impact***

The INEEL analytical laboratories have difficulty meeting the 28-day turnaround and will not meet the 28-day turnaround for sludges if the reporting and review changes indicated by this permit are made.

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### **Comment 12: Supplemental Acceptable Knowledge Information Required**

#### ***Requirement***

The draft permit defines and requires sites to compile, document, and use supplemental acceptable knowledge information, if available, to delineate waste streams and assign EPA hazardous waste numbers.

#### ***Affected Draft Permit Sections***

Page B4-4, line 19-33, B4-5, lines 1-28

#### ***Proposed Change to Draft Permit***

Permit should be modified to read: Examples of supplemental acceptable knowledge documentation that could be used, if available, to delineate waste streams and assign EPA hazardous waste numbers is provided.

#### ***Justification for Change***

The list of supplemental information sources is not complete and will vary by site and waste generating facility and process. The list of supplemental information in the WIPP permit application was provided as examples of potential sources of acceptable knowledge information that may be considered by a site to further support the required program and waste stream information.

By requiring specific supplemental information, sites may not identify other more relevant sources of information. In addition, no value exists in forcing sites to review and document potential supplemental information to document no additional information exists.

#### ***INEEL Waste Characterization Program Impact***

INEEL would need to revise their acceptable knowledge documentation and identify any waste streams for which the supplemental information identified in the draft permit was not evaluated and documented. The newly compiled supplemental information would require review and evaluation to document no additional sources of information are available. TRIPs database would require modification to create waste stream profile and include changes to the information model to store these data.

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**Comment 13: Waste Certification Procedures**

***Requirement***

A nonconformance must be written when prohibited items are detected in waste.

***Affected Draft Permit Sections***

Page B4-8, lines 25-26

***Proposed Change to Draft Permit***

Delete the 5<sup>th</sup> bullet requiring sites to develop a nonconformance process for prohibited items identified during waste certification.

***Justification for Change***

When nonconforming items are detected in waste, the container is rejected and segregated until it can be treated or repackaged to comply with the WIPP Waste Acceptance Criteria (WAC). The waste certification process is designed to identify and remove prohibited items in the waste. No corrective actions are required for these situations.

***INEEL Waste Characterization Program Impact***

If nonconformances have to be issued when prohibited items (free liquids, aerosol cans, sealed containers, etc.) are detected in waste, it would mean a significant change in the way the INEEL operates. At the INEEL, it is not unusual for 50% or more of the drums processed in a day to be rejected for one reason or another. Wattage limits associated with transportation are the most common reason for rejection, but free liquids also occur frequently. It is not necessary to issue an NCR every time a drum is rejected. The program is designed to identify prohibited items and segregate noncompliant containers. The rigorous data validation, verification process, and QA oversight program provide a further check that each container meets the WIPP WAC requirements.

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**Comment 14: Inappropriate Reassignment of a Container to a New Item Description Code (IDC)**

***Requirement***

If discrepancies exist in the acceptable knowledge information for the reassigned Waste Matrix code, complete a nonconformance report (Permit Attachment B3).

***Affected Draft Permit Sections***

Page B4-11, Lines 8-11

***Proposed Change to Draft Permit***

If discrepancies exist in the acceptable knowledge information of the reassigned Waste Matrix code, ensure that the discrepancy is resolved and the drum properly characterized prior to being included in a shipment to WIPP.

***Justification for Change***

Nonconformances are uncontrolled and unapproved deviations from an approved plan, procedure, or expected result. NCRs are prepared for each nonconformance to identify the corrective actions necessary to preclude recurrence. In the case of discrepancies in acceptable knowledge information, the waste is recharacterized. No corrective action is possible to preclude recurrence. Procedures are in place which require a reevaluation of the waste stream information to ensure proper hazardous waste designations.

Because the waste is characterized per the waste analysis plan WAP before including it in the WIPP-certifiable waste population, an NCR is not the appropriate mechanism for tracking this activity. For example, during an RTR examination, it may be determined a graphite drum actually contains a higher volume of vermiculite than it does graphite, so the drum would be assigned a new Waste Matrix Code. There would not be any acceptable knowledge to indicate this new waste matrix code was generated during this time frame in this building because the generation was unintentional. In this example, the process that was out of compliance is no longer ongoing and occurred at another facility. An NCR would not serve any purpose for correcting this action. The facility that identifies this drum needs to have administrative and segregation controls in place so the drum is completely and correctly characterized before shipment.

***INEEL Waste Characterization Program Impact***

Procedure would need to be modified to require an NCR be written if a container is assigned to a new IDC.

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**Comment 15: Unresolved Discrepancies for a Container versus Waste Stream**

***Requirement***

All shipments of the subject waste stream will cease until the corrective action(s), as necessary, have been implemented and the discrepancy involving a specific container is resolved.

***Affected Draft Permit Sections***

Page B4-16, Line 33-38:

***Proposed Change to Draft Permit***

Change the Draft Permit to state if the Permittees review of the waste stream profile form and associated waste characterization data reveal a nonconformance with acceptable knowledge requirements, which result in an incorrect hazardous waste code assignment, the Permittees shall prohibit shipment of the waste stream to WIPP until corrective action is taken per Permit Attachment B3.

***Justification for Change***

Minor errors in acceptable knowledge information submitted to the WIPP and are not associated with permit compliance should not prohibit waste shipment and acceptance. An unresolved discrepancy with a single drum should not preclude all drums from a waste stream from being shipped. In many instances, an unresolved discrepancy is an isolated event with no impact on the rest of the waste stream.

For example, a drum might be identified as a graphite drum, but when it is processed through RTR, a lead lining may preclude verification of the waste form. Such a discrepancy is not related to the RCRA status of the waste stream.

***INEEL Waste Characterization Program Impact***

INEEL TRU waste certification process would be significantly impacted if any unresolved discrepancies require a drum be set aside until visual examination could be performed on the drum to verify the contents and that shipments from that waste stream are halted.

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**Comment 16: QAPjP Document Control Information Specified**

***Requirement***

The draft permit contains a required QAPjP format for document control information.

***Affected Draft Permit Sections***

Attachment B5, Section B5-2

***Proposed Change to Draft Permit***

Delete the required QAPjP format for document control information.

***Justification for Change***

This document control information was revised in the QAPP Interim Change, dated 11/15/96, but mistakenly left in the permit application. The permit should specify the required information but not a required format for this information. Sites have site-specific document formatting requirements. The format of the information does not affect a site ability to comply with the requirements nor increase protection of the public health or environment.

***INEEL Waste Characterization Program Impact***

Sites would need to reformat their QAPjPs to meet the specified document control format.

## **INEEL RESPONSE TO NMED PART B PERMIT August 11, 1998**

### **Comment 17: Batch Data Reporting Forms Must be Included in the QAPjP**

#### ***Requirement***

The Draft Permit requires sites to include batch data report forms in their QAPjPs.

#### ***Affected Draft Permit Sections***

Section B-4a(4)

#### ***Proposed Change to Draft Permit***

Revise the Draft Permit to allow the data report form to be defined in QAPjPs (i.e., described), with the actual data report form being included in other site-specific documentation (Standard Operating Procedures).

#### ***Justification for Change***

This requirement was deleted in the QAPP Interim Change, dated 11/15/96, but mistakenly left in the permit application. Sites should be allowed to update/improve forms provided the essential information is retained. It should be sufficient to list the essential information in the permit. Including the required information in the permit provides NMED with adequate control and, at the same time, allows sites flexibility to make minor changes without going through an unnecessary approval cycle. Sites should have the option of including forms in the QAPjP or implementing SOPs.

#### ***INEEL Waste Characterization Program Impact***

Sites may need to revise their QAPjPs to include actual preapproved forms used for batch data reports.

# **INEEL RESPONSE TO NMED PART B PERMIT**

## **August 11, 1998**

### **Comment 18: Nonconformances**

#### ***Requirement***

The draft permit requires sites provide written notification to the Permittees of the nonconformance within five days of the incident for any nonconformance or failure to meet the Quality Assurance Objectives (QAOs) specified in the WAP. The draft permit requires sites to submit an NCR to the Permittees within 30 days of identification of the incident. The draft permit requires the generator sites to implement a corrective action, which meets the QAOs specified in the WAP, within 30 days of identification of the incident. If the QAOs are not met for any headspace gas field Quality Control (QC) sample, an NCR must be prepared, submitted, and approved.

The draft permit requires a nonconformance report be prepared when QC sample results are outside the established control limits.

#### ***Affected Draft Permit Sections***

Attachment B3, page B3-4, lines 21-28; page B3-5, lines 7-9; Page B3-20, lines 16-20; pages B29-30, lines 13-36, and lines 9-14

#### ***Proposed Change to Draft Permit***

In Attachment B3, page B3-4, lines 21-28, change to read: For any nonconformance or failure to meet the nonmatrix related QAOs specified in this WAP, the generator sites shall initiate a nonconformance. The NCR process shall be monitored by the authority defined in applicable QA plans and procedures. The Permittees shall review and monitor all nonconformances through the auditing process. If matrix-related QC samples do not meet the QAOs, a nonconformance is not required because the appropriate qualifying flag will be applied and a discussion of the qualification included in the case narrative that accompanies the data package.

In Attachment B3, page B3-5, lines 7-9, no change.

In Attachment B3, page B3-20, lines 16-20, change to read: QC sample results are within established control limits and, if not, the data have been appropriately qualified. Data outside established control limits will be qualified with the appropriate qualifying flag, discussed in the case narrative, and included in the calculation for completeness.

In Attachment B3-, pages B3-29 and B3-30, lines 13-36 and lines 9-14, no change.

## **INEEL RESPONSE TO NMED PART B PERMIT**

### **August 11, 1998**

#### ***Justification for Change***

Nonconformances should be reported on a periodic basis rather than after each individual event, are currently being reported at the generator/storage site level, and monitored through the auditing process by the Permittees. The Permittees are informed and aware of significant issues identified during generator/storage site characterization activities. Individual event notification, report preparation, and corrective action are appropriate at the generator/storage site level, with all nonconformances, corrective actions, and trending information being reported to and monitored by the Permittees through the auditing process.

Nonconformances should not be required for matrix-related QC samples (i.e., matrix spikes), that do not meet the acceptance criteria because qualifying flags are applied to the appropriate data and a discussion of the qualification will be included in the case narrative accompanying each data package. The draft permit requirement is excessive, adds more paperwork, and does not offer any benefit to the quality of the data nor increase protection of public health and the environment.

#### ***INEEL Waste Characterization Program Impact***

If the draft permit language remains, sites will be required to submit each nonconformance event and report to CAO. This will require sites to spend unnecessary time and resources on redundant and excessive paperwork. In addition, all requirement documents and some procedures would need revision in conjunction with additional training and personnel. This requirement adds nothing to the data or program quality.

# INEEL RESPONSE TO NMED PART B PERMIT

## August 11, 1998

### Comment 19: Tentatively Identified Compounds

#### *Requirement*

In Attachment B, page B-10, lines 7-12, the Draft Permit states, "In accordance with EPA convention, identification of compounds detected by gas chromatography/mass spectrometry methods (GC/MS) that are not on the list of target analytes shall be reported." These compounds are reported as tentatively identified compounds (TICs) in the waste data package and shall be added to the target analyte list if detected in a given waste stream if they appear in either the 20 NMAC 4.1.200 (incorporating 40 CFR Part 261) Appendix VIII or the 20 NMAC 4.1.500 (incorporating 40 CFR Part 264) Appendix IX list. However, in Attachment B, page B-12, lines 40-41, and page B-13, lines 1-8, the Draft Permit states, "In the process of performing organic headspace and solid sample analyses, nontarget compounds may be identified. These compounds will be reported as TICs. TICs listed in 20 NMAC 4.1.500 (incorporating 40 CFR 264) Appendix IX will undergo a second confirmatory analysis or will be compared with acceptable knowledge data to determine if the TIC is a listed compound in the waste. If the TIC cannot be identified as a component of the packaging materials, the Permittees will add these TICs to the list of hazardous constituents for the waste stream (and assign additional EPA hazardous waste codes, if appropriate), and a permit modification will be submitted to NMED for their approval to add these waste constituents (and waste codes), if necessary."

#### *Affected Draft Permit Sections*

Attachment B, page B-10, lines 7-12, and Attachment B, page B-12, lines 40-41, and page B-13, lines 1-8; Attachment B, page B-9, lines 10-12.

#### *Proposed Change to Draft Permit*

In Attachment B, page B-10, lines 7-12, change to read: Per EPA convention, identification of compounds detected by gas chromatography/mass spectrometry methods not on the list of target analytes shall be reported. These compounds (up to 20 for GC/MS and 5 for FTIRS) are reported as TICs in the waste data package and shall be added to the target analyte list if listed in 20 NMAC 4.1.500 (incorporating 40 CFR Part 264, Appendix IX list), and are detected in 25% of the samples from a given waste stream.

In Attachment B, page B-12, lines 40-41, and page B-13, lines 1-8, change to read: In the process of performing organic headspace and solid sample analyses, nontarget compounds may be identified. These compounds will be reported as TICs. TICs listed in 20 NMAC 4.1.500 (incorporating 40 CFR Part 264) Appendix IX will be compared with acceptable knowledge data to determine if the TIC is a listed compound in the waste. If the TICs cannot be identified as a component of waste packaging materials and are detected in 25% of the samples in a given waste stream, the Permittees will add these TICs to the list of hazardous constituents for the waste stream (and assign additional EPA hazardous waste codes, if appropriate).

## **INEEL RESPONSE TO NMED PART B PERMIT**

### **August 11, 1998**

In Attachment B, page B-9, lines 10-12, change to read: Hazardous constituents included in 20 NMAC 4.1.500 (incorporating 40 CFR Part 264) Appendix IX as specified in Tables B-1, B-3, and B-4, as well as any other hazardous constituent identified through acceptable knowledge.

#### ***Justification for Change***

This requirement is more stringent than Federal requirements under RCRA and therefore exceeds New Mexico statutes annotated, Section 74-44(A). The SW-846 requirement for reporting TICs is on a sample-by-sample basis. TICs are only reported if they meet the minimum requirements for the major ions relative intensities and agreement with the reference spectrum. The United States EPA Contract Laboratory Program, National Functional Guidelines for Organic Data Review requires for each sample, the laboratory must conduct a mass spectral search of the National Institute of Standards and Technology (NIST) library and report the possible identity for the 10 largest volatile fraction peaks (or 20 largest semivolatile fraction peaks) which are not system monitoring compound, internal standard, or target compounds, but which have area or height greater than 10% of the area or height of the nearest internal standard. By limiting the number of TICs to 20 for GC/MS and five for Fourier Transform Infrared (FTIRS), the draft permit remains consistent with SW-846 and the Contract Laboratory Protocol (CLP).

TIC data analysis is one of the most time-consuming portions of the data reduction, review, and reporting. SW-846 requires that only after visual comparison of the sample spectra with the nearest library searches may the analyst assign a tentative identification. By not limiting the number, prevalence, and frequency of occurrence for TICs that must be reported, no boundary is placed on the amount of additional data analyses required for each sample and waste stream.

Appendix VIII, hazardous constituents, includes some that are regulated by RCRA (as U and P codes), while others have no hazardous waste associated numbers. In addition, it is unreasonable to require Appendix VIII compounds to be added to the target analyte list because SW-846 analytical methods do not include all compounds on the list. Furthermore, no basis exists for requiring a second confirmatory analysis, since TICs are just tentatively identified compounds not included on the analyte list. If a second confirmatory analysis were required, laboratories would have to obtain new standard mixtures, develop new calibrations, revise forms and procedures, and update software, method performance data, which offers no benefit to the program. Before a compound is added to the target analyte list, a rationale for the data use is needed and they need to be reported in a given percentage of the samples. Furthermore, a permit modification should not be required when TICs are added to the target analyte list because this permit already includes the Appendix IX list. No data quality objectives exist for TICs related to RCRA permit compliance. TICs are qualitatively determined, and therefore should not be used to make compliance decisions.

#### ***INEEL Waste Characterization Program Impact***

For each additional target analyte, sites operations must be changed to obtain new standard mixtures, revise and update procedures and forms, recalibrate equipment, update software input, demonstrate method performance, and obtain approval of the revised QAPjP and procedures. Without specified limits established for when TICs must be added to the analyte lists, the target analyte lists could easily be constantly changing and become so large that laboratory operations will become unmanageable.

## **INEEL RESPONSE TO NMED PART B PERMIT**

### **August 11, 1998**

#### **Comment 20: Definition of Analytical Batch**

##### ***Requirement***

The Draft Permit defines an analytical batch as up to 20 samples received by the laboratory and prepared for analysis within 14 days of the VTSR of the first sample in the batch.

##### ***Affected Draft Permit Sections***

Attachment B, page B-9, lines 23-26.

##### ***Proposed Change to Draft Permit***

Change Attachment B, page B-9, lines 23-26 to read: An analytical batch can be up to 20 samples (excluding laboratory QC samples), all of which must be received by the laboratory within 14 days of the validated time of sample receipt of the first sample in the batch.

##### ***Justification for Change***

The proposed definition is from the permit application and is more restrictive than the SW-846 definition. No basis or need exists to include the sample preparation as an additional restriction in the analytical batch definition. SW-846, Chapter 1, defines a batch as a group of samples which behave similarly with respect to the sampling or the testing procedures being employed and which are processed as a unit. For QC purposes, if the number of samples in a group is greater than 20, then each group of 20 samples or less will all be handled as a separate batch. SW-846 does not mention sample preparation in this definition. The requirement that the samples must be prepared for analysis within 14 days of VTSR of the first sample prevents the use of holding time greater than 14 days. The date of sample preparation is defined by the analytical holding time, not the date of receipt at the laboratory, and should not be included in the definition of an analytical batch. This revised analytical batch definition does not improve or increase the quality of the data or improve protection of public health and the environment. In addition, per New Mexico statutes annotated, Section 74-4-4(A) NMED lacks the authority to impose requirements more stringent than the RCRA.

##### ***INEEL Waste Characterization Program Impact***

Including sample preparation in the definition of an analytical batch will result in a smaller number of samples in each batch, an increase in the number of batches, and an increase in the required number of QC samples. The increased number of analytical batches will also increase the time required for data review, verification, and validation. Any samples received on the 14th day of VSTR could not be included in that batch due to not enough time to prepare those samples on the same day received. A 30% increase in QC samples may be seen with no added value to the data, program quality.

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**Comment 21: Frequency of a Repeat of the Data Validation at the Data Generation Level**

***Requirement***

The Draft Permit requires, in Attachment B, page B-22, lines 15-18, that at the second level of validation, the Site Project Manager, the Site Data Validation Officer, and the Site Data QA Officer also ensure a repeat of this (data generation level review) is performed on at least one randomly chosen container weekly. However, in Attachment B3, page B3-23, lines 19-22, the requirement reads, "The Site Project Manager and Site Project QA Officer shall ensure a repeat of the data generation level review, validation, and verification is performed on the data for a minimum of one randomly chosen waste container quarterly (every three months)."

***Affected Draft Permit Sections***

Attachment B, page B-22, lines 15-18, Attachment B3, page B3-23, lines 19-22

***Proposed Change to Draft Permit***

In Attachment B, page B-22, lines 15-18. change the word "weekly" to "quarterly (every three months)."

***Justification for Change***

This is an inconsistency within the draft permit. The required frequency of quarterly data review is intended to be a quality control surveillance check, not part of the routine data validation. The data validation process typically takes several days to two weeks to perform. By requiring a repeat on a weekly basis would only result in confusing and overlapping activities. Furthermore, the number of data packages completed on a weekly basis frequently is only one or less.

***INEEL Waste Characterization Program Impact***

This is a thirteen-fold increase in frequency than currently required in the permit application and in Attachment B3. If implemented, many additional staff would be required for planning, conducting, and reporting the activities related to this increased requirement.

# **INEEL RESPONSE TO NMED PART B PERMIT**

## **August 11, 1998**

### **Comment 22: Definition of Valid Data, Use of Qualifying Flags, and Definition of Completeness**

#### ***Requirement***

The Draft Permit defines valid results as results that meet all Quality Control Criteria specified in Tables B3-2 through B3-9 and meet the detection limit, calibration, representativeness, and comparability criteria. The draft permit requires if any QC sample result does not meet the acceptance criteria, the corresponding analyte results in the associated field samples are invalid or reject, and therefore cannot be used to calculate completeness.

#### ***Affected Draft Permit Sections***

Attachment B3, page B3-11, lines 8-11; page B3-14, lines 20-23; page B3-16, lines 20-23; page B3-20, lines 16-20; Attachment B3, page B3-20, after line 34.

#### ***Proposed Change to Draft Permit***

In Attachment B3, page B3-11, lines 8-11, page 3-14, lines 20-23, and page B3-16, lines 20-23, change to read: Valid results include all reported results as well as any results reported with qualifying flags and meet the detection limits, calibration, laboratory control sample criteria, representativeness, and comparability criteria within this section.

In Attachment B3, page B3-20, lines 16-20, change to read: QC sample results are within established control limits and, if not, the data have been appropriately qualified. Data outside established control limits for matrix related QC will be qualified with the appropriate qualifying flag and included in the calculation for completeness.

In Attachment B3, page B3-20, after line 34, add the "Z" flag to list of reporting flags and define it as One or more QC samples do not meet acceptance criteria.

#### ***Justification for Change***

The draft permit does not allow DOE to qualify the data based on data use. This is inconsistent with EPA SW-846 or US EPA CLP guidelines and exceeds New Mexico statutes annotated in Section 74-4-4(A). It is also contrary to environmental laboratory practices used in sampling and analyzing environmental samples. The CLP provides very specific guidance for the assignment of qualifying flags. In the introduction portion of the US EPA Contract Laboratory Program National Functional Guidelines, for Inorganic (and Organic) Review, EPA states "if the nature of the sample itself limits the attainment of specifications, appropriate allowances must be made." Additionally, in Chapter 1 of SW-846, Section 4.4.6, EPA recommends data should be reported per requirements of the end-user and that supporting documentation include data qualifiers with appropriate references and narrative on the quality of the results. Thus, matrix considerations must be allowed.

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With the complex matrices often associated with hazardous and mixed wastes, it is not uncommon to have some matrix spike, surrogate, matrix spike duplicate, or internal standard results outside the acceptance criteria. EPA recognizes in SW-846 and the CLP that more complex matrices will result in more matrix-related QC samples not meeting the acceptance criteria established for a specific program. The basis for invalidating or rejecting data in the CLP program is based on how far the QC sample results deviate from the acceptance criteria and the professional judgment of the validator who considers data use.

#### ***INEEL Waste Characterization Program Impact***

If the draft permit requirement is not changed, most homogeneous solid data collected to date, are not "valid." Generally, there is at least one matrix-dependent QC failure for at least one analyte in a batch of samples. Conservative estimates are that approximately 50% of samples for metals and 60-70% of samples for organics have at least one noncompliant (flagged) analyte. Even with additional sampling and analysis, many complex matrices will make it impossible to achieve 90% completeness for homogeneous solids.

# INEEL RESPONSE TO NMED PART B PERMIT

## August 11, 1998

### Comment 23: Use of SW-846

#### Requirement

1. For all analytical methods for waste analysis not otherwise specified in Permit Attachment B1, the Permittees shall require the generator/storage sites to use Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication SW-846. (Permit Module II, page II-2). The method exceptions specified in the draft permit are for radioscapy, visual examination, and headspace gas sampling and analysis that include Procedures 310.1, 310.2, and EPA Compendium Method TO-14.
2. For VOC [semivolative organic compound (SVOC) or metals] analysis, data generated through analysis of samples from different sites shall be comparable. Comparability is achieved by using standardized sample preparation and methods as specified in the most recent SW-846 update at the time of sample collection and analysis, traceable standards and requiring all sites to successfully participate in the Performance Demonstration Program (PDP). Any changes to SW-846 methodology that results in eliminating sample preparation or analytical methods must be addressed as a corrective action to address the comparability of data promulgated before and after the SW-846 modification. (Attachment B3, page B3-13, lines 2-8)

#### Affected Draft Permit Sections

Permit Module II, page II-2, Section II.C.1.b  
Attachment B3, page B3-13, lines 2 through 8; Attachment B3, page B3-14, lines 26 through 32;  
Attachment B3, page B3-16, lines 25 through 31

#### Proposed Change to Draft Permit

1. Permit Module II, page II-2, Section II.C.1.b., change to read: For all analytical methods for waste analysis not otherwise specified in Permit Attachment B1, the Permittees shall require the generator/storage sites to use *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA Publication SW-846 or the *Transuranic Waste Characterization Sampling and Analysis Methods Manual*, DOE/WIPP-91-043.
2. In Attachment B3, page B3-13, lines 2 through 8, change to read: For VOC analysis, data generated through analysis of samples from different sites shall be comparable. Comparability is achieved by using standardized SW-846 and/or Methods Manual sample preparation and methods, traceable standards, and requiring sites to successfully participate in the PDP. Generator/storage sites may use the most recent issued version of SW-846 and/or the Methods Manual. Any changes to SW-846 or Methods Manual methodology that result in eliminating sample preparation or analytical methods must be addressed as a corrective action to address the comparability of data collected before and after the SW-846 or Methods Manual modification.

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In Attachment B3, page B3-14, lines 26 through 32, change to read: For SVOC analysis, data generated through analysis of samples from different sites shall be comparable. Comparability is achieved by using standardized SW-846 and/or Methods Manual sample preparation and methods, traceable standards, and requiring sites to successfully participate in the PDP. Generator/storage sites may use the most recent issued version of SW-846 and/or the Methods Manual. Any changes to SW-846 or Methods Manual methodology that result in eliminating sample preparation or analytical methods must be addressed as a corrective action to address the comparability of data collected before and after the SW-846 or Methods Manual modification.

In Attachment B3, page B3-16, lines 25 through 31, change to read: For metals analysis, data generated through analysis of samples from different sites shall be comparable. Comparability is achieved by using standardized SW-846 and/or Methods Manual sample preparation and methods, traceable standards, and requiring sites to successfully participate in the PDP. Generator/storage sites may use the most recent issued version of SW-846 and/or the Methods Manual. Any changes to SW-846 or Methods Manual methodology that result in eliminating sample preparation or analytical methods must be addressed as a corrective action to address the comparability of data collected before and after the SW-846 or Methods Manual modification.

#### **Justification for Change**

1. The exclusive use of SW-846 methodologies is more restrictive than EPA requirements and New Mexico NMSA Sec, 74-44. In the permit application, the use of the Methods Manual was mandatory and generator/ storage sites are currently using the Methods Manual. A crosswalk document was included with the permit application that compared the Methods Manual with SW-846 methods for solid phase waste. This crosswalk specifically illustrated the analytical procedures found in the Methods Manual were based on and gave equivalent results to SW-846 methods. EPA has reviewed the Methods Manual and agreed the methods met the QAOs of this program. Therefore, the generator/storage sites should have the option of using the Methods Manual or SW-846.

In the permit application, the WIPP required the use of the Methods Manual because these methods addressed all requirements, including the program analyte lists, quality assurance objectives, quality control acceptance criteria, for testing, sampling, and analytical methods. For the analytical methods listed in the Methods Manual, the analyst is referred directly to the appropriate section of the corresponding SW-846 method for the requirements of the procedure. Throughout SW-846, reference is made that the EPA expects laboratories to demonstrate and document the standard operating procedures are capable of providing appropriate performance documentation for their intended application. The documentation includes performance data as well as detailed descriptions of the procedural steps and must be available for review and inspection upon request from the regulatory authorities.

2. The comparability requirement stated in the Draft Permit that requires the use of the most recent SW-846 (or Methods Manual) update at the time of sample collection and analysis is in error. It is impossible for laboratories to implement a new promulgated method instantaneously. It would require

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procedures be reviewed, updated, and approved; a new demonstration of method performance; and training on the new method; not to mention the possible need for new equipment. As long as the program QAOs are met, the immediate use (i.e., time of sample collection and analysis) of the most recent update (of SW-846 or the Methods Manual) is unnecessary and does not improve the quality of the program. Laboratories update during their annual review cycle or when new equipment is purchased.

#### **INEEL Waste Characterization Program Impact**

By requiring use of SW-846 and not the Methods Manual, generator/storage sites each needs to change the references in their site specific SOPs. This will incur unnecessary resource allocation, additional training, and redistribution of documents. No advantage exists to this overly restrictive requirement. The Methods Manual has been approved by EPA and sites are currently using this Manual.

If the Draft Permit requirement remains that comparability is achieved by using standardized sample preparation and methods as specified in the most recent SW-846 update at the time of sample collection and analysis, sites will not be able to continue to collect and analyze samples until new methods have been totally implemented. This may suspend collection of samples from two months up to one year. That is the time it may take to get a new method online. This is unreasonable and adds no value to the program. If the QAOs are being met, the program requirements are achieved.

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**Comment 24: Waste Stream Definition**

***Requirement***

The Draft Permit defines waste stream as including consideration of isotopic makeup.

***Affected Draft Permit Sections***

Attachment B, Page B-2, lines 27-29

***Proposed Change to Draft Permit***

Exclude consideration of isotopic makeup when delineating waste streams for purposes of RCRA waste characterization.

***Justification for Change***

The purpose of delineating waste streams is to have appropriate populations from which to sample to determine EPA hazardous waste numbers. The radionuclide component of the waste is not addressed in the RCRA permit. EPA and NRC require DOE to determine the radionuclide content on each waste container, not on each waste stream.

***INEEL Waste Characterization Program Impact***

INEEL has identified waste streams by similar material, physical form, and hazardous constituents. If isotopic makeup is included in the definition, current waste streams must be reevaluated and program documents revised to evaluate the isotopic composition of each waste stream. In some cases, the number of waste streams may increase which could impact RCRA sampling and analysis requirements with no added confidence in hazardous waste determinations.

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### **Comment 25: Real-Time Radioscopy Mandatory**

#### ***Requirement***

The Draft Permit requires the use of real-time radioscopy (RTR). If other radioscopy methods are developed or used, a permit modification will be required (Section B-3c). This requirement could affect site operations if a system other than RTR is being used currently or is being contemplated for use in the program.

#### ***Affected Draft Permit Sections***

Page B-11, Lines 14-17

#### ***Proposed Change to Draft Permit***

Delete the requirement for RTR such that sites are not required to use this characterization technique. The permit should specify that radioscopy or equivalent can be used for waste characterization purposes.

#### ***Justification for Change***

The permit application stated that digital radioscopy, computed tomography, or other similar methods could be used upon written approval from DOE/CAO and NMED via letter. Since the time the application was submitted, DOE has designed, developed, and demonstrated the equivalency of a number of radioscopy techniques, which have significantly greater resolution than many current RTR systems. NMED should allow sites to use any of the various radioscopy techniques available, provided that the technique can provide the information desired.

These other techniques include digital radioscopy and computed tomography. Digital radioscopy produces a static image and liquid detection is performed via image super position and subtraction. Computed tomography uses plane sections to generate the x-ray image. By allowing using these alternate techniques now, it will eliminate the need for costly permit modifications in the future.

In addition, the terms real-time radiography (RTR) and real-time radioscopy (RTR) are synonymous. Page B1-19 (lines 35-37) of the Draft Permit, describes RTR as consisting of "an X-ray producing device, an imaging system, and enclosure for radiation protection, a waste container handling system, an audio/video recording system, and an operator control and data acquisition station." In INEEL documentation, the term "real-time radioscopy" is used in the same context. In an effort to remain consistent with industry terminology and standards (i.e., ASTM E 1000-92 "Standard Guide for Radioscopy" and ASTM E 1255-96 "Standard Practice for Radioscopy") INEEL documentation used the term "real-time radioscopy."

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Currently, RTR is the radioscapy technique used at INEEL. However, in the future it may be desirable to institute other radiosopic techniques to reduce the budget, manpower, and schedule demands of RTR. A number of other sites, including LANL and Hanford, currently use other radiosopic techniques with comparable results to RTR.

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**Comment 26: Collecting and Analyzing Three Samples for Each Core**

***Requirement***

Three samples will be collected and analyzed from the core for VOC analyses, with the calculated mean concentration of each analyte considered the analyte concentration for the container.

Samples for SVOC, polychlorinated biphenyls, and metals analyses shall be collected from the same location and in the same manner as the sample(s) collected for VOC analysis, or they may be collected by splitting or compositing the representative subsection of the core. The representative subsection is chosen by randomly selecting a location along the portion of the core from which the sample was taken (i.e. core length).

***Affected Draft Permit Sections***

Attachment B1, Page B1-15, Section B1-2a, lines 8-10  
Attachment B1, Page B1-15, Section B1-2a, lines 19-26  
Attachment B1, Page B1-15, Section B1-2a, lines 31-33  
Attachment B6, Page B6-44, Table B6-1

***Proposed Change to Draft Permit***

Attachment B1, Page B1-15, Section B1-2a, lines 8-10:

Delete the sentence "Three samples will be collected from the vertical core." Change "The sampling locations shall be randomly selected within three equal-length subsections of the one along..." to "The sampling location must be randomly selected along..."

Attachment B1, Page B1-15, Section B1-2a, lines 19-26:

Change "samples" to "sample," "vials" to "vial," "caps" to "cap," and delete the sentence "Each of the three samples will be analyzed, with the calculated mean concentration of each analyte will be considered the analyte concentration for that container."

Attachment B1, Page B1-15, Section B1-2a, lines 31-33:

Replace "The representative subsection is chosen by randomly selecting a location along the portion of the core from which the sample was taken (i.e. core length)" with "The representative subsection is chosen by randomly selecting a location along the core."

Attachment B6, Page B6-44, Table B6-1:

In second question box, remove "three equal length." In the fourth question box, replace "The representative subsections are chosen by randomly selecting a location along the portion of the core from

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which the sample was taken” with “The representative subsection was chosen by randomly selecting a location along the core.”

#### ***Justification for Change***

The suggested strategy is an apparent attempt to account for vertical variability in contaminant concentrations within containers. However, the variability important to capture with the sampling is that of the waste stream, not the waste container. The waste stream variability is incorporated into the upper confidence limit (UCL) for the mean concentration in the waste stream, which is used to make hazardous determinations for the waste stream as a whole; the hazardous determinations are not made on the basis of individual waste containers. It should be noted that the variability in contaminant concentrations in the waste stream is accounted for by statistically determining the number of samples to collect from the waste stream and collecting the samples from random locations. These random locations may be in different vertical positions from container to container; the estimate of variability that results essentially includes the variability within containers. The requirement to collect and analyze three samples per core means three times as many samples as that required on a statistical basis would be required, with, because of the container averaging requirement, no benefit of using the extra information in the UCL.

Due to the change in sampling requirement for VOC analyses, the sampling requirement for SVOC, polychlorinated biphenyls, and metals analyses becomes ambiguous. The sampling requirement for semivolatiles, organic compounds, polychlorinated biphenyls, and metals analyses states samples may be collected from the same location and in the same manner as the sample(s) collected for VOC analysis, or they may be collected by splitting or compositing the representative subsection of the core. The former implies that three samples must be chosen because three are required for VOC analysis in the Draft Permit; however, the wording is unchanged from the Permit Application where the implication was one sample was required. The option of compositing a representative subsection of the core has been made unclear with the statement “The representative subsection is chosen by randomly selecting a location along the portion of the core from which the sample was taken (i.e. core length).” It is not clear what sample the sentence refers to nor is it clear whether the subsection is chosen from the length of the core or a portion of the core.

#### ***INEEL Waste Characterization Program Impact***

At the INEEL, this requirement would invalidate the data already collected, or at the least, potentially limit the data used. In addition, this will significantly increase the amount of analytical work. An increase of three samples per core would significantly increase the laboratory resources to meet the sample holding times.

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#### **Comment 27: Determining Number of Samples for Retrievably Stored Homogeneous Solids and Soil/Gravel Waste**

##### ***Requirement***

1. The Draft Permit requires preliminary estimates for determining the number of solid samples must be based on the *larger* of five samples or 5% of the waste stream. In other words, waste streams containing greater than 100 containers would initially require 5% sampling to obtain a preliminary estimate. In addition, samples collected for preliminary estimates must be randomly selected.
2. In the Draft Permit, the equation for the number of samples to collect is changed to the SW-846 equation.
3. The Draft Permit requires the number of samples collected is 110% of the calculated required number to allow for acceptable levels of completeness.

##### ***Affected Draft Permit Sections***

Attachment B2, Page B2-4, Section B2-2, lines 1-4  
Attachment B2, Page B2-4, Section B2-2, lines 13-27  
Attachment B2, Page B2-5, Section B2-3, lines 24-28

##### ***Proposed Change to Draft Permit***

1. Preliminary estimates will be based on a minimum of five sample analyses collected from the waste stream, either previously or under the approved characterization program.
2. The appropriate number of samples to be collected will be determined using the procedure from Cochran (1977) presented in the Permit Application. The equation for the observed sample  $n^*$  must be updated to reflect the revised methodology.
3. The required number of samples shall be collected and analyzed, regardless of completeness requirements.

##### ***Justification for Change***

The changes to methodology for determining the number of samples for retrievably stored homogeneous solids and soil/gravel waste are not justified. The imposition of 5% sampling for preliminary sampling overrides the statistical approach currently being used and is not a method recommended in statistical science or in SW-846. The equation for determining the number of samples to collect and analyze in the Permit Application results in conservatively determining a waste stream hazardous when the mean is close to the regulatory threshold compared to the equation in the Draft Permit, and therefore, is preferred.

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Requiring sampling of additional 10% of the required number imposes an unjustified burden on sites when the required number must be collected and analyzed regardless of completion requirements. The requirements provide no real benefit in terms of protection of human health or the environment.

### 1. Basis for Preliminary Estimates

The requirement in the Draft Permit essentially imposes a minimum number of preliminary samples, and that minimum is larger than the minimum required for characterization for large waste streams (those with greater than 100 containers). The preliminary estimates are used in an initial determination of the number of samples required for characterization. Because checks of the preliminary estimates are performed after sampling and analysis for characterization is completed (and additional sampling is required when results indicate it is necessary), the requirement for a minimum number of preliminary samples is not needed. Also, preliminary samples may be used to meet characterization requirements under certain conditions, so the imposition of 5% sampling for preliminary sampling essentially overrides the statistical approach to determining the number of samples to collect.

The requirement that the preliminary samples be randomly selected is also not necessary. Random selection is preferable so these samples can be included in the final sample, but there is no reason it should be a requirement. William Cochran, an authority on sampling, in his book on statistical sampling, *Sampling Techniques*, sanctions nonrandom pilot sampling: "But often the pilot work is restricted to a part of the population convenient to handle or that will reveal the magnitude of certain problems." (p. 80)

Finally, SW-846 does not require the preliminary estimates be 5% of the population or the preliminary sample be randomly drawn. Such requirements greatly increase the cost of sampling with no definite benefit. In fact, SW-846 states "Such preliminary estimates which may be derived from information pertaining to similar wastes, process engineering data, or limited analytical studies, are used to identify the approximate number of samples that must be collected from the waste." (page 11 of Chapter 9). The draft permit is more stringent than Federal regulations and, therefore, in violation of New Mexico statutes annotated, section 74-4-4(A). Requirements in SW-846 are sufficient to protect public health and the environment.

The 5% preliminary sampling requirement adds significant costs to sampling and analysis alone. For instance, at the INEEL, the requirement would increase the number of drums requiring sampling and analysis to increase by approximately 630 drums (estimated to cost over \$12.5 million).

### 2. Equation for Determining the Number of Samples to Collect

In the Draft Permit, the equation for determining the number of samples to collect, from SW-846, is different from that in the Permit Application, which is from Cochran (1977). The primary difference, aside from a difference in the percentile of the  $t$  distribution, which reflects the use of different confidence levels and is discussed in another comment, is the division by  $RT - \bar{x}$  in the Draft Permit instead of  $\bar{x}$  as in the

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Permit Application. RT is the regulatory threshold and  $\bar{x}$  is the preliminary estimate of the mean of the analyte in the waste stream. For the case of  $\bar{x} = 1/2 RT$ , the equations are identical, but important differences exist in the equations when this is not the case.

The equation in the Draft Permit may result in an excessive number of required samples in cases where the mean concentration of an analyte in the waste stream is close to (either greater or less than) the regulatory limit. This is because  $RT - \bar{x}$  becomes small and the required number of samples becomes large. Essentially, the approach offers a way to ensure the mean is known *very well*, that is, with very high tolerance, around the regulatory threshold, while the approach in the Permit Application simply ensures the mean is known within a tolerance of  $\pm 100\%$ . The result is that increased sampling enables the waste to be determined nonhazardous instead of conservatively determining it hazardous with fewer samples as in the Permit Application approach.

The increased tolerance required by the equation in the Draft Permit unjustifiably increases sampling requirements to refine the hazard determination for wastes destined for WIPP. Using the SW-846 equation may be justified for sampling to determine whether or not a site or waste is hazardous when remediation of a nonhazardous site (or treatment of a nonhazardous waste) would likely be much more costly than increased sampling. Such is not the situation with wastes destined for WIPP.

### 3. Adjustment for Completeness Requirements

The requirement in the Draft Permit that the number of samples collected is 110% of the calculated required number is an effort to compensate for the completeness requirement of 90%. Although the completeness requirement is 90%, the calculated number of samples to collect and analyze is also required. As a result, the completeness requirement is essentially overridden.

An analogous situation is with headspace gas sampling for which the completeness requirement is also 90%. However, because headspace gas sample analyses are required for each and every container, the completeness requirement is, in effect, 100%.

The requirement to collect an additional 10% of the required samples adds an unnecessary cost burden to sampling activities. If additional samples are required (either because of completeness issues or recalculations for the required number), they will be collected as needed. Sites may elect to collect additional samples, but this should be an election based on site-specific considerations, not a requirement. For instance, INEEL currently provides for the possibility of resampling by creating set aside stacks of containers.

### ***INEEL Waste Characterization Program Impact***

1. Based on the analytical results obtained for the first/second stage sludge waste streams sampled to date, the requirement to collect the larger of 5 or 5% of the waste stream containers for preliminary samples would increase the number of drums requiring sampling and analysis to be approximately 630

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drums. The additional cost is significant, estimated at over \$12.5 million. In addition, significant modification of site procedures and additional drum retrieval to obtain random drums will be necessary to comply with the requirement.

2. Using the SW-846 equation to determine the number of samples to collect and analyze from a waste stream may result in increased sampling requirements under certain conditions.
3. The requirement to sample an additional 10% to avoid resampling will result in an additional 10% increase in cost (approximately \$1.2 million). The site currently provides the possibility of resampling by creating set aside stacks of containers.

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**Comment 28: Assigning TC Codes**

***Requirement***

The Draft Permit requires sites compare the UCL value to the RTLs to assign *additional* TC codes as warranted. This implies toxicity characteristic (TC) codes added based on acceptable knowledge could not be removed if data indicated a constituent was below the regulatory limit.

***Affected Draft Permit Sections***

Attachment B, Page B-10, Section 3a(2), line 33  
Attachment B, Page B-56, Figure B-3

***Proposed Change to Draft Permit***

Attachment B, Page B-10, Section 3a(2), line 33:

Change "additional TC waste codes will be assigned" to "TC waste codes will be assigned."

Attachment B, Page B-56, Figure B-3

Change box text "Add additional EPA codes" to "Update EPA codes."

***Justification for Change***

TC hazardous waste numbers are assigned on the basis of characterization data and this includes removing codes previously assigned.

***INEEL Waste Characterization Program Impact***

INEEL has used sampling and analytical data to characterize homogenous solids for toxicity characteristics and revised existing hazardous waste designations based on these results. INEEL would have to reevaluate changes made since the initiation of the TRU waste characterization program and revise procedures and databases accordingly.

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#### **Comment 29: Number and Selection of Samples for Newly Generated Homogeneous Solids and Soil/Gravel Waste**

##### ***Requirement***

The Draft Permit requires a minimum of five samples (was previously 10) be taken for determining newly generated homogeneous solids control chart limits.

The method for characterizing retrievably stored homogeneous solids and soil/gravel is to be used for newly generated soil/gravel waste. A "statistically selected portion" of newly generated soil/gravel waste streams must be sampled for characterization. The number is to be based on both the methodology for retrievably stored waste and expected volume of the waste stream and whether standard waste box (SWB) or 55-gallon drum containers will be used.

##### ***Affected Draft Permit Sections***

Attachment B, Page B-14, Section 3d(1)(a), lines 8 and 15  
Attachment B, Page B-16, Section 3d(1)(b), lines 5 and 7  
Attachment B, Page B-16, Section 3d(1)(b), lines 2-10  
Attachment B2, Page B2-6, Section 4, Line 30  
Attachment B6, Page B6-37, Table B6-1

##### ***Proposed Change to Draft Permit***

Attachment B, Page B-14, Section 3d(1)(a), lines 8 and 15:  
Change "five-sample" to "ten-sample."

Attachment B, Page B-16, Section 3d(1)(b), lines 5 and 7:  
[Change "homogeneous solids" to "homogeneous solids and soil/gravel."]

Attachment B, Page B-16, Section 3d(1)(b), lines 2-10:  
[Omit section.]

Attachment B2, Page B2-6, Section 4, Line 30 :  
Change "five" to "ten."

Attachment B6, Page B6-37, Table B6-1  
In first question box, change "five" to "ten."

##### ***Justification for Change***

Ten samples are generally considered a minimum for control charting purposes. Both 5 and 10 are specified in the Draft Permit in different locations. The Draft Permit should be changed for consistency and to reflect an adequate number of samples upon which to based control limits.

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The approach of characterizing newly generated soil/gravel waste using that for retrievably stored homogeneous solids and soil/gravel negates the basic concept that acceptable knowledge will be used for newly generated waste characterization with verification sampling. Depending on the waste generating process, wastes may be from continuous processes or process batches. Soil/gravel wastes from remediation or decontamination and decommissioning activities may be considered process batches, with acceptable knowledge based on site characterization for these activities. Therefore, using the approach for retrievably stored wastes in lieu of those for continuous processes is not needed for characterization.

Text indicating the "statistically selected portion" of newly generated soil/gravel waste streams must be sampled is to be based on both the methodology for retrievably stored waste and "expected volume of the waste stream and whether SWB or 55-gallon drum containers will be used" is incorrect. The methodology for retrievably stored waste is not based on expected volume of waste or container type.

***INEEL Waste Characterization Program Impact***

The INEEL is not currently managing newly generated waste. This requirement could impact the Advanced Mixed Waste Treatment Project, which will probably characterize treated wastes as newly generated waste.

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### **Comment 30: Nonconformances and the Corrective Action Process**

#### ***Requirement***

The Draft Permit requires numerous waste characterization activity tracking with nonconformances and associated corrective actions

#### ***Affected Draft Permit Sections***

Section B3, Page B3-19, line 12-13

Section B3, Page B3-31, lines 9-12

#### ***Proposed Change to Draft Permit***

Revise the draft permit to specify NCRs should be used for significant deficiencies [i.e., deviations from Data Quality Objectives (DQOs)]. Section B3 should be revised to allow the use of a graded approach to control nonconformances.

Change Section B3, Page B3-19, Lines 12-13 to read: Any nonconformance identified during this process that affects the data quality objectives specified in B-4a(1) shall be documented on a nonconformance report (Section B3-13).

Change Section B3, Page B3-30, Lines 9-11 to read: The Site Project QA Officer shall oversee the nonconformance report process and be responsible for developing a plan to identify and track all nonconformances and report trending information to the Permittees.

Change Section B3, Page B3-31, Lines 9-12 to read: The Permittees initiate a corrective action process when internal nonconformances and nonconformances at the generator/storage sites are identified during the audit and surveillance process. Significant conditions adverse to quality are documented as deficiencies using a Corrective Action Report (CAR) and processed through the Permittees corrective action process described below.

#### ***Justification for Change***

The nonconformance requirements in Section B3 are too prescriptive and will adversely impact the effectiveness and efficiency of the WIPP program participants, including the Permittees, the generator sites, and the NMED. The Permittees and NMED failure to recognize the existence of numerous methods for controlling nonconformances [Nonconformance Report (NCR) is only one recognized method] has the potential to negatively affect program quality by requiring every problem to be reported with no consideration of compliance impact.

Methods to control nonconformances typically implement a graded approach so that significant nonconformances are controlled with more rigor than minor nonconformances. All controls meet recognized standards, such as American Society of Mechanical Engineers (ASME) Nuclear Quality

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Assurance (NQA)-1, while improving the effectiveness of the process. Nonconformance and corrective action processes vary depending on the management organization, facility operations, and waste handling practices and procedures. Treating all problems equally tends to mask significant problems associated with data quality.

Furthermore, the amount of reporting to and from the Permittees will create an ineffective and unnecessarily costly process. Unless a nonconformance results in unacceptable waste shipments to WIPP, sites should report trends in significant nonconformances, not each individual nonconformance.

***INEEL Waste Characterization Program Impact***

Using NCRs for minor issues as spelling errors or data transposing mistakes would result in unnecessary costs to the program with no benefit to data quality.

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**Comment 31: Clarification of Generator Site Validation Responsibilities**

***Requirement***

The Draft Permit specifies titles for personnel to perform the project level data validation without any provisions for equivalent positions/titles. Site Data Validation Officer title is used throughout permit without definition of Site Data Validation Officer function.

***Affected Draft Permit Sections***

Section B-4a(5), page B-21, line 29

***Proposed Change to Draft Permit***

Change Attachment B page B-21 of 58, Section B-4a(5) line 29 to "signatures from the generator Site Project Manager (or equivalent position) and Site Project QA Officer (or equivalent position), and..." Deleted this and all other references to Site Data Validation Officer.

***Justification for Change***

The generator sites should be allowed to use equivalent positions. The position titles vary between sites depending on their current organizations and responsibilities.

***INEEL Waste Characterization Program Impact***

This change will avoid future modifications to ensure organizations and responsibilities are well defined and understood by program participants.

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**Comment 32: Approval for Utilization of Certified Clean Equipment**

***Requirement***

The Draft Permit requires all equipment to be cleaned before use and makes no provisions for using certified clean sampling equipment, which is a common industry practice.

***Affected Draft Permit Sections***

Section B1-2b(2), page B1-17, line 37

***Proposed Change to Draft Permit***

Add the following to the beginning of the first sentence of Attachment B1, Section B1-1b(2)

“Unless purchased, certified clean sampling equipment is used, equipment blanks shall be ....”

Add the following to the end of the first paragraph in Section B1-1c:

“To the extent practicable, using disposable, certified clean equipment is encouraged. If disposable, certified clean equipment is used, the following requirements for cleaning do not apply to that equipment.”

Change B1-2b(2), page B1-17 line 37 to read: A site may choose to utilize disposable, certified clean liners and sampling tools.

***Justification for Change***

Using purchased, certified clean sampling equipment reduces the waste characterization costs and brings the program in line with current industry practice.

***INEEL Waste Characterization Program Impact***

INEEL purchases equipment certified as clean by the manufacturer and disposes of that equipment after use to reduce waste generated from equipment cleaning. Using certified clean equipment also eliminates the need to obtain equipment blanks, which add a significant cost to waste characterization.

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**Comment 33: Inclusion of Calibration Records and Gas Canister Sample Tags in Batch Data Reports**

***Requirement***

The Draft Permit Attachment B3 requires the including the calibration records and the gas canister sample tags in the batch data reports.

***Affected Draft Permit Sections***

B3-10, Page B3-20 of 53, line 12

***Proposed Change to Draft Permit***

Change B3-10, page B3-20 of 53, line 12 to read: Calibration records (or reference to the calibration records), QC sample results, and a reference to the storage location of the gas canister sample tags.....

***Justification for Change***

These records are maintained at the laboratory and are not used as part of the project level data validation. Therefore, a reference to the record storage location is adequate to document the calibration and sample custody has been maintained per program requirements.

***INEEL Waste Characterization Program Impact***

The draft permit, as written, would result in extensive, needless duplication of records and concomitant possibility of discrepancies.

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**Comment 34: Selection of Most Representative Core in the Event of Poor Core Recovery**

***Requirement***

The Draft Permit Section B3-3 requires in the event of less than 50% core recovery, the results from a second coring shall be used for sample collection.

***Affected Draft Permit Sections***

B3-3, Page B3-8, line 29

***Proposed Change to Draft Permit***

Change B3-3, page B3-8, line 29 to read: Coring location shall be randomly selected. The core exhibiting the greatest core recovery shall be used for sample collection provided the core used has been properly preserved.

***Justification for Change***

This requirement ignores the possibility that the second coring could be worse than the first, leading to lower quality analytical results. Poorer quality analytical results could result from the requirement as currently written.

***INEEL Waste Characterization Program Impact***

During previous sampling and analysis, INEEL has taken its duplicate sample from the core with the greatest recovery to confirm the most representative result. Repeating this sampling and analysis would have significant impact to operations with no increase (and potentially a decrease) in data quality.

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**Comment 35: Equivalency for the RIDS System**

***Requirement***

The Draft Permit specifies records must be maintained per records inventory and disposition schedule (RIDS).

***Affect Sections of Permit***

Section B-4a(7), Page B-22

***Proposed Change to Draft Permit***

Change B-4a(7), page B-22, line 31 to read: RIDS or an equivalent system shall be...

***Justification for Change***

DOE allows using equivalent systems to the RIDS.

***INEEL Waste Characterization Program Impact***

Having to change to a RIDS system would have a significant impact on the INEEL that is currently using an equivalent system. This equivalent system was approved as part of the INEEL certification audit.

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**Comment 36: Allowance for Use of Other Storage Media for RTR/VE**

***Requirement***

The Draft Permit limits storing the radiology/visual examination records to audio/videotape, which excludes using CD-ROM and other more effective storage media.

***Affected Draft Permit Sections***

Section B1-3a, Page B1-20

***Proposed Change to Draft Permit***

Change B1-3a, page B1-20, line 16 to read: .....audio/videotape, or equivalent, is made of ....

Change B1-3b(3), page B1-23, line 17 to read: ....and shall be recorded on audio/videotape, or equivalent.....

***Justification for Change***

Using digital storage media, such as CD-ROM, provides more efficient storage and longer lasting records.

***INEEL Waste Characterization Program Impact***

INEEL is using digital storage media. Copying data from digital media to video tape requires additional resources.

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**Comment 37: Requirement for Quality Assurance Program Plan (QAPP) Headspace Gas Standards**

***Requirement***

The Draft Permit specifies Field reference standards shall have a known valid relationship to a nationally recognized standard (e.g. NIST)

***Affected Draft Permit Sections***

Section B1-1b(3), Page B1-9, line 37-38

***Proposed Change to Draft Permit***

In Section B1-1b(3), Page B1-9 delete line 37, "Field reference standards shall have a known valid relationship to a nationally recognized standard (e.g. NIST)."

Change line 38 to read: All commercial standards must be certified by the manufacturer.

Delete "If commercial gases are used...traceability is required."

***Justification for Change***

Nationally recognized standards (e.g., NIST) are not available for these RCRA-regulated compounds. This section allows using commercially certified gas (B1-1b(3)) but requires documentation of "traceability." Because no traceability can be made, only manufacturer certified gas is used.

***INEEL Waste Characterization Program Impact***

Because these standards, as specified in the draft permit, are not available, INEEL would not be able to comply with this requirement.

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### Comment 38: RCRA Toxicity Characteristic Waste Test Requirements

#### *Requirement*

The Draft Permit only allows for sampling and analysis of a representative sample of the waste stream to be used for determining the toxicity characteristics of waste. Using sampling and analysis data from feedstocks or ancillary streams is not permitted, although it is technically appropriate in some circumstances.

#### *Affected Draft Permit Sections*

Sections B4-2b and B4-2c

#### *Proposed Change to Draft Permit*

Incorporate the NRC/EPA guidance as a reference in Section B4-1. The requirement to collect this information is already addressed in B4-2b and B4-2c, its use in light of the NRC/EPA guidance needs to be discussed.

Add the following to Section B4-2c: "TRU waste sites may use acceptable knowledge alone to characterize a mixed waste stream and to determine the maximum concentration of contaminants for the toxicity characteristic in mixed waste streams in situations where sufficient information exists to support the determination. Examples of sufficient information include mass balance calculations from known feed stock contaminant concentrations to final waste form concentrations; existing data from past TCLP analysis, total constituent analysis, or other appropriate contaminant concentration data on a sufficient portion of the waste stream feed stock, or final waste form; and upper bound calculations of the maximum contaminant concentrations possible based on the waste form chemical or physical properties (for example, adsorption properties). An assessment of the TRU waste site application of this information in the acceptable knowledge program will be made as part of the Permittees audit and surveillance program."

#### *Justification for Change*

The NRC/EPA joint guidance concerning acceptable knowledge specifically allows using AK to determine the maximum hazardous constituent concentration in waste using mass balance calculations, existing TCLP data, or other appropriate contaminant concentration data.

This guidance enhances the acceptable knowledge process by allowing use of information to make concentration determinations, where appropriate.

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*INEEL Waste Characterization Program Impact*

INEEL obtains a majority of its acceptable knowledge information from offsite generators, of which the majority is classified as mixed waste. In the case of RFETS, much work has been done to characterize low-level and TRU mixed waste streams since 1990. RFETS is using waste characterization data from sampling and analysis of low-level waste equivalent waste forms as well as environmental restoration activities to support TRU acceptable knowledge information. Using this information at the INEEL allows consistency in reporting to WIPP as well as compliance with State of Idaho RCRA storage permits. The overly conservative approach to assigning hazardous waste requires INEEL to change the assignment of codes before shipment to WIPP.

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#### **Comment 39: Details of Headspace Gas Sampling Equipment**

##### ***Requirement***

The Draft Permit specifies requirements for headspace gas sampling equipment and its operation that do not affect data quality. Online sampling requirements are not distinguished from direct canister or manifold sampling.

##### ***Affected Draft Permit Sections***

Section B1-1a(1)

##### ***Proposed Change to Draft Permit***

Change Section B1-1a(1), Page B1-2, lines 4-6 to read: The manifold shall also be equipped with a purge assembly that allows applicable QC samples to be collected through all sampling components that may affect compliance with the QAOs. Sites shall demonstrate and document the effectiveness of the sampling equipment design in meeting the QAOs.

Delete Section B1-1a(10), Page B1-3, line 22-23, The outer diameter of the system tubing shall be 1/8 inch (3.1750 mm).

Change Section B1-1a(1), Page B1-4, line 2 to read: Zero air from a generator shall be humidified when using GC, GC/FID or GC/MS systems for analysis.

Add the following to Section B1-1a(1), Page B1-4, lines 29-35: "or pressure regulator" after "flow-indicating device," "or pressure" after "flow rate," and "or pressure" after "flow."

Delete Section B1-1a(1), Page B1-7, line 21, Then the punch shall be backed out to expose the headspace gas.

Delete Section B1-1a(1), Page B1-8, lines 8-9, "A flow rate of approximately one liter per minute for approximately three minutes is required." Add "or pressure regulator" after "flow-indicating device" in line 5.

##### ***Justification for Change***

The draft permit should only specify sampling equipment criteria that affect performance in meeting program requirements. For example, pressure regulators may be used to control field reference gases rather than flow-indicating devices. Similarly, the size and length of tubing or drum punch design may vary with no impact to data quality. Sites should be allowed to demonstrate through operational tests and QC sample performance that the equipment meets the performance criteria.

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CAO originally included details of a specific sampling system when the Method Manual was provided as guidance to the sites. Since that time, methods have become mandatory and many of the detailed specifications are not appropriate. Because of the wide range of facilities, it is difficult for all equipment to be identically designed. Sampling system design differences not affecting the quality of the data should not be specified in the draft permit.

***INEEL Waste Characterization Program Impact***

To modify the online sampling system to collect QC samples through the punch would require redesigning and reprogramming system at a cost of approximately \$220,000 and a 6-8 month delay in operations. A flow measuring device would cost \$10,000 to redesign and approximately 2 months to implement. Changes would be required to TRIPS functions for the user interfaces for the drum vent facility.

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### **Comment 40: Inner Layer of Confinement Gas Sampling**

#### ***Requirement***

The Draft Permit states sampling will occur from the innermost layer of confinement within each drum. Based on the drum configuration, innermost layer of confinement may be defined as the drum headspace (directly under the lid) for drums not subject to visual examination; the 55 gal polyethylene bag headspace for drums subject to visual examination that do not have innermost layers; and each of the innermost layers of confinement for drums subject to visual examination that have more than one layer of confinement. This requires sites sample the headspace gas of all innermost layers during the visual examination of drums (i.e., if three small bags exist, the innermost layer of each one must be sampled).

#### ***Affected Sections of Draft Permit***

Section B3-2, Page B3-4  
Section B3-12, Page B3-26

#### ***Proposed Change to Draft Permit***

Delete Section B3-2, Page B3-5, Lines 1-4

Delete Section B3-12, Page B3-28 Lines 15-17

#### ***Justification for Change***

DOE-CAO has previously completed studies that demonstrate headspace gas sampling of innermost layer of confinement is not needed if the drum has been allowed to meet the drum age criteria (position for determining Gas Phase Volatile Organic Compound Concentrations in TRU waste containers – Connolly et al., 1995). The concentration limits listed in Table B-2 of the draft permit are based on the rate of diffusion of VOCs from the container headspace. To comply with the performance standards specified in the permit, container headspace gas data are needed, not inner layer of confinement headspace gas data.

#### ***INEEL Waste Characterization Program Impact***

Requiring the analysis of inner bags would significantly increase the cost of performing headspace gas sampling on debris waste forms, subjected to visual examination, for little gain. This would require qualification of the gas sampling system at ANL-W. Modifying/updating procedures increased analytical cost from performing several hundred debris drums. New procedures and/or equipment would be required to perform innermost layer sampling during the visual examination of a container. This would also negate the visual examination already completed on any drums.

## **INEEL RESPONSE TO NMED PART B PERMIT**

### **August 11, 1998**

#### **Comment 41: Waste Stream Miscertification as a DQO**

##### ***Requirement***

The Draft Permit requires the site project manager determine on a waste stream basis if sufficient number of waste containers were visually examined to determine with a reasonable level of certainty that the UCL95 for the miscertification rate is less than 14%.

##### ***Affected Sections of Draft Permit***

Section B3-11, Page B3-25, lines 28-30

##### ***Proposed Change to Draft Permit***

Delete Section B3-11, Page 3-25, lines 28-30, "Whether a sufficient number of waste containers have been visually examined to determine with a reasonable level of certainty that the UCL95 for the miscertification rate is less than 14%."

##### ***Justification for Change***

The visual examination program is based on an annual miscertification rate independent of the waste stream. The statement is inconsistent with Attachment B2 of the draft permit that requires an annual miscertification rate.

##### ***INEEL Waste Characterization Program Impact***

The QC check of radioscropy is independent of waste stream. INEEL is currently complying with the correct requirement to determine the miscertification rate on an annual basis.

**INEEL RESPONSE TO NMED PART B PERMIT**  
**August 11, 1998**

**Comment 42: Radioassay Requirements**

***Requirement***

The Draft Permit specifies requirements applicable to radioassay data which are not addressed under RCRA regulations.

***Affected Sections of Draft Permit***

Attachment B  
Section B3

***Proposed Change to Draft Permit***

Delete "replicate counts" in line 7 of Section B3-10, Page B3-23

Delete line 18, "RA data are complete and acceptable" in line 18 of Section B3-10, Page B3-23

Delete line 12, "Radioassay (RA) results" in Section B3-12, Page B3-28

Delete questions and statements regarding radioassay and statements "not specified in QAPP" in Attachment B, Figures B-2 and Figures B-3.

***Justification for Change***

The permit application erroneously included references to radioassay requirements. These partial references to requirements only serve to confuse compliance with the WAC requirements. The radioassay requirements are specified in the WIPP WAC. Radioassay data are not regulated under RCRA regulations.

***INEEL Waste Characterization Program Impact***

Radioassay information is not provided as part of waste stream profile form information under RCRA.

# INEEL RESPONSE TO NMED PART B PERMIT

## August 11, 1998

### **Comment 43: Free Liquid Requirements**

#### *Requirement*

The Draft Permit contains conflicting requirements concerning allowable free liquids in waste containers.

#### *Affected Sections of Draft Permit*

Attachment B, Section B-3c

#### *Proposed Change to Draft Permit*

Change Section B-3c, Page B-12, Lines 2-5 to read: When radioscapy is used or visual examination of transparent containers is performed, if liquid in excess of 1 inch or 2.5 centimeters is detected in an individual container (item) or total residual liquid is detected in a payload container (i.e., 55-gallon drum, SWB) to be in excess of 1% liquid by volume, the individual item or payload container will be rejected.

#### *Justification for Change*

The draft permit requirements for free liquids should be made consistent with the WIPP WAC to avoid problems with compliance.

#### *INEEL Waste Characterization Program Impact*

Site operations will be affected if a more stringent requirement for free liquids is enforced under the permit for WIPP. Based on the current rate, 9% of the WIPP-certifiable drums have residual liquids that would be rejected and require repackaging. If the drums are rejected, INEEL will have to retrieve and process 3,000 additional drums through SWEPP to meet the Settlement Agreement in FY-1999. SWEPP and ANL-W would need to run two-shift operations for two years to complete these additional drums. The estimated cost of repackaging noncompliant drums is \$4.2 million. The additional drum retrieval and SWEPP operations are estimated to cost \$13.7 million.

# **INEEL RESPONSE TO NMED PART B PERMIT**

## **August 11, 1998**

### **Comment 44: Independent Technical Review**

#### **Requirement**

The draft permit requires the independent technical reviewer for data validation at the data generation level to report to a supervisor not responsible for performing the work being reviewed.

#### **Affected Draft Permit Sections**

Attachment B, Page B-22, Footnote 4, Lines 39-40  
Attachment B3, Page B3-19, Footnote 1, Lines 37-38

#### **Proposed Change to Draft Permit**

Delete footnote.

#### **Justification for Change**

At many analytical laboratories, numerous qualified individuals perform the work (e.g., equipment operators). One qualified individual performs an independent technical review of work performed by another qualified individual. Both individuals report to the same supervisor. Data quality is not compromised with this arrangement because the reviewer is checking the data to ensure the work was performed properly. The facility QA officer then reviews the data for adherence to QA requirements. Finally, the technical supervisor reviews then passes the data on to the project level. At the project level, data are reviewed again by the site QA officer and the Site Project Manager. This multilevel, redundant data review ensures any mistakes overlooked at one stage of data validation are noted at a different level of data validation, and corrected, as needed. It is unnecessary to require the independent technical reviewer to report to a separate, unrelated supervisor.

#### **INEEL Waste Characterization Program Impact**

INEEL would be required to staff and train qualified individuals in a separate department such as the Sample Management Office to perform independent technical review of data. This would complicate and slow reporting data. Increased manpower would be required in a separate department to perform these functions, which would be difficult to provide because the qualified individuals are currently working in the analytical laboratories. By transferring qualified individuals out of the laboratory to perform independent technical review, the laboratory would become understaffed, thus slowing the sample analysis and data reporting.

**INEEL RESPONSE TO NMED PART B PERMIT**  
**August 11, 1998**

**Comment 45: Tamper-Proof Seals on Shipping Containers**

**Requirement**

All sample containers should be affixed with tamper-proof seals so sample integrity is not compromised. A seal should also be placed on the outside of the shipping container for the same reason.

**Affected Draft Permit Sections**

Attachment B1, Page B1-26, Lines 14-16

**Proposed Change to Draft Permit**

Modify language to be consistent with the November 15, 1996 QAPP Table AC-1, page 4.

**Justification for Change**

This requirement was removed from the QAPP in the November 15, 1996 interim change stating, "Tamper indicating devices are allowed to be used on sample shipment containers instead of signed and dated custody seal being installed across the container lid to provide visual evidence of tampering. Revisions to the INEEL QAPjP, RWMC, ACL, and ECL FIPs would be required.

**INEEL Waste Characterization Program Impact**

N/A

# **INEEL RESPONSE TO NMED PART B PERMIT**

## **August 11, 1998**

### **Comment 46: Use of the term "Custody"**

#### **Requirement**

Sample custody is maintained by ensuring custody sealed samples are in the possession of an authorized individual, in their view, it is in possession of sealed or locked container, or is in a secure controlled access location.

Sample custody documentation shall be placed inside the shipping container, with the current custodian signing to release custody. The shipping documentation will serve as proof of custody during shipment. Therefore, the transporter does not need to sign the chain-of-custody documentation. However, the sample custody documents shall indicate that the custody of the samples was relinquished to the shipper.

#### **Affected Draft Permit Sections**

Attachment B1, Page B1-24, Lines 28-30

Attachment B1, Page B1-26, Lines 16-20

#### **Proposed Change to Draft Permit**

Delete language which refers to transfer of sample custody to the shipper. Suggested revision for the second paragraph is: "Sample custody documentation shall be placed inside the sealed or locked shipping container, with the current custodian signing to release custody. Transfer of custody is completed when the receiving custodian opens the shipping container and signs the custody documentation. Shipping documentation will serve to track the physical transfer of samples between the two custodians."

#### **Justification for Change**

Custody of the samples is never relinquished to the shipper. The Draft Permit recognizes samples are under custody when in sealed or locked container. Once the certificate of compliance (COC) form is sealed or locked into the shipping container with the samples, the samples remain under the custody of the current custodian (the relinquisher) until the receiving custodian at the laboratory opens the shipping container and signs the COC form to complete the custody transfer. The shipper does not have access to the samples or COC form. Shipping documentation serves only to track the physical transfer of samples between custodians.

#### **INEEL Waste Characterization Program Impact**

If the permit language is not changed, all persons shipping samples would need to be trained sample custodians, and have TRU Waste Program (TWP)-required indoctrination and training. Using hazardous/radioactive materials shippers (who do not otherwise support the program) between ANL-W and Idaho Nuclear Technology and Engineering Center (INTEC) would have to be discontinued.

## **INEEL RESPONSE TO NMED PART B PERMIT August 11, 1998**

### **Comment 47: Combination of Independent Technical Reviewer and QA Officer**

#### **Requirement**

Facilities may combine the positions of independent technical reviewer and QA officer.

#### **Affected Draft Permit Sections**

Attachment B3, Page B3-19, Lines 13-14

#### **Proposed Change to Draft Permit**

Facilities may combine the positions of technical supervisor and QA officer.

#### **Justification for Change**

The independent technical review and QA review serve different purposes and concentrate on different aspects of the data. These two positions should not be confused. The qualifications for the two positions are different. The independent technical reviewer looks at validating the data interpretation, calculations, results, and records. The QA reviewer checks completeness and compliance of QA requirements and documentation, and should be independent to provide QA/QC oversight. Due to the different purposes of the reviews and different qualifications needed, it is not practical or desirable to combine these two positions.

#### **INEEL Waste Characterization Program Impact**

None. Because the draft permit indicates sites may combine these positions, it would still be up to INEEL whether or not these positions are combined. There may be an impact if INEEL facilities wanted to combine the positions of technical supervisor and QA officer (as stated in the QAPP) but were not allowed to because of language in the permit.

**INEEL RESPONSE TO NMED PART B PERMIT**  
**August 11, 1998**

**Comment 48: Relative Percent Difference (RPD) for less than Program-Required Quantitation Limit (PRQL) Concentrations**

**Requirement**

The Draft Permit requires a corrective action if the RPD exceeds 25% for any analyte.

**Affected Draft Permit Sections**

Attachment B3, page B3-5, lines 13 and 14;

**Proposed Change to Draft Permit**

Reword to read: "Corrective actions must be taken if the RPD exceeds 25 percent for any analyte for sample concentrations > PRQL for that analyte.

**Justification for Change**

The closer the determined concentrations are to the MDL, the less precise the measurements become, due to increased analytical uncertainty. It is common to have higher RPDs when analyte concentrations are close to the MDL. The US EPA CLP applies one acceptance criteria for samples that the original and duplicate sample values are greater than or equal to five times the contract required detection limit and a different criteria for the original and duplicate samples less than the five times the contract required detection limit. An RPD is not reported for samples where both are below the detection limit. This restriction offers no value to the quality of the data or the program.

**INEEL Waste Characterization Program Impact**

If the acceptance criteria for the RPD remains at <25%, regardless of sample concentration, many low-level samples will be qualified, that otherwise would not. Changes to the TRIPS system would need to be made which would increase the personnel and resource needs.

**INEEL RESPONSE TO NMED PART B PERMIT**  
**August 11, 1998**

**Comment 49: Serial Dilutions and Interference Checks**

**Requirement**

Serial dilutions and interference checks are listed as accuracy assessment samples.

**Affected Draft Permit Sections**

Attachment B3, page B3-15, line 21

**Proposed Change to Draft Permit**

Delete serial dilutions and interference checks from the list of samples used to assess accuracy.

**Justification for Change**

Serial dilutions and interference checks should not be listed in this section. They are not used to assess overall accuracy, but are instrument (analysis) QC checks only. They do not reflect the performance of the entire analytical process. Noncompliant analytes in serial dilutions are required to be flagged and interference checks not compliant require the analysis be stopped, the problem identified and corrected, and the samples reanalyzed. No reported data would ever be associated with a noncompliant interference check.

**INEEL Waste Characterization Program Impact**

N/A

# INEEL RESPONSE TO NMED PART B PERMIT

## August 11, 1998

### Comment 50: Tables B3-2 through B3-9

#### Requirement

Errors exist in Tables B3-2 through B3-9

#### Affected Draft Permit Sections

Attachment B3, Tables B3-2 through B3-9, pages B3-38 through B3-48

#### Proposed Change to Draft Permit

1. Table B3-2, add superscript "f" to the ethyl benzene entry in the FTIRS MDL column. Add the "f" footnote to read: PRQL for ethyl benzene analyzed by FTIRS is 20 ppmv.
2. Table B3-3, add superscript "c" after "RPD>25" in corrective action column for laboratory duplicates or online duplicates; add same superscript after >130 in corrective action column for laboratory control samples or on-line control samples. Add superscript "b" after "RPD  $\leq$  25" in acceptance criteria column for GC/MS comparison sample. Add superscript "d" after "FTIRS" in corrective action column for laboratory blanks or online blanks. Add footnotes to read:<sup>c</sup> A nonconformance report is required when duplicates, control samples, or GC/MS comparison samples associated with final reported data do not meet acceptance criteria analytical results associated with blanks nonconforming shall be flagged as "B" and a nonconformance report is not required.
3. Table B3-5, add superscript "b" after matrix spike duplicates in the QC sample column. Delete "nonconformance if criteria are not met" from corrective action column for GC/MS calibration and GC/FID calibration. Replace both with "Repeat until acceptable". Change the acceptance criteria for Bromoform to 0.10. Add the Correlation Coefficient of greater than or equal to 0.93 in acceptance criteria column for GC/FID Calibration. Reword the Acceptance Criteria column for GC/FID to read: RF or %D for all analytes  $\leq$  to 15 of the initial calibration, RT plus or minus 3 standard deviates from the initial calibrations. Add to footnote a: "A nonconformance report is not required for matrix-related QC samples."
4. Table B3-7, add superscript "b" after matrix spike duplicates in the QC sample column. Replace entire GC/MS and GC/ECD calibration information with the following:

**INEEL RESPONSE TO NMED PART B PERMIT  
August 11, 1998**

Minimum Frequency	Acceptance Criteria	Corrective Action
DFTPP tune every 12 hours  5 point calibration initially and as needed  Continuing Calibration every 12 hours	Abundance criteria for key ions are met per method.  Response factor %RSD for CCC $\leq 30$ ; response factor for SPCCs $\geq 0.05$ ; average relative response factor used if %RSD $\leq 15$ ; linear regression equation generated if %RSD $> 15$ .  %D $\leq 20$ for all analytes; response factor for SPCCs $\geq 0.05$ ; RT for internal standards must be $\pm 30$ seconds from last daily calibration check; internal standard area count must be $> 50\%$ or $< 200\%$ of the area count from daily calibration check; surrogate compound %R must be met.	Repeat until acceptable.
3 pt initial calibration and as needed  Continuing Calibration every 12 hours	Response factor %RSD $\leq 20$  %D $\leq 15$ for all analytes compared to initial calibration	Repeat until acceptable.

5. Table B3-9, Make the following minor changes to the table:

Matrix spikes/corrective action column: delete 's' and 'are' after %R; ICP-MS Mass Tune/acceptance criteria column: correct to '%RSD <10' and '0.1 amu'; Laboratory control samples/acceptance criteria column: delete 's' after %R; Laboratory control samples/corrective action column: delete 'nonconformance if not reanalyzed'.

The revisions noted below for the rows indicated:

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Mass Tune (ICP-MS only)			Manufacturer's recommendations
Initial calibration...		<p>90-110 %R for independent initial calibration verification solution</p> <p>95-105 %R for highest calibration standard</p> <p>Regression coefficient (<math>r^2</math>) must be <math>\geq 0.995</math> (FLAA, GFAA, CVAA, HAA)</p>	Correct problem and repeat initial calibration.
Continuing calibration		<p>90-110 %R for check standard; blank must measure <math>\leq 5</math> x IDL; internal standard areas must be <math>\leq 20</math> %D of calibration blank internal standard areas (ICP-MS)</p> <p>90-110 %R for check standard; blank must measure <math>\leq 3</math> x IDL (ICP-AES)</p> <p>80-120 %R for check standard; blank must measure <math>\leq 3</math> x IDL (FLAA)</p> <p>80-120 %R for check standard (mandatory); blank (optional) should measure <math>\leq 3</math> x IDL (GFAA, CVAA, HAA)</p>	Correct problem and recalibrate; rerun last 10 samples.
Internal Standard area verification (ICP-MS)			Dilute sample 5x and reanalyze.
Serial Dilution (ICP-MS, ICP-AES)		5x dilution for sample $>100$ x IDL (ICP-MS) or $>50$ x IDL (ICP-AES) must be $\leq 10$ %D of initial value	Define in SOPs.
Interference correction verification (ICP-MS,	Beginning and end of run or every 12 hours (ICP-MS) or	Solution containing interferences only must measure $\leq 5$ x IDL (ICP-MS) or $\leq 3$ x IDL (ICP-AES) for analytes;	Correct problem and recalibrate.

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ICP-AES)	twice per 8 hours (ICP-AES) whichever is more frequent	solution containing interferences plus analytes must measure 80- 120 %R for all analytes	
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**Justification for Change**

Incorrect frequency, acceptance criteria, and corrective actions in the Tables listed above. The changes listed above reflect the Methods Manual and/or SW-846 frequency, acceptance criteria, and corrective actions. These errors are assumed to be typographical errors and should be corrected in the permit.

**Waste Characterization Program Impact**

N/A

MODULE	PAGE	SECTION /PARAGRAPH	COMMENT
			<p>#51  <b>The definition of Retrievably Stored and Newly Generated Waste may preclude shipment of Environmental Restoration's legacy waste.</b></p> <p>The Draft Permit defines retrievably stored waste as that generated after 1970 and before a generator/storage site has been added to the Permit by modification. The Draft Permit defines newly generated waste as that generated after a site has been added to the Permit by modification. The draft permit is silent regarding the issue of wastes that were buried prior to 1970 and are retrieved as a result of Environmental Restoration remedial activities. Please describe and explain the mechanism that will be utilized to permit Rocky Flats legacy TRU mixed wastes that were buried prior to 1970 to be included in the wastes shipped to WIPP for disposal.</p>
II	5 of 17	II.C.2.l	<p>#52  <b>The Draft Permit requires waste to meet Land Disposal Restriction (LDR) treatment standards even though LDRs have been statutorily exempted.</b></p> <p>The requirement for waste to meet LDRs is contrary to statements by the Secretary of Energy. Section II.C.2.1 prohibits WIPP from accepting any mixed waste container restricted from land disposal which has not been treated to treatment standards or which is not accompanied by a notice of exemption. It is our understanding that LDR treatment standards have been statutorily exempted.</p>
II	4 of 17	II.C.2.b	<p>#53  Please define non-nuclear pyrophoric materials. Non-nuclear pyrophoric metals such as Zirconium have been utilized in conjunction with nuclear materials. Please clarify NMED's position regarding the acceptability of these materials for disposal at WIPP.</p>
II	5 of 17	II.C.2.k	<p>#54  Clarify whether NMED has allowed provisions for unique waste forms such as lab packs that may be retrieved. Discuss whether the lab pack would be considered as a single waste stream accompanied by several waste codes or whether it would be required to segregate it into discrete waste streams. More information is required on what constitutes de minimis quantities of a prohibited or unacceptable waste form.</p>

MODULE	PAGE	SECTION PARAGRAPH	COMMENT
II	5 of 17	II.C.2I	<p>#55 Clarify whether the inclusive “and” relating to waste not being accompanied by a notice of exemption is intended. If so, please clarify the intent of this section. Please clarify the intent of 28 of 58.2.ii. It does not require treatment standards to be met, however II. C. 2I does.</p>
II	6 of 17	II.C.3	<p>#56 Table II. C. 3, “Permitted TRU Mixed Wastes”. This table does not include D001, K and Na NO<sub>3</sub>, P098, KCN and P106, NaCN. Please indicate whether or not these will be permitted into WIPP in small quantities.</p>
		General Comment	<p>#57 Please indicate whether waste forms that are retrieved and treated will carry their original waste codes or will be considered newly generated and carry a new waste code designation.</p>
		General Comment	<p>#58 Please state what documentation is or will be required of the generators to support a “no longer contained in” determination if they are applicable.</p>