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DEPUTY SECRETARY

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

December 5, 2003

Dr. Inés Triay, Manager  
Carlsbad Field Office  
Department of Energy  
P.O. Box 3090  
Carlsbad, New Mexico 88221-3090

Dr. Steven Warren, President  
Washington TRU Solutions LLC  
P.O. Box 2078  
Carlsbad, New Mexico 88221-5608

**RE: NMED APPROVAL OF THE HANFORD SITE FINAL AUDIT REPORT, AUDIT A-03-14  
WASTE ISOLATION PILOT PLANT  
EPA I.D. Number NM4890139088**

Dear Drs. Triay and Warren:

On August 14, 2003, NMED received the Final Audit Report of the Hanford Site Audit Number A-03-14 (**Audit Report**), from the Department of Energy's Carlsbad Field Office (**CBFO**). CBFO and Washington TRU Solutions LLC (**the Permittees**) were required to submit this Audit Report under the Waste Isolation Pilot Plant (**WIPP**) Hazardous Waste Facility Permit as specified in Permit Condition II.C.2.c. The intended scope of this annual recertification audit was to ensure the continued adequacy, implementation, and effectiveness of the Hanford waste characterization processes for retrievably stored and newly generated debris and newly generated homogeneous solids contact-handled waste relative to the requirements of the WIPP Permit. The Audit Report consisted of the following items:

- A narrative report
- Completed copies of relevant Permit Attachment B6 checklists
- Final Hanford standard operating procedures (hardcopy only)
- Corrective action reports and items corrected during the audit
- Objective evidence examined during the audit
  - General information
  - Solids and soils/gravel sampling
  - Acceptable knowledge

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- Headspace gas
- Real time radiography
- Visual examination

NMED representatives observed the Hanford audit on June 16 – 20, 2003. NMED has examined the Audit Report for evidence of compliance with the requirements of Permit Conditions II.C.2 (Audit and Surveillance Program) and II.C.1 (Waste Analysis Plan [**WAP**]). The Audit Report indicates there were two WAP-related conditions adverse to quality requiring the issuance of CBFO corrective action reports that were corrected prior to submittal of the Audit Report; four deficiencies requiring only remedial actions that were corrected during the audit; two observations identifying conditions that, if not controlled, could result in conditions adverse to quality; and four recommendations identifying opportunities for improvement. Attached are NMED's general comments based upon observation of the Hanford audit, primarily addressing concerns regarding acceptable knowledge issues. These are provided to guide future audit report preparation and to assist the Permittees in understanding NMED's concerns.

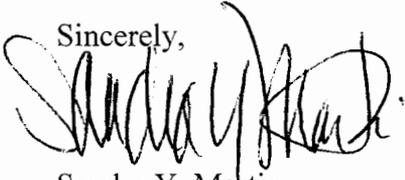
NMED submitted an Observer Inquiry Form during the audit regarding the assertion by Hanford that Rocky Flats Environmental Technology Site (**RFETS**) ash waste shipped to Hanford for plutonium recovery tests between 1983 and 1986 and subsequently calcined at Hanford required no further homogeneous solids or headspace gas sampling and analysis (see document AK30, "Use of Rocky Flats Environmental Technology Site Headspace Gas and Homogeneous Solids Sampling and Analysis Data For Characterization and Certification of Incinerator Ash Stored at Hanford", Conclusion on page 9). NMED requested that the Permittees justify the use of RFETS data as proposed by the site. The Permittees responded in a letter dated July 18, 2003, stating that the RCRA solids analytical results performed at RFETS would be used as preliminary data for Hanford RFETS ash waste. The Permittees further asserted that because the Hanford site was not attempting to establish that any constituent was below the regulatory threshold, no further collection of homogeneous solid samples were necessary if the wastes were generated from the same process. NMED rejects this argument, pointing out that the Hanford RFETS ash had undergone additional treatment and thus could not be considered to have been generated from the same process, regardless of the argument that subsequent re-burning of the ash did not alter the hazardous waste characteristics of the waste. Because this Audit Report did not seek approval for characterization of homogeneous solids and further audit of these activities are warranted, NMED will continue discussions on this subject with the Permittees during subsequent audits.

NMED concludes that this Audit Report demonstrates that Hanford has adequately implemented the applicable characterization requirements of the WAP. Therefore, NMED approves the Permittees' Final Audit Report for Hanford Audit A-03-14 for the recertification of retrievably stored and newly generated debris contact-handled waste, and amends the previous Audit Report approval for Audit A-02-23 issued by NMED on February 25, 2003 to include all waste forms and processes evaluated by this recertification audit. However, homogeneous solids (Summary Category Group S3000) are not approved or eligible for disposal at WIPP until specific characterization activities (i.e., chemical analyses by an offsite laboratory and project level

validation and verification) are verified by the Permittees during a subsequent assessment and approved by NMED.

If you have any questions regarding this matter, please contact me at (505) 428-2512.

Sincerely,



Sandra Y. Martin  
Acting Chief  
Hazardous Waste Bureau

SYM:soz

Attachment

cc: Charles Lundstrom, NMED WWMD  
Steve Zappe, NMED HWB  
Tracy Hughes, NMED OGC  
Tom Fitzsimmons, WA Dept. of Ecology  
Laurie King, EPA Region 6  
Betsy Forinash, EPA ORIA  
Connie Walker, Trinity Engineering  
Matthew Silva, EEG  
Don Hancock, SRIC  
Joni Arends, CCNS  
Lindsay Lovejoy, NMAGO  
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**NMED COMMENTS ON THE  
HANFORD SITE AUDIT A-02-07**

**NEW ISSUES AS A RESULT OF THE A-03-14 AUDIT**

1. Hanford has the appropriate language in their procedures regarding calculation of AK accuracy, but it does not appear that the calculations are performed for all waste containers. Also, the procedures do not specify a frequency of AK accuracy preparation, etc. Hanford procedure WMP-400, Section 7.1.9 (Acceptable Knowledge Document Management) should be revised to include a frequency of preparation, as well as specifically document where this information is to be included. Hanford performed a general analysis of AK versus VE/RTR/HSG/SS comparability in the Data Quality Objectives (DQO) waste stream lot package. However, if this is where and how the site wishes to document AK accuracy, the AK procedure must be revised to indicate such. If the DQO waste stream lot package is to include AK accuracy on a lot basis (which is consistent, for example, with CCP protocol), ensure that the report presents the percentage of waste containers that require reassignment to new waste matrix codes or hazardous waste codes (by VE/AK/RTR).
2. With respect to AK accuracy, the site does not report VE/RTR – AK discrepancies with respect to hazardous waste/prohibited item determinations. AK accuracy calculations must include those instances where hazardous waste codes are not confirmed by VE/RTR.
3. AK Summaries should be examined to ensure that technical information is adequately presented. For example, the Sand, Slag, and Crucible waste stream discussion implies that the waste may be up to 49% slag, which is a homogenous solid. The AK expert clarified, however, that anticipated slag is only about 5%, and the material is milled to enhance homogeneity. This should be clarified in the AK Summary. Also, the MPFPD waste stream AK report indicates that debris from this waste stream will be generated through 2007 (at least). The site has assigned debris material generated through PFP glove boxes to the MPFPD waste stream, but the processes used to generate this waste stream do not include actual decontamination and decommissioning activities associated with disassembly of the line. Other facilities (e.g., RFETS) have recognized that these activities require designation of a separate waste stream. Further, the site should ensure that discussions within text concerning hazardous waste designations are of adequate detail and are appropriately referenced. For example, the SS&CO1, Rev 3 discussion on Listed Waste does not provide references for conclusions drawn, nor does it back reference document 5481 which does address listed waste, to some extent.
4. Procedure 7.1.9, Section 4.3 requires that only general information (presence/absence) be collected for some information (e.g., cellulose, etc.). However, it would be more appropriate if this procedure required the collection of information necessary to support waste matrix code (WMC) determinations, as more specific data could be required.

5. When documents are provided to auditors, all attachments and appendices should be included to ensure that thorough audit preparation can occur.
6. Traceability analysis was complicated by lack of an AK-specific data in a centralized location, and a database that tracks drum status with respect to the TRU WIPP characterization process (i.e., like TRIPS, WEMS, etc.). The site should consider implementing this type of tracking system, particularly since it expects to increase shipments substantially in the future.

### **OUTSTANDING CONCERNS FROM PREVIOUS A-02-23 AUDIT**

1. Several hazardous waste codes have been assigned to the waste stream MPFPD, but most of the codes assigned apply only to a few containers in the waste stream. In contrast, other sites have broken out individual containers with different hazardous waste codes into separate waste streams. The approach taken by Hanford personnel imparts a waste characterization description that essentially assigns “too many” codes to most if not all of the drums. This issue was noted during the previous A-02-23 Audit. Because TRU CH waste generator sites assign codes differently, NMED is concerned that sites may have been given conflicting guidance with respect to assignment of hazardous waste codes, which affects the AK DQO requirements that rely on consistent implementation of the AK procedure. The Permittees should assess this issue, together with NMED and EPA guidance, to create a consistent methodology for determining waste streams based on hazardous waste code assignment that is regulatorily sound and technically reasonable. This will become more important in the future as the disposal characterization process is accelerated at sites and the Permittees attempt to eliminate chemical sampling and analysis, and would facilitate more rapid and consistent characterization.
2. The site has assigned a large number of containers to a very general WMC to minimize the number of waste streams, even though container-specific information is available that would allow differentiation of waste streams by more detailed WMC assignments (thus creating more waste streams). This application of the WMC is not consistent with how other sites perform WMC assignment, whereby the most detailed WMC possible is assigned to wastes, even if this results in more waste streams than a general grouping would create. The site has argued that the S5490 code, Unknown/Other Heterogeneous Debris, was performed because the *entire population of current PFP mixed TRU waste drums*, taken as a whole, did not fit the criteria for assignment into other more detailed WMCs. However, because the site has detailed drum-specific information, assignment to more detailed WMCs can be readily discerned, although this could result in the designation of several additional waste streams. Because the WMC assigned is so broad, reassignment of wastes to new WMC following RTR/VE will not occur unless an extreme problem is detected. This results in inconsistent implementation of AK requirements across the DOE complex and brings to question whether the DQO requirements are being met. The Permittees should examine this process for consistency and applicability, and provide consistent guidance to sites for assignment of

WMC. If Hanford retains the current system whereby a very general code is assigned, the following improvements to the AK program must be performed:

- Revise procedure 7.1.9 to include specific trigger points whereby WMC data is assessed to assign more detailed WMCs, as warranted. This re-evaluation is important to ensure that no “new” or heretofore unidentified waste or waste consideration is overlooked by the generalized approach chosen by the site. It is also important to ensure that inappropriate grouping of wastes does not occur that ultimately compromises compliance.
- Revise procedure 7.1.9 to track this information in the DQO packages for each waste stream lot, and develop a method whereby this information could be carried through to subsequent reports to show a cumulative assurance that the WMC assigned to the waste meets that assigned by AK. It is realized that the WMC assignment comparison is performed as required by the Permit, but if this is done on a “small picture basis” (i.e., for each AK DQO waste stream lot package), the site might miss an overall trend that should be addressed.