



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAY 12 2005

OFFICE OF
AIR AND RADIATION

Dr. Ines Triay, Acting Manager
Carlsbad Field Office
U.S. Department of Energy
P.O. Box 3090
Carlsbad, NM 88221-3090

Dear Dr. Triay

This letter provides the results of the U.S. Environmental Protection Agency's (EPA or we) Inspection Number EPA-INL-AMWTP-03.05-08 of the Advanced Mixed Waste Treatment Project (AMWTP) at the Idaho National Laboratory (INL). EPA conducted this inspection to ensure that the transuranic (TRU) waste characterization activities implemented at the AMWTP for characterizing debris waste are in compliance with our regulations (40 CFR 194.8(b)(3), 40 CFR 194.8(c) and 40 CFR 194.24). This inspection was conducted from February 28-March 4, 2005. The AMWTP plans to super-compact (or compress) a portion of this debris waste. The super-compacted waste will be packed in 100-gallon payload containers for disposal at WIPP.

Background

In March 2004, EPA approved, for disposal at WIPP, retrievably-stored, contact-handled (CH) solid waste characterized using approved systems and processes of the AMWTP (Air Docket No. A-98-49, Item II-A4-42). This original approval did not apply to CH debris waste (S5000) or any super-compacted waste from the AMWTP.

Also in March 2004, EPA informed DOE of its decision to allow the disposal of super-compacted waste at WIPP (Air Docket No. A-98-49, Item II-B3-68). This approval was given following an analysis that concluded that the characteristics of the super-compacted waste are adequately represented by the current performance assessment methodology and that the disposal of super-compacted waste from INL was not a significant change to EPA's 1998 Certification Decision. This approval also stated that quality assurance and waste characterization inspections by EPA were required prior to the disposal of super-compacted waste from INL AMWTP. EPA determined that the primary issue with the super-compacted waste is the inventory of cellulose, plastics, and rubber and its potential to generate additional gas. For this reason, EPA is requiring DOE to maintain the current 1.67 magnesium oxide (MgO) safety factor of 1.67. To maintain this safety factor, it may be necessary to add extra MgO backfill with super-compacted waste.

Prior to the emplacement of super-compacted waste in the repository, EPA must inspect and approve DOE's MgO emplacement plan, procedures and tracking system (Air Docket No. A-98-49, Item II-B3-79). EPA plans to inspect DOE's MgO emplacement program the week of May 16, 2005. If EPA finds the emplacement activities to be adequate, EPA will approve the emplacement of super-compacted waste at WIPP.

March 2005 Inspection

During our March 2005 site inspection we examined the AMWTP's ability to characterize retrievably-stored and newly-generated CH TRU debris (S5000) waste and super-compacted debris waste. EPA inspectors examined the entire system of controls, which includes, acceptable knowledge (AK), nondestructive assay (NDA), nondestructive examination (NDE) and the WIPP Waste Information System (WWIS).

We understand that INL AMWTP plans to dispose of retrievably-stored and newly-generated debris drums directly or in ten drum overpacks. Newly-generated debris waste will be super-compacted, load managed waste in 100-gallon drums at the WIPP.

Our inspection identified three (3) findings and seven (7) concerns. Subsequent to our inspection, DOE provided responses to all three of our findings. EPA reviewed DOE's responses and has determined that our findings have been adequately addressed. EPA will evaluate DOE's response to the concerns at subsequent EPA inspections.

EPA therefore approves the use of waste characterization processes at INL AMWTP for characterization of newly-generated and retrievably-stored CH TRU debris waste with the following exception:

TRU waste from the Bettis Laboratory cannot be disposed of at WIPP until improvements are made to the requisite AK packages and approved by EPA.

Approval Summary

With this letter, the AMWTP at INL is now approved to characterize and dispose of CH TRU retrievably-stored and newly-generated, including super-compacted, debris waste (S5000) using approved systems and processes at WIPP. (EPA inspection and approval of the MgO emplacement is required prior to the emplacement of 100-gallon drums containing super-compacted debris waste from AMWTP.) The Table below provides a summary of EPA's complete waste characterization approvals for AMWTP at INL.

Summary of EPA Approvals

Waste Characterization Element	Retrievably-stored solid S-3000 Waste	Retrievably-stored debris S-5000 Waste	Newly Generated debris S-5000 Waste*
Acceptable Knowledge	Approved - February 2004	Approved**- May 2005	Approved - May 2005
Non Destructive Assay	Approved - February 2004 - Z-211-102 (IWAS) - Z-211-103 (IWAS)	Approved - May 2005 - Z-211-102 (IWAS) - Z-211-103 (IWAS) - Z-390-100 (IWAS) - Z-390-101 (IWAS)	Approved - May 2005 - Z-211-102 (IWAS) - Z-211-103 (IWAS) - Z-390-100 (IWAS) - Z-390-101 (IWAS)
Non Destructive Examination	Approved - February 2004 - Visual Examination - Real Time Radiography	Approved - May 2005 - Visual Examination - Real Time Radiography	Approved - May 2005 - Visual Examination - Real Time Radiography
WIPP Waste Information System	Approved - February 2004	Approved - May 2005	Approved - May 2005
Load Management	Not approved	Approved - May 2005	Approved - May 2005

* - This approval also applies to the super-compacted debris waste

** - Does not include TRU Bettis debris waste.

If you have any questions, please contact Ed Felcorn at (202) 343-9422.

Sincerely,



Bonnie C. Gitlin, Acting Director
Radiation Protection Division

Enclosure

cc: Kerry Watson, CBFO
Ava Holland, CBFO
Frank Marcinowski, DOE/EM (w/o enclosure)
Lynne Smith, DOE/EM (w/o enclosure)