



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



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OFFICE OF
AIR AND RADIATION

Dr. Inés Triay, Acting Manager
U.S. Department of Energy
Carlsbad Field Office
P.O. Box 3090
Carlsbad, NM 88220



Dear Dr. Triay:

On December 14, 2004, the Department of Energy (DOE) requested the Environmental Protection Agency's (EPA) approval to allow the disposal of 21 drums of compressed debris waste at the Waste Isolation Pilot Plant (WIPP) (Air Docket A-98-49, Item II-B2-44). DOE's request asserted that the compressed waste is equivalent to the uncompressed portion of the debris waste stream that is currently approved by EPA for disposal from the Rocky Flats Environmental Technology Site (RFETS).

In a December 2004, conference call with DOE, EPA requested additional information on the characteristics of the compressed portion of the waste stream. This additional information was provided by DOE on February 14, 2005 (Air Docket No. A-98-49, Item II-B2-45).

EPA's analysis of the RFETS compressed waste was two-fold. First, EPA examined the compressed waste to ensure that the properties of the waste were represented in the current performance assessment. Second, EPA wanted to ensure that the currently approved waste characterization procedures for RFETS debris waste were appropriate for the compressed waste.

Performance Assessment Analysis

In March 2004, following a thorough analysis of the effects on the performance assessment, EPA approved the disposal of supercompacted waste from the Idaho National Environmental and Engineering Laboratory (INEEL) in WIPP (Air Docket A-98-49, Item II-B3-68). This analysis was used as a basis for examining the RFETS compressed waste. EPA found that the RFETS compressed waste has comparable levels of radioactivity to the INEEL supercompacted waste. In addition, the contents of cellulosic, plastic, and rubber materials (CPR) are about 50% less than that of the INEEL supercompacted waste. Based on these findings and on the very limited number of Rocky Flats compressed waste drums for which DOE is seeking approval, EPA believes that the effects of the RFETS compressed waste are already

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accounted for in the performance assessment. However, as we stated in our approval of the INEEL supercompacted waste, DOE needs to ensure that the appropriate amount of magnesium oxide (MgO) is placed with the RFETS compressed waste drums to maintain the MgO safety factor of 1.67.

Waste Characterization Analysis

The RFETS compressed debris waste has been characterized using waste characterization processes previously approved by EPA for uncompressed debris waste. To assure proper characterization, we assessed these approved techniques to see whether they would function as intended when applied to debris waste with higher density (i.e., compressed waste). The Agency was concerned as to whether the real-time radiography (RTR), the only characterization technique performed after compression, was capable of distinguishing the contents of the compressed waste drums. To address this concern, an EPA inspector reviewed video tapes of the RTR for the compressed waste drums. The EPA inspector determined that the video tapes demonstrated that the RTR was capable of distinguishing the contents of the compressed waste drums, as required. Thus, we find that the previously-approved waste characterization methods are adequate for characterizing the compressed portions of the approved debris waste stream. No further inspection or approval will be conducted.

Conclusion

EPA approves DOE's request to dispose of 21 drums of compressed debris waste from RFETS at WIPP. This approval is based on an analysis of the effects on the WIPP performance assessment and on compliance with EPA waste characterization procedures. Disposal of additional compressed waste drums from RFETS or any other waste generator sites will require additional analysis and approval by EPA. We request that DOE provide us with copies of the updated waste profiles for the RFETS compressed waste for our records.

Sincerely,



Bonnie C. Gitlin, Acting Director
Radiation Protection Division

cc: Frank Marcinowski, DOE/HQ
Lynne Smith, DOE/HQ
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EPA WIPP Team
EPA Docket