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Effect of February 2014 WIPP Incidence on EPA's TRU Waste Characterization Inspections

Briefing for NMED

By

RPD TRU Waste Characterization Team

February 3, 2016

160202



Purpose of Briefing

- Discuss the nature of EPA's inspection and approval activities
- Discuss how the Accident Investigation Board Findings and resulting DOE corrective actions may affect EPA's inspection scope
- Discuss additional steps WIPP waste characterization inspection team may pursue to:
 - evaluate the safety of WIPP-emplaced "RCRA characteristic" TRU waste
 - provide additional assurance in the integrity and stability of the WIPP repository both long term and short term

EPA Site Inspections

- Since 1999, EPA conducted more than 200 inspections to:
 - approve waste characterization program implemented to characterize:
 - Contact-handled TRU waste
 - Remote-handled TRU waste
 - verify that radiological and physical contents of individual TRU waste container meet regulatory limits and are appropriately tracked by DOE
- Regulatory changes of 2004 to inspection and approval process require:
 - Baseline inspection and approval of TRU Site-based waste characterization program
 - Targeted inspections and approvals (Tier 1 changes)
 - Concurrence on changes to documents and/or waste characterization processes, procedures and equipment (Tier 2 changes)
- EPA also conducts continued compliance and unannounced inspections

Information Flow Between Different Entities

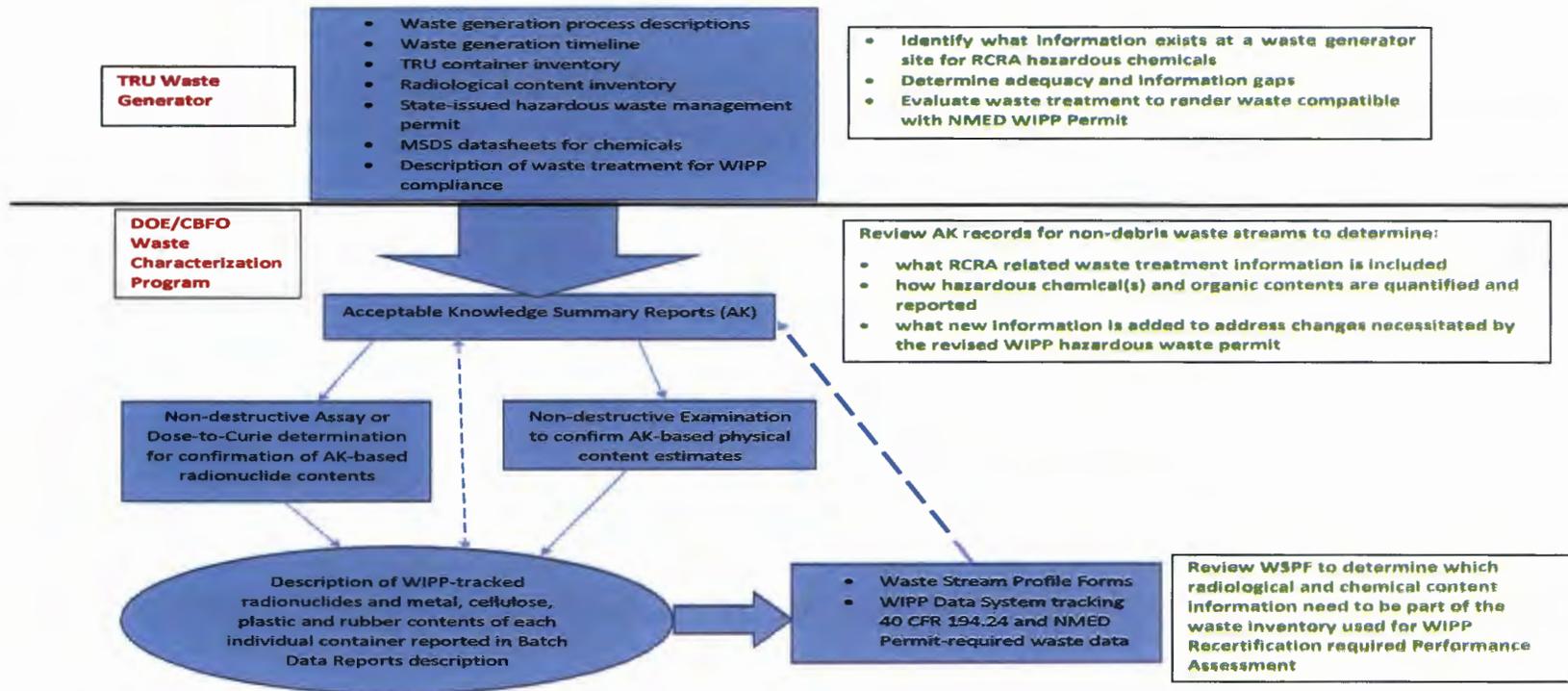


Figure depicting information flow between waste generator and DOE/CBFO WIPP waste characterization program

Waste Characterization Inspections Cover

- Review of historical information compiled in Acceptable Knowledge (AK) documentation
- Confirmation of AK using non-destructive assay equipment and procedures to characterize and quantify in each WIPP-destined container ten WIPP-tracked radionuclides
- Confirmation of AK using non-destructive examination equipment and processes to:
 - Characterize and estimate cellulosic, plastic and rubber contents of each WIPP-destined container
 - Verify absence of free liquid in each WIPP-destined container

Waste Characterization Inspection Historically Did Not Cover

- Evaluation or confirmation of materials that fall under the purview of the Resource Conservation and Recovery Act (RCRA)
- EPA deferred to RCRA-authorized States to:
 - Enforce hazardous waste regulations
 - Verify regulatory compliance
- EPA assumed that any TRU waste packaged for WIPP disposal would:
 - Be RCRA compliant, having had a RCRA review
 - Have removed, adsorbed or otherwise rendered inert hazardous contaminants
 - Be properly packaged with packaging material included in the inventory

2014 Radionuclide Release and Aftermath

- Disposal of non-compatible waste and packaging materials in a LANL container resulted in the February 2014 incident thereby requiring all regulators to reassess additional actions
- We consulted RCRA experts in EPA to determine potential changes to our waste reviews using EPA's legal and enforcement authorities

DOE Actions to Address AIB Findings

- CBFO, LANL and NWP, in particular, was identified as a weak link which lead to the February 2014 radionuclide release
- AIB concluded that DOE contractors responsible for waste characterization and certification did not look “behind the fence” to verify waste packaging/treatment for WIPP disposal
- NMED came to a similar conclusion
- As a result, among other corrective actions, CBFO and NWP have developed new AK procedure, particularly TP-005, which requires:
 - Increased communication between host site waste generation and packaging staff and CBFO staff and AK experts
 - Verification of host site paperwork and documentation by AK experts

CBFO and EPA Discussions

- CBFO has shared with us the process being implemented to “trust but verify” “behind the fence” activities at the generator sites
- TRU waste generators are cooperating with AKEs
- If sites resist this interaction and sharing of RCRA-related information it will impede waste movement to the characterization pipeline
- EPA is planning to participate in DOE EM, CBFO staff fact finding visits to generator sites
- Recently, we provided comment on TP-005, implementation of which began August 2015 and being implemented on certified CH waste streams.

Coordination and interactions

- Under the Land Withdrawal Act, EPA has the authority to look at the hazardous component of the waste at all sites as part of the waste approval for WIPP disposal
- EPA can evaluate/inspect:
 - Hazardous waste management and characterization records compiled by DOE Support Contractor for certification of waste for WIPP disposal; and
 - Hazardous waste management and packaging activities at TRU generator sites
- EPA plans to work with **all** state regulators with TRU waste destined for WIPP Disposal
- EPA will continue to keep NMED informed of:
 - Discussions with State regulators
 - Our plans and actions regarding the hazardous component inspections and evaluations

Areas of increased focus of EPA of WIPP Waste Characterization Oversight

- These discussions will help EPA to develop plan(s) for possible expansion of current oversight (primarily for radiological and physical characterization of TRU waste) effort to:
 - Evaluate AK documentation supporting waste certification;
 - Inspect hazardous waste management and packaging operation(s) at TRU generator sites; and/or
 - Verify adequacy of the above activities to render containerized waste suitable for WIPP emplacement
- EPA's Expectations for DOE and DOE contractor support
 - Identification ahead of time of AIB response audits/reviews by CBFO/HQ
 - Providing requesting documentation in a timely manner
 - General cooperation at the different sites



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

JAN 29 2016

OFFICE OF
AIR AND RADIATION

Todd A. Shrader
Manager, Carlsbad Field Office
4021 National Parks Hwy.
P.O. Box 3090
Carlsbad, New Mexico 88221-3090

Dear Mr. Shrader:

The purpose of this letter is to request that the Department of Energy Carlsbad Field Office (DOE CBFO) provide to the Environmental Protection Agency documentation of its plans for testing and operation of interim and supplemental ventilation systems at the Waste Isolation Pilot Plant (WIPP). As we have discussed, the EPA provides oversight of the DOE's compliance with regulatory standards at 40 CFR part 191, subpart A, and 40 CFR part 61, subpart H (National Emission Standard for Hazardous Air Pollutants or NESIAP), with a focus on ensuring that the DOE limits radiation exposure to the public during operations. As part of this oversight, the EPA needs to have an opportunity to review applicable information, in this case, related to the DOE's expected changes to the ventilation at the WIPP.

We realize that the implementation of upgrades to the WIPP's ventilation systems is critical to the resumption of more normal operations at the WIPP. As you know, an appropriate regulatory review is important to maintain stakeholder confidence in WIPP operations. Our review of the interim ventilation system is to make sure that the measurements taken at Station B remain representative of filtered repository exhaust.

It is our understanding that the DOE is planning a "bump test" of the supplemental ventilation unit in the near future. However, DOE has not provided the EPA with information on the nature of the supplemental ventilation or its expected general operation. We do understand, however, that it would create an airflow path that would be unfiltered. The EPA previously expressed its concern when the DOE moved the unit into the underground without prior notification or documentation. We are also concerned that further action to test the equipment may be pursued before the EPA has had sufficient time to review the appropriate documentation and conduct any inspections as necessary.

The EPA's primary concern is to ensure that all exhaust from the underground is properly monitored and, if necessary, filtered to avoid releases of radioactive material to the general environment. To that end, we are requesting documentation from the DOE that addresses:

- Qualification of Station B as the designated point of compliance for the radionuclide NESHAP in 40 CFR part 61, subpart H;
- Monitoring of the exhaust from the underground, including plans for restoring continuous radiological monitoring of the underground;
- Testing of interim and supplemental ventilation units, including ramp-up procedures and testing criteria (e.g., equipment settings, sequencing and evaluation);

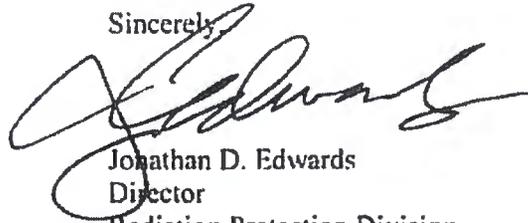
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- Control of exhaust streams during testing to ensure no release of unfiltered exhaust to the surface; and
- Operating parameters during normal and off-normal situations.

I appreciate your cooperation in this matter. Several members of my staff, including Tom Peake, director of the Center for Waste Management and Regulations, will be in New Mexico to meet with your staff in early February. He will be available to discuss this topic further at that time. In the meantime, if you or your staff need further information, please let me know, or contact Tom Peake at (202) 343-9765.

Sincerely,



Jonathan D. Edwards
Director
Radiation Protection Division

PNIDs for IVS
Salt removal

EPA-NMED WIPP Waste Characterization Meeting

Wednesday, February 3, 2016
 9:00 -11:30 am
 NMED HWB Office in Santa Fe

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