WIPP Update

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STGW/NGA/NSCL Spring Meetings & Joint Sessions – June 4, 2014
Waste Isolation Pilot Plant

www.wipp.doe.gov
Two Incidents

February 5th Fire:

• All operations at the repository ceased following salt haul truck fire in the WIPP underground

• An investigation team was deployed to determine the cause of the fire
  • Report released March 13th

February 14th Radiological Incident:

• A continuous air monitor detected airborne radiation in the underground

• WIPP’s ventilation system automatically switched to high-efficiency particulate air (HEPA) filtration mode when air borne radiation was detected underground and the WIPP mine remains in filtration mode at this time

• Extensive sampling and monitoring conducted by DOE, New Mexico, and Carlsbad Environmental Monitoring Research Center Monitoring
  • EPA and the NMED also sampling

• Efforts by the Department of Energy and Nuclear Waste Partnership are ensuring workers are fully protected during recovery and restart

• Weekly town hall meetings are planned to keep the community informed; to stay apprised go to: http://www.wipp.energy.gov
The Phase 1 Accident Investigation Report on the radiological event was released April 24

- Root cause: M&O and CBFO failure to fully understand, characterize, and control the radiological hazard; the cumulative effect of inadequacies in ventilation system design and operability compounded by degradation of key safety management programs and safety culture
- Contributing causes: Eight contributing causes to the radiological release or resultant response
- Corrective Action Plan submitted to Carlsbad Field Office May 28th

Conclusions: Nuclear Safety Program; Maintenance program; Radiation protection program; Emergency management program; Conduct of Operations; Safety Culture; CBFO and HQ Oversight

Phase 2 report will be developed after the cause of the event is identified
Sampling Efforts

Extensive Sampling:
- Bioassay
- Air
- Soil
- Water
- Vegetation

Independent Surveying & Result Verification:
- Carlsbad Environmental Monitoring and Research Center
- EPA
- NMED
- CDC
Key Recovery Plan Actions

1. Terminate the low-level radiological release
2. Unmanned instrument entry to establish safe habitability for manned entry
3. Manned entry to characterize mine stability and attempt to identify the source of the release
4. Isolate the source of the radiological release
5. Replace contaminated filters
6. Mitigate the contamination hazard in the underground
7. Incorporate corrective actions to restore operations

Approximately 2000 ft

Surface

Underground

2150 ft
Instrument Testing of Underground
Established Operating Base, Secondary Egress
Collecting Evidence

Used telescoping boom to obtain overhead photos of the waste stacks

Re-entry worker
Magnesium Oxide Bags melted indicating possible chemical reaction
LANL Drum Breach

- Breached drum identified as a source of radiation release
- DOE continues investigation
  - Reviewing photographic evidence
  - Sampling and analysis
  - Continuous Air Monitoring data

LANL drum with a lifted lid in WIPP Panel 7 Room 7
May 19 AO to LANL:
• Isolate/secure nitrate salt-bearing waste containers at WIPP, LANL and WCS
• May 21 LANL submitted Nitrate Salt-Bearing Waste Container Isolation Plan
• May 29 LANL submitted revised plan addresses NMED comments

May 20 AO to WIPP:
• Increase precautions for nitrate salt-bearing waste
• May 30: WIPP submitted closure plans for Panel 6 and Panel 7 Room 7
Impacts to LANL 3706 Campaign

• Due to safety issues raised with the nitrate salt waste stream involved in the release, LANL packaging characterization, and shipping activities impacted.

• **May 29:** DOE notifies NM Governor Martinez that DOE will not be able to meet the June 30 deadline for the 3706 TRU Waste Campaign

• DOE removed nearly 90 percent of the volume and 93% of the material at risk
  • Removing over 38,000 curies from LANL

• Nitrate salt packages remaining at LANL waste have been repacked in non-combustible containers and protected in domed structures with fire suppression systems at the Area G

• Other packages remain safely stored in domes storage.
LANL TRU Staged at WCS

- At WCS, standard waste boxes containing nitrate salts have been overpacked into concrete casks to provide additional protection.

- DOE talks frequently with Texas Commission on Environmental Quality on developing knowledge of the rad event and WIPP recovery.

- Additional shipments to WCS are on hold.
TRU WIPP Impacts

• TRU waste-generating sites continue to characterize and certify TRU waste for eventual shipment to WIPP
• Evaluation of potential impacts on state commitments underway
• Mitigation actions being planned, where possible
• Site storage needs contingent on length of WIPP shutdown
• Working within current FY2014 budget to address near-term costs for the emergency and recovery operations

• Meeting with OMB and congressional staffers to discuss FY 2015 budget needs for WIPP recovery

• FY2015 budget did not include addition funds needed for recovery efforts due to timing

• EM will continue to work with DOE’s Chief Financial Office, OMB and Congress as the 2015 budget and 2016 budget planning processes progress
Additional Background
Underground Repository

Remote-handled waste

Contact-handled waste
LANL Shipments Suspended

- LANL is currently unable to conduct TRU shipments to any site.
- Three issues must be resolved before shipments campaign can be completed:
  - Resolution of a May 8 corrective action report placed the LANL TRU program in a state of suspension, due to concerns with adequacy of acceptable knowledge documentation for TRU waste remediated at LANL.
  - Resolution of the WIPP contractor Potential Inadequate Safety Analysis (PISA) issued on May 1, concerning all LANL streams bearing nitrate salts.
  - Resolution of the LANL PISA issued on May 16, on the possibility of inadequate safety basis controls specified for the remediated nitrate salt bearing wastes.
Temporarily Staging Los Alamos TRU at WCS

- WIPP M&O Contractor NWP in coordination with DOE signed a contract with WCS for the temporary staging of TRU waste at the permitted facility near Andrews, Texas
- Goal: Meet the June 30 deadline for the NM 3706 shipping campaign goal from LANL

- Shipments started April 2
- Shipments ceased on May 8
Modular Concrete Casks at WCS