

WIPP Idaho Impacts - Update



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TRU Waste Program
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WIPP Shut Down

- WIPP Events
 - Salt Truck Fire February 5
 - Release of Contamination February 14
- All TRU Waste Shipments were stopped February 5
- Investigation:
 - Release of contamination from WIPP Panel 7 Room 7
 - One breached drum of LANL waste discovered
 - Continued investigation further back into emplaced waste continues
- Operations expected to resume first quarter of CY2016

www.wipp.energy.gov/wipprecovery/recovery.html



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TRU Waste Operations

- AMWTP Operations
 - CH-TRU will be treated, certified for WIPP, and placed into storage
 - MLLW will be shipped out of the State of Idaho
 - Production will be shifted to MLLW generation
 - Current backlog is 421 shipments
- Waste Exhumation Operations
 - Exhumation in ARP VIII will continue
 - Waste will be packaged, certified for WIPP, and stored
- RH-TRU Operations
 - RH-TRU will be treated, certified for WIPP, and placed into storage
 - Sodium treatment will continue, and sodium byproduct will be shipped off-site
 - Continued waste stream approval to allow ongoing processing and certification
 - Current backlog is 6 shipments



Storage

- RH-TRU
 - No additional storage needs at this time.
- Buried Waste
 - WMF-698 will reach full capacity by 9/30/2015
- AMWTP
 - Anticipate enough storage to remain <80% capacity through 9/30/2015
 - Expanded storage capacity needed beyond 9/30/2015 to support ARP exhumation
- Expanded Storage
 - Work to date:
 - Evaluated construction of new storage facilities at RWMC
 - Initiated design of new storage facilities
 - Evaluated AMWTP storage areas
 - Path Forward:
 - No new construction at RWMC at this time
 - Design will be completed and ready in case of future need
 - AMWTP to reconfigure existing storage (~2yrs worth of storage)
 - Expanded use of WMF-636 for storage of certified waste (Pads 1 & R)
 - Permit modification may be necessary
 - Removal of waste, cleaning, paving of asphalt pads
 - Storage of waste certified for WIPP in dense pack
 - Removal of warehouse materials from Pad R
 - Removal of drum treatment tent from WMF-628



AMWTP Permitted Storage

(Available Areas Shown in Red, Operations Shown in Green)



Assessments to Date of Idaho TRU Waste Program

- **Review of all Idaho waste dispositioned in WIPP Panel 7**
 - **440 Containers of Idaho waste in WIPP Panel 7 from 4 Waste Streams**
 - **BN510 - Supercompacted Debris**
 - Extremely stable waste form due to supercompaction
 - Initial increased hydrogen generation due to radiolysis of plastic
 - **BNINW216 – Solidified Inorganic Sludge**
 - Reviewed by both Idaho and LANL Difficult Waste Team
 - Consisted of solids removed from aqueous streams at Rocky Flats, no Nitrate Salts
 - Treated to less than 1% free liquid through addition of inorganic absorbent
 - High activity, but very low hydrogen and no methane generation
 - **ID-RF-3114 – Solidified Organic Sludge**
 - Solidified organic liquids from Rocky Flats such as solvents and oils
 - Treated to no free liquids through inorganic absorbent addition
 - Low activity, and low hydrogen generation
 - **ID-ANLE-S5000 – RH TRU Debris**
 - Not present in Panel 7 Room 7
 - Water immersion performed to remove any reactive characteristic material
 - Disposal in boreholes



Assessments to Date of Idaho TRU Waste Program

- **Headquarters/CBFO Data Call on nitrate wastes and absorbents**
 - **Does site have nitrate salt wastes?**
 - **Idaho has one nitrate salt waste stream that originates from Rocky Flats**
 - Estimated to be 6,000 containers in inventory, 4,400 characterized to date
 - All nitrate waste to date from this waste stream dispositioned as MLLW, none has gone to WIPP
 - **Buried waste may also contain some nitrate salt waste**
 - Limit of 30% nitrate salts allowed in buried waste (22% non-visible, 8% visible as determined by VE)
 - Limit established by Idaho and CCP jointly, and is approved for disposal at WIPP
 - **Have organic absorbents been used?**
 - **Organic “kitty-litter” has not been used in Idaho**
 - Verified through document reviews and personnel interviews
 - **Water Works SP-400 is technically organic, and has had limited use in Idaho**
 - Used on BN216 Inorganic Sludge
 - Compatibility with waste evaluated through AK prior to use
 - Only used on 2 containers, neither has been shipped to WIPP
 - **Has Kolersafe been used for neutralization?**
 - **Idaho has never used Kolersafe products**
 - **Does site have low pH waste similar to LANL?**
 - **Idaho does not have low pH waste streams**
 - **Review procedures for compliance with WIPP WAC.**
 - **Review completed, processes found to be robust.**



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Assessments to Date of Idaho TRU Waste Program

- **DNFSB Request for Evaluation of Idaho SWBs in Panel 7**
 - **2 SWBs evaluated**
 - Both contain supercompacted debris in product drums
 - No additional waste present in SWBs
- **DOE-Idaho Assessment of Idaho TRU waste program**
 - **Looked at entire program: AMWTP, Buried Waste, RH-TRU Waste**
 - **Evaluated overall understanding and flow down of WIPP requirements.**
 - **Conclusion:**
 - Processes are compliant with the applicable requirements for the WIPP Hazardous Waste Facility Permit and DOE/WIPP-02-3122 TRU Waste Acceptance Criteria (WAC).
 - Implementation is effective in meeting the requirements, and all criteria are determined to be met.
 - **Strengths:**
 - **Idaho has a mature TRU waste program**
 - Idaho is the largest shipper of both CH and RH TRU to WIPP
 - Idaho has been shipping both RH and CH TRU to WIPP since it began accepting waste
 - Idaho has provided waste characterization and treatment capabilities for sites throughout the DOE complex
 - **Idaho has a formalized Federal oversight program**
 - Oversight activities include routine operational awareness oversight, monitor watches, Line Management Assessments, surveillances, document reviews, readiness determinations, and other compliance or verification activities
 - DOE Facility Representatives and SMES provide oversight of day-to-day operations



Assessments of Idaho TRU Waste Program

- **DOE-Idaho Assessment of Idaho TRU waste program**
 - **Opportunities for Improvement:**
 - Federal oversight processes may not evaluate activities associated with disposal.
 - Workers may not fully understand why certain absorbents/additives are used.
 - Procedures for packaging buried are not clear on the ratio of waste to absorbent.
 - The sludge treatment procedures are not clear on the ratio of waste to absorbent.
 - The AMWTP procedures are not clear on the specific requirements for waste neutralization.



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Assessments of Idaho TRU Waste Program

- **DOE Headquarters Assessment of Idaho TRU waste program**
 - **Looked at entire program: AMWTP, Buried Waste, RH-TRU Waste**
 - **Charter:** “Conduct a review of the procedures used to treat/remediate the TRU-Waste and confirm that the level of specificity, the quality assurance, the change management processes and the level of required documentation exists to meet all permit requirements and to ensure that the WIPP waste acceptance criteria is met.”
 - **Final report not yet released, all findings are preliminary.**
 - **Notable Practices:**
 - Assessment material prepared in advance.
 - DOE-ID had already completed an assessment of its TRU waste program
 - **Potential Vulnerabilities:**
 - **AMWTP procedure - Document Control, MP-DOCS-18.4, Rev. 39.**
 - “Hazard assessment” definition does not include evaluation of chemical compatibility of waste or material added to waste.
 - Emphasis is on physical work controls
 - **CWI procedures on use of absorbents (Repeat from DOE-ID Assessment)**
 - CWI procedures that address the use of absorbents self-identified as needing more detail regarding the ratios to be used for absorption.
 - The procedures should include the mixing ratio and direction to record the type and amount used.
 - **CCP procedure – Acceptable Knowledge Summary Report for Waste Retrieved from Designated Areas within Subsurface Disposal Area, CCP-AK-INL-001**
 - Section 4.4, waste generating processing section should include more detail regarding how the excavator operator handles waste, especially absorption with soil.



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Conclusion

- **Idaho will continue processing and certifying TRU waste for disposal at WIPP.**
- **Storage capacity at AMWTP will be increased to accommodate continued Buried Waste Operations.**
- **Idaho's waste dispositioned at WIPP and processes for continued waste generation have been assessed.**
 - **Idaho's TRU waste program is mature and is fully in compliance with all requirements.**
 - **Waste certified by Idaho meets the WIPP Waste Acceptance Criteria.**
 - **Idaho has several areas of procedures that can be strengthened, but there are no non-compliances in the Idaho TRU waste program.**



AMWTP Update

- **A degraded box broke apart during retrieval operations in February 2010, resulting in contamination to 20 employees.**
- **Retrieval of the plywood boxes was suspended**
- **Since then retrieval operations were radically changed**
 - **The Retrieval Containment Enclosure was constructed**
 - **Numerous new engineering controls**
 - **Additional retrieval personnel protective equipment requirements**



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Retrieval Progress October 30, 2014

- Developed and implemented hazard controls, and performed the work within the controls.
- The box recovery presented crews with several challenges.
- After two full days, operators and radiological technicians were able to get the waste repackaged into three boxes.

“It was a great couple of days for this group and one of the most challenging boxes ever retrieved.”

~Scott Biorn, ITG Retrieval Manager



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Dashboard Summary for ICP Program

Key Questions	Dashboard Indicator	Comments
Budget Concerns and Issues		Priorities will have to be adjusted to account for increased storage costs and for increased costs associated with the disposal of larger quantities of MLLW.
Employment/Economic Conditions		Employment/Economic conditions should remain consistent.
Affect on Agreements		Difficult to comply with 2,000 cubic meter rolling average. Continued WIPP closure prevents shipment of TRU waste from Idaho.
Safety and Environment		CWI Safety record is exceptional ITG experienced a lost time injury this period
ICP Cleanup Condition		ICP continues to support WIPP



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