



U.S. DEPARTMENT OF
ENERGY

OFFICE OF
**ENVIRONMENTAL
MANAGEMENT**

WIPP Status Update

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for

Northern New Mexico Citizen's Advisory Board

September 28, 2016

Path to Resumption of Waste Emplacement

- ✓ Documented Safety Analysis - **completed**
- ✓ Cold Operations - **completed**
- ✓ Management Self Assessment – **completed**
- ✓ Interim Ventilation System - **completed**
- Operational Readiness Reviews

Schedule Challenges

- Ground Control
- Waste Handling in a Contaminated Environment

Changes to the National TRU Program

- New WIPP Waste Acceptance Criteria (WAC)
- Enhanced National TRU Program Requirements

Shipping Schedules and Near Term Limitations

- Resumption of Waste Emplacement
- Projected Shipment Numbers

Future projects for return to normal operations

- Additional Surface Storage at WIPP
- Permanent Ventilation System Status

Documented Safety Analysis (DSA)

Approved April 29, 2016

- Developed under new DOE Standard 3009-2014
- Approximately 120 Safety Management Program procedures created or revised
- Implementation declared complete on May 29



Cold Operations – completed August 24

- WIPP crews processed and downloading empty waste containers using new DSA Rev. 5 controls
- Originally scheduled for 8 weeks, expanded to 12 weeks to complete necessary work evolutions and allow more time for crews to practice
- Included regular drills conducted to test safety management procedures



Management Self Assessment (MSA)

- Internal review conducted by the M&O Nuclear Waste Partnership (NWP) to confirm operational readiness
- Two weeks of field work - concluded August 26
 - ✓ Reviewed over 950 documents
 - ✓ Conducted 200 interviews
 - ✓ Conducted over 120 performance based field observations
- Identified 5 adverse findings in the areas of configuration management, fire protection, operations and management readiness
- Corrective actions responding to pre-start findings, post-start findings and deficient conditions are in progress

Interim Ventilation System

- The interim ventilation system (IVS) became operational September 9 – air balancing to maximize airflow completed on September 14
- IVS provides an additional 54,000 cubic feet per minute of filtered airflow – doubling existing airflow in the underground
- Supports waste emplacement and allows additional equipment to operate simultaneously in the underground



Contractor and DOE Operational Readiness Reviews (ORR)

- Performance-based examination of facilities, equipment, personnel and procedures
- Will ensure WIPP will be operated safely – within approved safety envelope



Return to Waste Emplacement Operations



CBFO and NWP are working hard to resume waste emplacement operations -

- Safety issues take precedent
- Ground control remains a priority

Roof bolt plate



Broken roof bolts



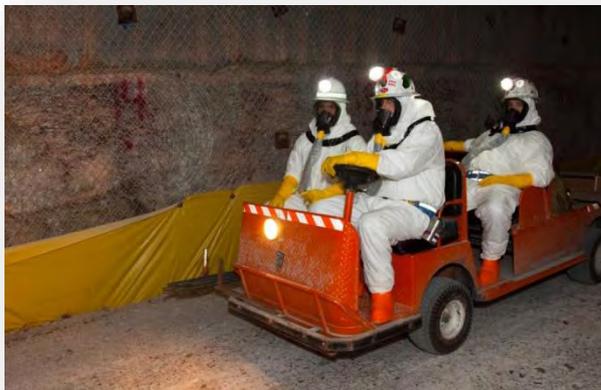
Floor heave



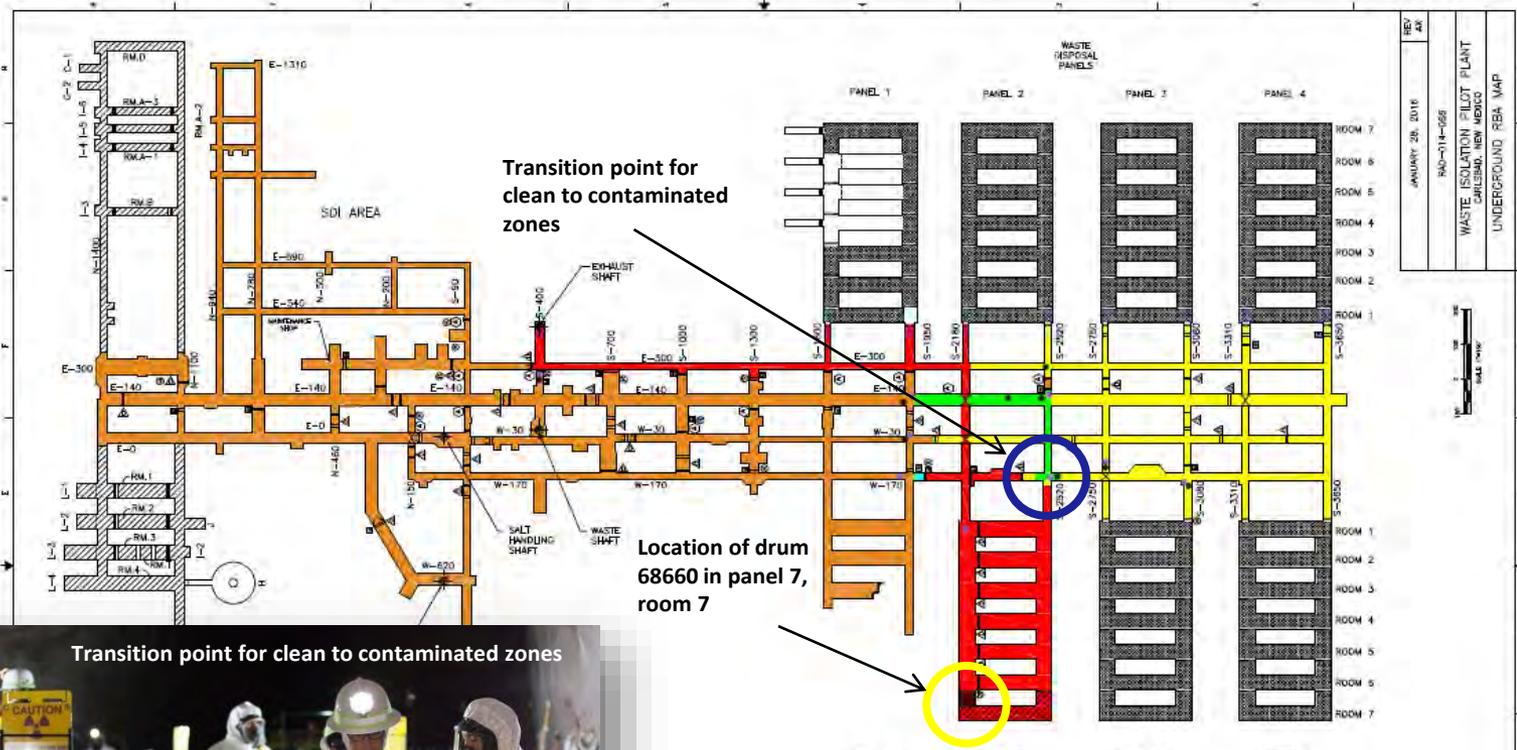
Hybrid bolter

Waste emplacement in contaminated environment –

- Will take place in Panel 7 rooms 1-5
- Will require a transition from clean to contaminated zones near the opening of Panel 7
- Waste handling operators working in the contaminated zone will be in personal protective clothing and powered air purifying respirators (PAPR)



Radiological Control Areas



REV	NO.	DATE
1	001	01/28/15
2	002	01/28/15
3	003	01/28/15
4	004	01/28/15
5	005	01/28/15
6	006	01/28/15
7	007	01/28/15
8	008	01/28/15
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11	011	01/28/15
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96	096	01/28/15
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98	098	01/28/15
99	099	01/28/15
100	100	01/28/15



Transition point for clean to contaminated zones

DEFINITIONS	LEGEND
RBA - < 20 dpm/100cm ³ ALPHA REMOVABLE < 200 dpm/100cm ³ BETA REMOVABLE	Controlled Area
CA - > 20 dpm/100cm ³ ALPHA REMOVABLE > 200 dpm/100cm ³ BETA REMOVABLE	RBA
HCA - > 2,000 dpm/100cm ³ ALPHA REMOVABLE > 20,000 dpm/100cm ³ BETA REMOVABLE	Contamination Area
ARA - > 0.3 DAC	Contamination Area/Absorptive Radiactivity Area
PANEL 7 - 2,000-17,000 dpm/100cm ³	High Contamination Area/Absorptive Radiactivity Area
PANEL 7, ROOM 7 - > 1 million dpm/cm ² ALPHA ON THE EXPOSED WASTE	DAM
	PAS
	Inaccessible
	NOTES
	1. DRIFT WIDTHS NOT TO SCALE, ENLARGED 2X FOR CLARITY.
	2. EXISTING EXCAVATION REFLECTS STATUS AS OF 08/13/14.

New and Enhanced Federal Oversight

- Increased oversight by Carlsbad Field Office and EM/HQ
- Clearer roles and responsibilities



New Waste Acceptance Criteria (WAC)

- WAC Revision 8 issued June 27, 2016 – Effective July 5, 2016
- Includes changes resulting from findings from the Accident Investigation Board
- Incorporates requirements from the recently approved DSA and chemical compatibility studies
- Temporary suspension of waste certification at generator sites



New Requirements

- Enhanced Acceptable Knowledge - detailed verification of source documentation for potentially incompatible materials and to ensure the adequate information basis
- Chemical Compatibility Evaluations – identifying the range of possible chemical combinations that could occur in each waste stream using EPA approved methodology



New Requirements

- Basis of Knowledge for Oxidizing Chemicals – waste certification programs to identify and potentially treat waste to avoid effects from oxidizing chemicals
- Generator Site Technical Reviews (GSTR) - performed by CBFO and NWP to ensure waste packaging and treatment activities meet new enhanced WIPP WAC requirements
- Re-certification Audits – required before shipping waste certified under new WAC revision 8

Resumption of Waste Emplacement

When Waste Emplacement Resumes –

- Waste in Waste Handling Building (WHB) at WIPP will be emplaced first – Expected to take 90 days
- Emplacement rate at startup will be the limiting factor – current planning based on *emplace rate of up to five shipments a week*



Above Ground Storage Project

Engineered Concrete Overpacks – design used at SRS –

- Surface storage capacity for CH waste – 408 containers/136 shipments/8 weeks of capacity @ 17/week
- Storage of any single container not to exceed 1 year
- Increases the available weeks for TRU waste shipments
 - Receipt of shipments can continue during mining operations when waste emplacement operations are put on hold
- Continue CH TRU waste receipt during normal operational fluctuations and maintenance outages
- Class 3 Permit modification request (PMR) expected to be submitted to NMED in later this year

Permanent Ventilation System

- New shaft and 55,000 sq. ft. ventilation building located east of the existing exhaust shaft
- Geotechnical Analysis is underway
- Data will be used to determine bearing capacity, seismic design parameters and building foundation design
- Will provide enough airflow underground for mining and waste emplacement activities to occur concurrently



Questions

