WIPP Town Hall Meeting

Sponsored by the U.S. Department of Energy and the City of Carlsbad, NM

December 15, 2016

Agenda

- Opening Comments – Mayor Dale Janway
- Meeting Moderator – John Heaton
- WIPP Update – Todd Shrader
- DORR Results – Ed Westbrook
- Restart Status – Phil Breidenbach
- Questions and Answers – John Heaton
  - In house
  - Internet
- Path Forward, Closing Comments – Todd Shrader

Update on CBFO and WIPP Activities

Todd Shrader, CBFO Manager

WIPP Update

- Status of request for temporary authorization for closure of south end of underground
- MSHA – Technical Support Evaluation Report
- Resumption of Operations Status
  - DOE Operational Readiness Review
  - NMED inspection results and restart approval

WIPP CH WASTE EMPLACEMENT DOE ORR RESULTS BRIEFING

Ed Westbrook
EM-3.112
Office of Operational Safety

December 15, 2016

PURPOSE OF BRIEFING

- DOE ORR process
- Scope of and approach to the WIPP DOE ORR
- Results of DOE ORR
- DOE ORR Team recommendations

WHAT IS AN ORR?

DOE Order 425.1D

- "Establishes the requirement for verifying readiness for startup of new Hazard Category 1, 2, and 3 nuclear facilities and for the restart of existing Hazard Category 1, 2, and 3 nuclear facilities, activities, and operations that have been shut down."

- "Readiness reviews provide an **independent verification of readiness** to start or restart operations."

THE ORR PROCESS

Plan the ORR

- Plan of Action
  - Scope (17 Core Requirements in the DOE Order)
  - Breadth and Depth
  - Team Leader selection

- Development of the Implementation Plan
  - Team selection and assignments
  - Criteria and Review Approach Documents (CRADs) development
  - Identify the activities to be observed, personnel to be interviewed, and documents to be reviewed

Execute the plan

- Train the team and site visit
- Begin document reviews
- On-site portion, field observations, exercises, drills and interviews
- Prepare the report

WHAT WE LOOK FOR

The Three Legged Stool

- People
- Procedures
- Equipment

WIPP DOE ORR SCOPE

- All 17 Core Requirements from DOE Order 425.1D
  - 14 Specific to the contractor
- AIB Reports – JON closures
- New Documented Safety Analysis (DSA)
  - Technical Safety Requirements (TSRs)
  - Safety Management Programs (SMPs)
  - Waste Acceptance enhancements
- DOE CBFO and HQ oversight

ORR FOCUS AREAS

Based upon AIB reports, DOE-CBFO oversight, and Contractor ORR, the DOE ORR team had particular focus on the following areas:

- Emergency Management
- Engineering/Nuclear Safety
- Maintenance and Work Control
- Operations
- Radiological Protections

ORR Team Assignments

Team Leader	Ed Westbrook, EM-3.112
Dep. Team Leader	Mark Brown, DOE-ID
Coordinator	Rochelle Zimmerman, EM-3.111
Dept of Energy	Mat Irwin, DOE-ORP
	Vanesssa Turner, DOE-ORP
Emergency Mgmt	Frank Moussa, EM-3.114
	Greg Campbell, EM-3.114
Engineering	Elaine Diaz, DOE-ORP
Fire Protection	Taryn Couchman-Cates, DOE-ID (NE)
IH/OSH	Karen Kubiak, DOE-ID
Management	Dimple Patel, DOE-ORP
	Mark Brown, DOE-ID

ORR Team Assignments (cont.)

Maint. & Work Control	Dennis Oba, Link Technologies
Operations	Todd McGhee, DOE-OREM
	Shawn Murphy, DOE-SR
Nuclear Safety	Jim Kekacs, DOE-SR
Quality Assurance/CAS	Steven Ross, EM-3.113
	Jerry Lipsky, DOE-SR
Radiation Protection	Tony Weadock, Link Technologies
Training	Julie Finup, DOE-ID
Waste Acceptance	Brenda Hawks, DOE-OREM

CATEGORIZING RESULTS

FINDINGS

- Non-compliances to requirements that either: (1) fail to adequately implement a control; or (2) create an unacceptable impact to the safety of personnel, the facility, the public or the environment

- Prestart findings – must be corrected prior to restart of operations

- Post-start findings – must be corrected, but can be completed after the resumption of operations

Determining factor between pre and post start findings is the impact on safety

RESULTS BY DISCIPLINE

Functional Area	Findings	
	Prestart	Post-start
Emergency Preparedness	2	0
Engineering	1	1
Fire Protection	3	0
Industrial Hygiene / OSH	3	0
Management	1	1
Maintenance / Work Control	0	1
Operations	1	3
Nuclear Safety	2	0
Quality Assurance	0	0
Radiation Protection	3	0
Training	1	3
Waste Acceptance / NTP	4	0
DOE CBFO Oversight	0	6
Totals	21	15

RESULTS – Emergency Mgmt.

EP.1-PRE-1: Improvement is needed in the WIPP's ENS to support near-term operations; equipment upgrades are needed long-term for system reliability.

EP.1-PRE-2: Staffing does not provide Emergency Medical Technicians or first responders currently 100% of the time in the underground when work is being conducted. According to 30 CFR § 57.18010, a person capable of providing first aid must be available on all shifts; this includes cardiopulmonary resuscitation.

Drill Performance:

- WIPP has demonstrated that a sufficient number of drills/exercises were performed and are well documented. During the observations of Bison-16, Bison-2, Bison-3 and DORR exercises improvements in many areas were identified. However, the Radiological Control group stands out as not meeting expected performance during the observed exercises.

Emergency Preparedness program:

- While there are identified opportunities for improvement, the basis for a compliant comprehensive Emergency Management program is in place at WIPP.

RESULTS – Engineering

ENG.1-PRE-1: Contrary to the requirements of WP 02-AR3001, NWP did not enter a PISAD upon experiencing a roof fall larger than that postulated in the Hazards Analysis supporting assumptions.

ENG.2-POST-1: Contrary to the requirements of the DSA, SDD, and DOE Order 433.1B, the UVS/IVS systems' operability could be impaired by unresolved known issues, lack of spare parts, and incomplete construction punch list items.

Engineering program:

- Robust, but continued management attention and DOE oversight until mature

Ground Control:

- Need comprehensive plan IAW MSHA report to ensure mine structural integrity
- Overall future mining & emplacement strategy should be developed immediately
- Needs increased management focus - *Higher priority than waste emplacement*

ENG.1-BP-1: Best Practice: NWP System Health Walk down and Health Reports

ENG.2-BP-1: Best Practice: NWP Cognizant System Engineer program

RESULTS – Fire Protection

FP.1-PRE-1: Fire suppression systems have not yet been installed/accepted for all non-waste handling vehicles prior to use as required by fire protection equivalency WIPP-EQ-2015-01, and Documented Safety Analysis Key Element (KE) 11-5.

FP.1-PRE-2: Underground vehicles were observed (on several occasions) parked on the wrong side of the drifts, contrary to WP 12-ER.25, Underground Escape and Evacuation Plan. This is a repeat pre-start finding from the CORR.

FP.1-PRE-3: The combustible loading program contains conflicting/unclear documentation and is not effectively implemented.

Fire Protection program:

A comprehensive fire protection program staffed with adequate numbers of technically competent, experienced, and fully qualified personnel has been established to include documented fire hazards analysis, clearly defined roles and responsibilities, and development of fire protection program procedures; however programmatic fire protection documentation that ensures implementation of appropriate engineering and administrative controls to maintain safe operations have not been fully implemented.

INDUSTRIAL HYGIENE / OCCUPATIONAL SAFETY

IH.1-PRE-1: The Mine Rescue Team (MRT) did not have an approved procedure for the calibration or calibration check of atmosphere monitoring equipment, were not maintaining records of the tests, and were using expired calibration gas.

IH.2-PRE-2: The contractor's response procedure for investigating and responding to a potentially IDLH atmosphere is not protective for responding employees.

OSH.1-PRE-1: The waste handling TRUPACT-II dock (TRUDOCK) has an unguarded gap between the TRUPACT-II container and the walking platform, contrary to OSHA requirements.

IH / OSH program:

The WIPP Industrial Hygiene and Occupational Safety and Health programs are well-established and documented in procedures, and fundamental program elements are in place.

RESULTS – Management

MG.1-PRE-1: The Startup Plan does not provide for a graded systematic approach to unrestricted operations.

MG.1-POST-1: Current contractor staffing (compounded by the lack of qualified personnel) in some critical areas will not fully support the breadth of operations planned in calendar year 2017.

Management program:

- Existing staffing appears adequate for near-term, limited initial waste emplacement ops
- Start-up program includes an established system for verifying performance adequacy through management observation and use of simulant materials
- Management level roles and responsibilities adequately defined, effective interfaces
- Approved ISMS description, annual effectiveness reviews conducted, and the ISMS observed to be effectively functioning.
- Management sufficiently staffed, knowledgeable, and experienced.
- Recent safety culture improvement efforts have improved NWP safety culture, as observed during work activities and during interviews .

RESULTS – Maintenance/WPC

MWC.1-POST-1: Maintenance work control documents (WCDs) contain numerous deficiencies including hazard identification and controls; however, in all but one instance, the hazard controls were present but were mislocated within the WCD.

Maintenance and Work Control program:

The current NWP Maintenance and Work Control Program (WPC) is not yet a mature, efficient program but there has been a vast improvement from past years.

While the quality of the WCDs has not yet achieved the desired results, the management efforts to improve the program is apparent in the newly initiated processes to improve the program, improved communication between maintenance and work control, and the greatly improved attitude of the personnel.

The most notable difference from past years is the willingness of the Maintenance and WPC personnel to work together to improve the program.

RESULTS – Nuclear Safety

NS.2-PRE-1: Contrary to the requirements of 10 CFR 830.203, LCO 3.1.1 Condition C was exited with a NFPA 13 INOPERABLE/non-compliant installed sprinkler system without DOE approval.

NS.2-PRE-2: Contrary to the requirements of 10 CFR 830, the CBFO and Central Characterization Program (CCP) Documented Safety Analysis (DSA) required processes are not subject to NWP's Unreviewed Safety Question (USQ) process.

Nuclear Safety program:

- Robust facility safety documentation IAW DOE-STD-3009-2014
- USQ process
  - NWP has previously identified but extent of condition did not identify all areas of weakness
  - Significant work has been done – training, procedures, comp measures
  - Needs continued management focus and DOE oversight

RESULTS – Operations

OP.3-PRE-1: Use and designation of procedures was inadequate and not in compliance with NWP administrative processes (i.e., Management Control versus Technical procedures, and Continuous Use versus Reference Use), jeopardizing effective implementation of safety basis controls.

OP.1-POST-1: There were isolated instances of procedural non-compliance.

OP.2-POST-1: The WIPP Conduct of Operations Implementation Matrix, found in Attachment 1 to WP 04-CO.01, R3, Conduct of Operations has not been approved by CBFO.

OP.3-POST-1: Contrary to NWP Conduct of Operations program implementing procedures, uncontrolled postings, instructions, and operator aids were found in aboveground and underground facilities.

Operations program:

- WIPP Operations has developed and implemented an effective Conduct of Operations program
- The operating procedures for waste handling/emplacement, routine operations, system operations, and response to abnormal situations were generally well written and provided adequate direction to operators and support personnel
- Operations personnel were able to respond promptly and correctly to upset conditions and consistently demonstrated excellent procedural and DSA/TSR knowledge

RESULTS - QA

NO FINDINGS

Quality Assurance program:

- QA:
  - Comprehensive, well documented, approaching maturity
  - Has adequate resources
  - Reasonable management of records and document control (CGID CAP in progress)

- CAS:
  - Program is in place, needs to mature
  - Emphasis should be placed on performance indicators and classification of issues

RESULTS – Rad Protection

RP.1-PRE-1: NWP does not have an effective process in place to ensure a consistent, timely, and appropriate level of radiological personnel response to radiological events.

RP.1-PRE-2: Multiple deficiencies in radiation protection personnel proficiency, procedural compliance, and the level of knowledge of some Radiological Control Technician (RCT) were noted, directly impacting observed radiation protection performance.

RP.1-PRE-3: NWP radiological air-monitoring practices do not meet 10 CFR 835.403 requirements for air-monitoring.

Radiation Protection program:

- RP procedures, instruments, facilities, posting and labeling generally adequate
- Surveys and radiological work practices supporting simulated waste emplacement activities effectively performed
- Gap between staffing plan & actual numbers, only 8 fully qualified RCTs, progression of junior RCTs stalled
- Areas for Management Attention:
    - Multiple procedural violations indicate need to improve staff knowledge of / adherence to procedures, level of supervisory review
    - Radiological performance during drills a continuing area of deficiency
    - Air-monitoring compliance with requirements
    - Effectiveness of corrective actions

RESULTS - Training

TRG.1-PRE-1: Some Operators and Radiation Control Technicians (RCT) are being qualified through an NWP task-based qualification process that does not ensure compliance with DSA KE 12-3 and DOE O 426.2 requirements.

TRG.1-POST-1: The WIPP Training Implementation Matrix (TIM), both the currently approved document and the revision that is at CBFO for review and approval, does not adequately address all DOE O 426.2 requirements.

TRG.1-POST-2: Operator training programs are not sufficiently comprehensive to cover all areas which are fundamental to their assigned tasks, as required by DOE O 426.2.

TRG.1-POST-3: NWP does not have a formal process to ensure that Managers are evaluated against their job responsibilities and complete facility specific training prior to assuming the duties of the assigned position as required by DOE O 426.2.

Training program:

- Selection, training, and qualification programs-established and documented
- Mods to the facility are evaluated for training impacts – programs modified accordingly.
- Issues requiring added management focus:
    - The task qualification process does not ensure DSA KE-12.3 implementation
    - Core fundamental subjects missing from Operations training
    - The TIM does not adequately implement order requirements
    - Manager positions have not been evaluated for facility-specific qualifications

RESULTS – Waste Acceptance

WA.1-PRE-1: CBFO procedures are inadequate to implement the DSA/TSR actions/requirements prior to emplacement of waste containers residing in the Waste Isolation Pilot Plan (WIPP) Waste Handing Building (WHB) and prior to shipment for previously certified waste containers in the complex (including those containers continuing to be certified).

WA.1-PRE-2: Contractor's procedures/documentation that implement DSA/TSR Waste Acceptance Criteria (WAC) and Chapter 18 actions and requirements have not all been developed and/or revised to incorporate the DSA/TSR requirements.

WA.1-PRE-3: The current administrative controls to preclude the placement of the waste containers located in the Waste Handling Building into the underground prior to satisfactory performance of DSA, Chapter 18.8 requirements do not satisfy the requirements of WP 13-QA3004.

WA.1-PRE-4: The Waste Data System is incorrectly graded as non-safety software.

Waste Acceptance / National TRU program:

- Personnel were knowledgeable of DSA/TSR Chapter 18 requirements including enhanced acceptable knowledge, enhanced chemical compatibility evaluation, and TSR LCO 3.7.1.
- The pre-start issues in this Objective can be segmented based on difference in DSA requirements into three categories: Pre-Emplacement; Pre-shipment for previously certified waste containers; and Pre-shipment of newly certified waste containers.
- The overall performance of personnel appears to be consistent with the DSA requirements; however, formal control and documentation is lacking in some areas.

RESULTS - DOE

DOE.1-POST-1: Contrary to DOE O 426.1, the Technical Training Program Coordinator, which is a position that is responsible for oversight of safety management programs as identified in the facility DSA, is not included in the TQP.

DOE.2-POST-1: FRs are not formally reviewing and approving final ORPS reports for SC-2 and above in the timeframe specified in DOE Order 232.2.

DOE.2-POST-2: CBFO implementation of Issues Collection and Evaluation surveillance process does not result in approving and communicating formal oversight results and associated issues to contractor in a timely manner.

DOE.2-POST-3: CBFO has failed to ensure key safety program commitments (e.g., contractor-submitted documents for review/approval, federal implementing procedures, etc.) are tracked and deliberately dispositioned.

DOE.2-POST-4: CBFO has failed to implement the ICE issues process for consistently managing issues to ensure timely disposition.

DOE.2-POST-5: DOE-HQ has failed to complete many Accident Investigation Board Judgments of Need corrective actions to support WIPP operations.

RESULTS – DOE (cont.)

DOE Oversight program:

- Staff exhibits necessary skills and competence, but CBFO continues to experience attrition challenges and low level of TQP qualification detracts from oversight focus.

- Oversight and issues management processes defined, but immature as evidenced by;
  - weaknesses in commitment tracking,
  - approval of formal surveillances in ICE,
  - issuance of periodic oversight evaluations,
  - updates to the integrated evaluation plan, and
  - timely processing of internal issues using Issue Collection and Evaluation database

- It is critical that CBFO establish processes to prioritize and track the various safety requirements/commitments CBFO must complete to support ongoing safe operations.

- CBFO is encouraged to expedite filling of the Mine Operations SSO position and perform assessments of ground control activities and DSA compliance to support operations.

ISSUE RESOLUTION

Per DOE Order 425.1, Closure of DOE ORR findings must include:

- Development of corrective action plans approved by DOE to correct the findings. Action plans must provide evaluation of, and address, any overall programmatic deficiencies and causes.
- Creation of a finding closure package which must include a brief description of actual corrective actions taken, evidence of completion, and reasons for concluding that closure has been achieved.
- DOE verification of closure of prestart findings. The organization verifying the closure must be designated by the SAA.

DOE line management must ensure that the contractor and DOE have satisfactorily resolved all prestart findings of the DOE and contractor ORRs prior to startup or restart of the facility, activity, or operation. The SAA may approve startup or restart after prestart findings are resolved.

RECOMMENDATIONS

- The SAA authorize startup of CH waste emplacement upon:
  - Verification of closure of the manageable list of pre-start open items;
  - Verification of pre-start CAP closure;
  - Approval of post-start CAPs applicable.

- NWP CAP review, acceptance (pre and post) and closure verification (of pre-starts) should be performed by the DOE ORR team in conjunction with their CBFO counterparts.

- CBFO Management should identify their short term supplemental personnel needs necessary to provide effective oversight of restart to EM HQ management.

- DOE post-start CAPs should be reviewed by the DOE ORR Team for acceptance and closure

GROUND CONTROL:

- Upon receipt of the MSHA report, NWP should develop a comprehensive plan to address the issues and recommendations provided in the MSHA report on the evaluation of WIPP's ground control efforts. The actions of this plan should receive appropriate priority based on their risk and import.

- An overall mine strategy plan is needed to coordinate and focus the Ground Control, Waste Emplacement, and supporting resources and equipment.

Restart Status

Phil Breidenbach

NWP President and Project Manager

NWP
Nuclear Waste Partnership LLC

An AECOM-led partnership with BWXT and AREVA

Target for Restart

- Underground Status
- Panel 7 Bolting Progress
- Close DORR Pre-starts
- Panel 7 – Waste Emplacement Sequence
- NMED review & approval

Underground Status

- Panel 7 Recovery Status
  - Preparing Panel 7 for waste
  - Progress is exceptional
    - Weekly bolting records
  - Rooms 1, 2, 3, 5 stabilized
  - Currently working in inlet & outlet drifts

Panel 7 Bolting Progress

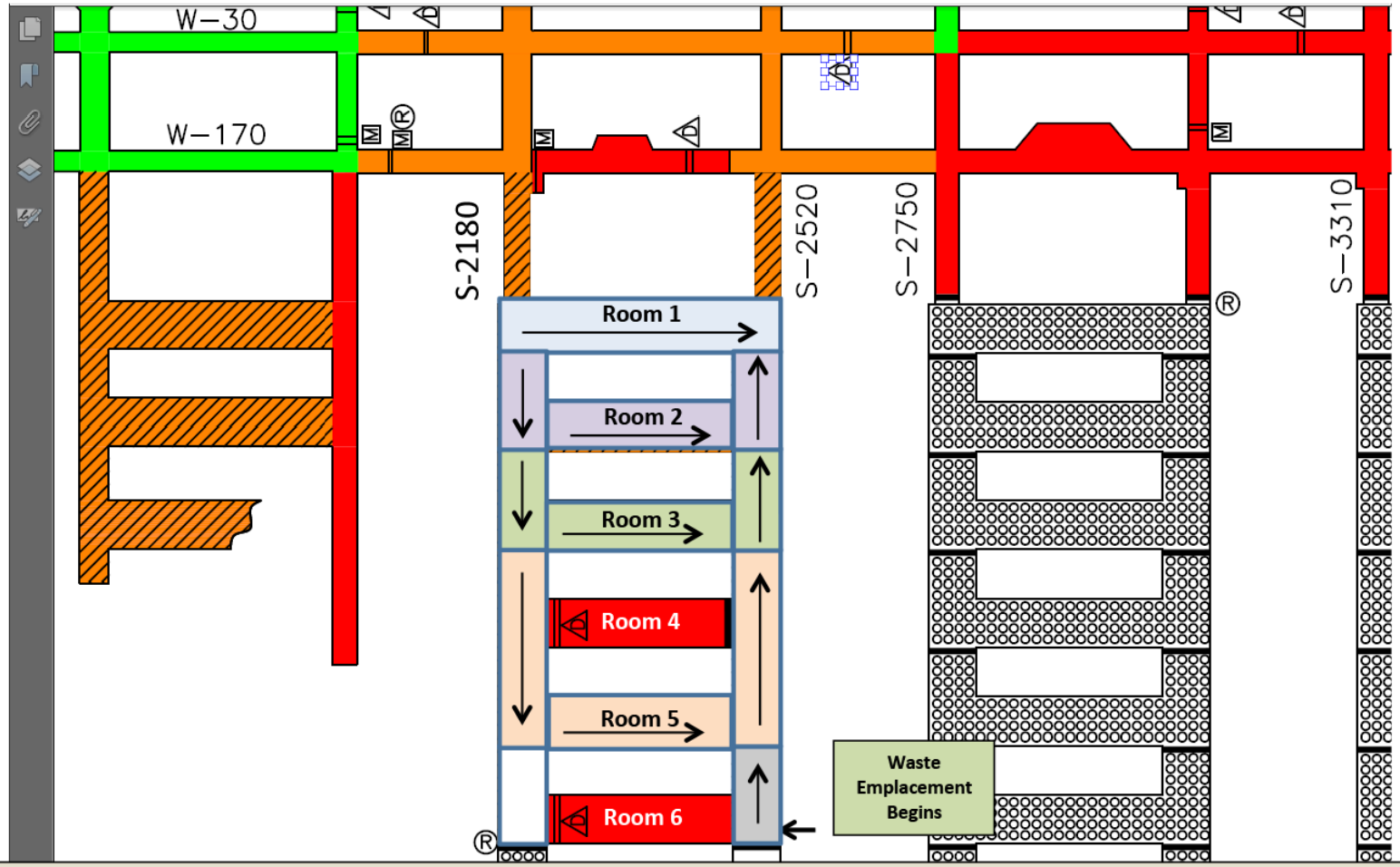
Animation

DOE-ORR Corrective Actions Status

Item	NWP Pre-Starts	NWP Post-Starts
Findings	21	10
Corrective Action Plans Developed	21	10
Corrective Action Plans Approved	17	7
Associated Actions	83	40
Actions Completed	61	1
Actions Validated	6	1

12/15/2016

Panel 7 - Waste Emplacement Sequence



1st	49 shipments – Emplacement begins at the Room 7 entrance bulkhead in S-2520 and continues towards the east.
2nd	270 shipments – Emplacement begins in the S-2180 drift, continues through Room 5 and into the S-2520 drift
3rd	210 shipments - Emplacement begins in the S-2180 drift, continues through Room 3 and into the S-2520 drift
4th	210 shipments – Emplacement begins in the S-2180 drift, continues through Room 2 and into the S-2520 drift
5th	136 Shipments – Emplacement begins in the S-2180 drift, continues through Room 1 and completes in the S-2520 drift at the entrance to Panel 7

NMED Review & Approval

- **Annual Inspection**
  - NMED was on-site for most of last week
  - Performed a thorough inspection of surface and underground facilities
  - Awaiting final report
- **NMED Authorization to Proceed Required**

Path Forward, Closing Comments

Todd Shrader, CBFO Manager

Questions
&
Answers





DORR Acronyms List

AIB	Accident Investigation Board
CAP	Corrective Action Plan
CAS	Contractor Assurance System
CH	Contact Handled
CRAD	Criteria and Review Approach Document
CGID CAP	Commercial Grad Item Dedication – Corrective Action Plan
DSA	Documented Safety Analysis
DSA KE	DSA – Key Elements
DSA/TSR (21)	Documented Safety Analysis/Technical Safety Requirements
ENS	Engineering/Nuclear Safety
FR	Facility Representatives
IAW	In accordance with
ICE	Issue Collection and Evaluation
ISMS	Integrated Safety Management
IVS	Interim Ventilation System System
JON	Judgment of Need Operations
LCO	Limiting Condition of
MSHA	Mine Safety and Health Administration
ORR	Operational Readiness Review
ORPS	Occurrence Reporting and Processing System
PISAD	Potential Inadequate Safety Analysis Determination
QA	Quality Assurance
RCTs	Radiological Control Technicians
RP (23)	Rad Protection
SAA	Startup approval authority
SDD	System Design Description
SC-2	Safety Class 2
SMP	Safety Management Programs
TIM	Training Implementation Matrix
TSR	Technical Safety Requirements
TQP	Technical Qualification Process
UVS	Underground Ventilation System
USA	Unreviewed Safety Question
WCD	Work Control Documents
WPC	Work Control Program