Panel Closure Redesign
Planned Change Request

Review of Planned Change Request Submittal to the Environmental Protection Agency
December 2012
Topics

- Current Regulatory Status
- Option D and Concerns with Option D design
- Proposed new design: Run-of-Mine Panel Closure (ROMPC)
- Panel Closure System Planned Change Request History
- Conclusion
Current Regulatory Status

- **Condition 1: § 194.14(b), Disposal system design, panel closure system.**

The Department shall implement the panel seal design designated as Option D in Docket A-93-02, Item II-G-1 October 29, 1996, (Compliance Certification Application submitted to the Agency). The Option D design shall be implemented as described in Appendix PCS of Docket A-93-02, Item II-G-1, with the exception that the Department shall use Salado mass concrete (consistent with that proposed for the shaft seal system, and as described in Appendix SEAL of Docket A-93-02, Item II-G-1) instead of fresh water concrete.
•**Option D:** enlarged concrete barrier with Disturbed Rock Zone (DRZ) removed and a larger isolation wall. Concrete barrier fabricated from Salado Mass Concrete (SMC).

**Option D.** EXPLOSION ISOLATION WALL AND CONCRETE BARRIER WITH DRZ REMOVED
Concerns with Option D

- Cannot manufacture SMC to the specifications in the CCA while meeting the requirements of the Option D design
- Hydrogen and Methane monitoring data shows no need for explosion/isolation wall
- Option D design is very complex to construct
- Construction impacts disposal operations
- Option D design is significantly more expensive than the proposed design
Current Repository Status

Current Status

- Panels 1, 2 & 5: Block Wall Already Installed
- Panels 3 & 4: Substantial Barriers and Bulkheads Installed
  - Hydrogen and Methane monitoring
Proposed New Design
Run-of-Mine (ROM) Panel Closure

- One ventilation bulkhead at each end
  - Panels with existing block walls will have only one ventilation bulkhead at the entrance to the panel
- 100 foot backfill of Run-of-Mine (ROM) salt between bulkheads
Panel Closure System PCR History

- September 28, 2011 DOE submitted Panel Closure PCR to EPA
- EPA submitted letter to DOE requesting additional information December 22, 2011.
- DOE provided response to the EPA letter on April 17, 2012.
- Five DOE/EPA technical meetings on PCS details held (October 2011, February, April, October, and November, 2012).
- Revised Panel Closure PA report submitted to EPA on November 5, 2012.
Conclusion

By moving to the new design:

• Enhance constructability due to simpler design and will meet operational performance requirements
• Increase worker safety during construction
• Reduce impact on disposal operations
• Similar long-term performance as Option D
• Less expensive to construct

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