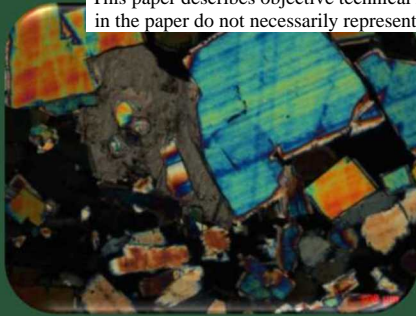
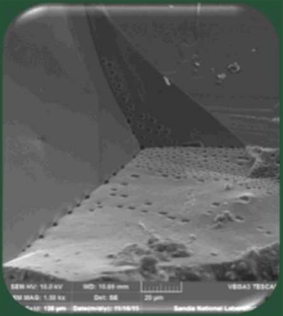


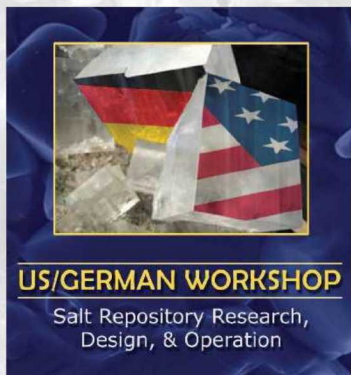
This paper describes objective technical results and analysis. Any subjective views or opinions that might be expressed in the paper do not necessarily represent the views of the U.S. Department of Energy or the United States Government.



Operational Safety at WIPP and Its Impact

Sean Dunagan
Sandia National Laboratories

Hanover, Germany
September 10-11, 2018



Sandia National Laboratories is a multi-mission laboratory managed and operated by National Technology and Engineering Solutions of Sandia LLC, a wholly owned subsidiary of Honeywell International Inc. for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA0003525. This research is funded by WIPP programs administered by the Office of Environmental Management (EM) of the U.S. Department of Energy.

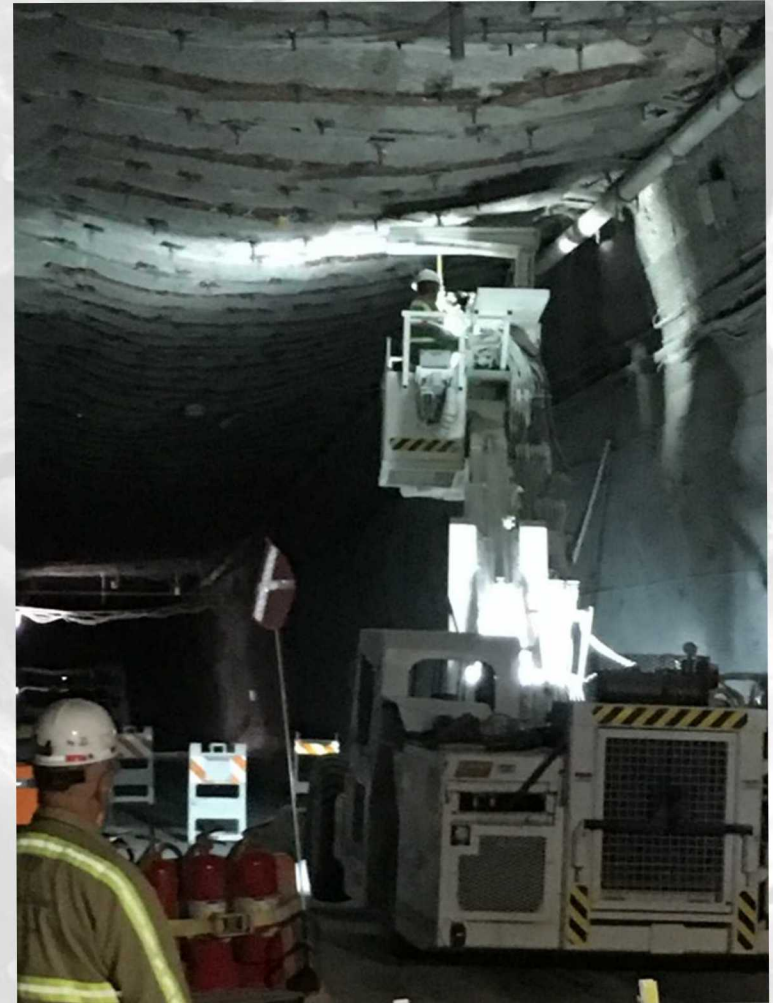
Overview

- WIPP Operational Safety Update
- Impact on Operations
- Impact Performance Assessment
- Impact on Design



Safety Update

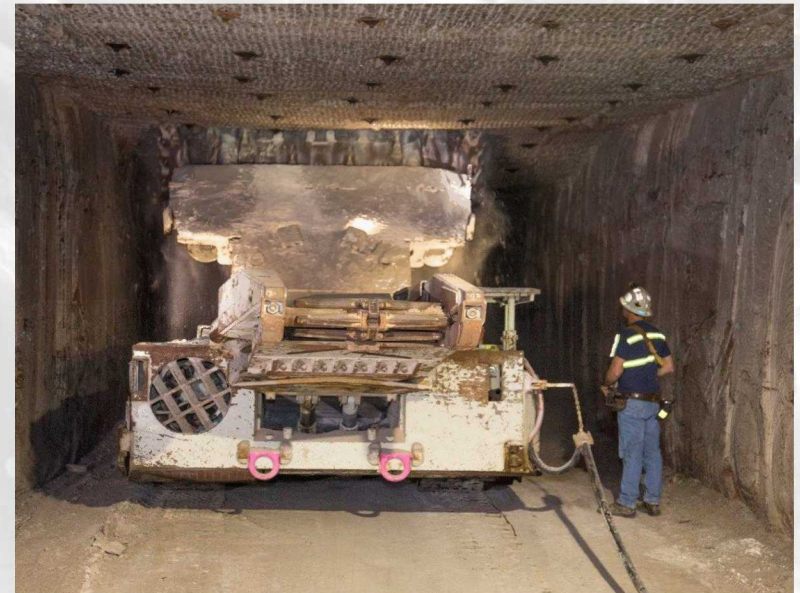
- Still Operating with limited ventilation
- Bolting still a priority
- Panel 7 Room 6
- Limited mining has resumed



Operation Impacts



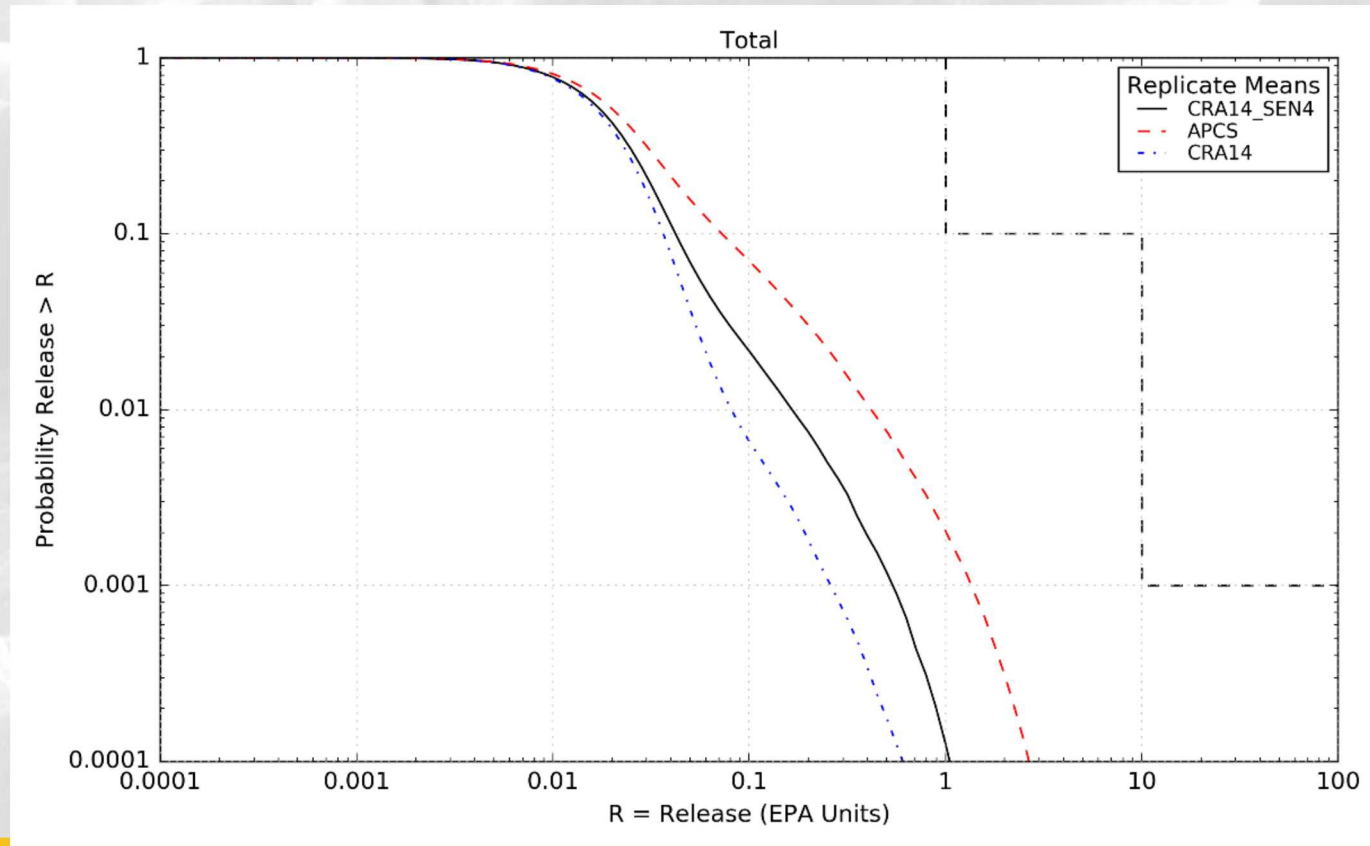
- Limited operations remain. Cannot emplace waste, mine, and perform bolting at the same time.
- Ventilation restrictions have impacted mining more than expected.
- Limited bolting shifts



Performance Assessment Impacts



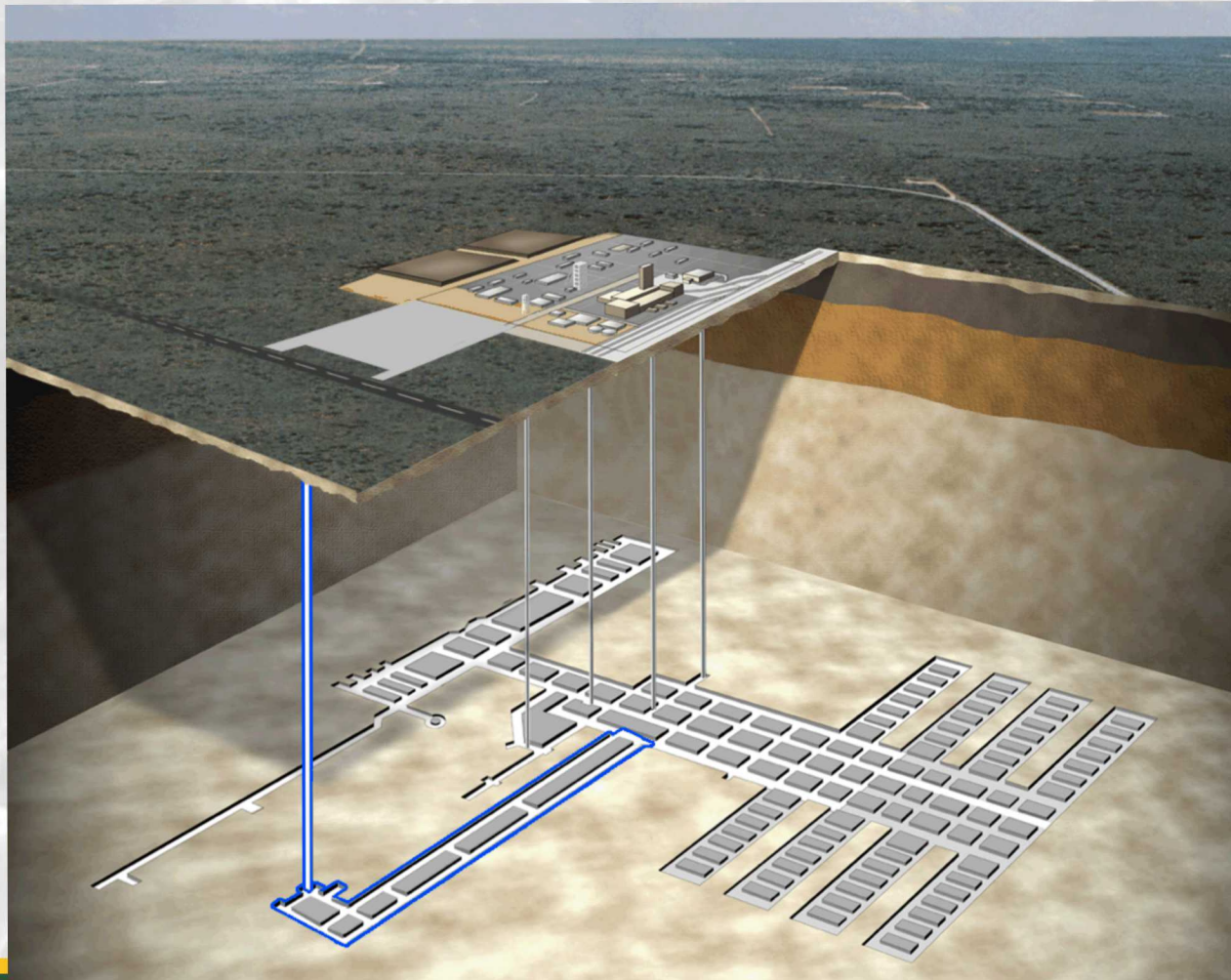
- Withdrawal from south end of mine due to ground control issues impacts PA.
 - No waste in planned panel 9
 - No Run-of-Mine salt closures in panels 3, 4, 5, and 6.



Design Impacts



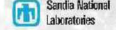
- Ground safety has elevated the importance of the design for the new drifts to the new shaft to the West.



Operational Safety Summary



- Safety continues to impact various aspects of operations.
- Operational safety has impacted long-term performance.
- Future designs are desired that will limit ground control necessary to maintain core areas for extended periods of time.
- Ventilation restrictions continue to influence even limited operations.



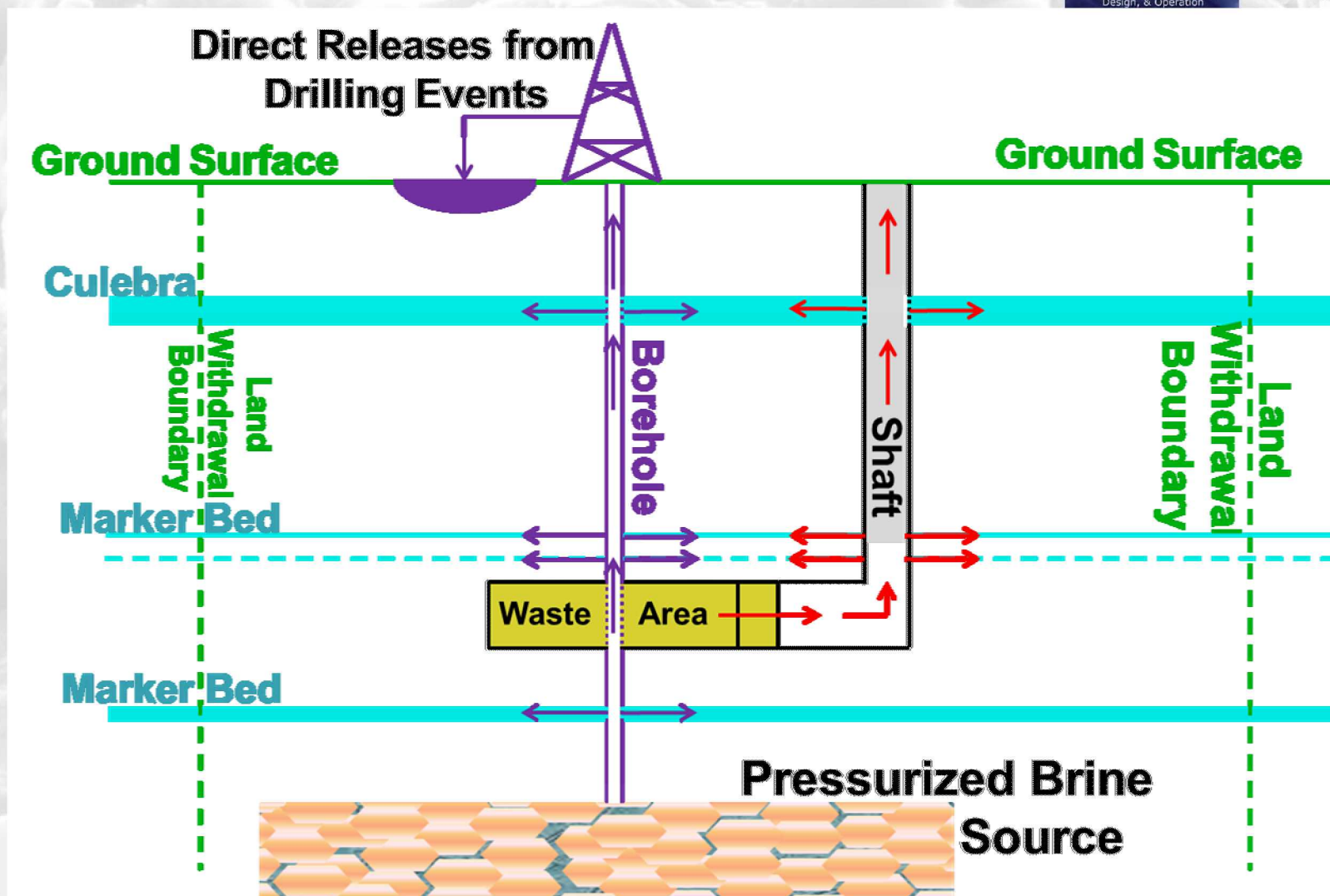
QUESTIONS



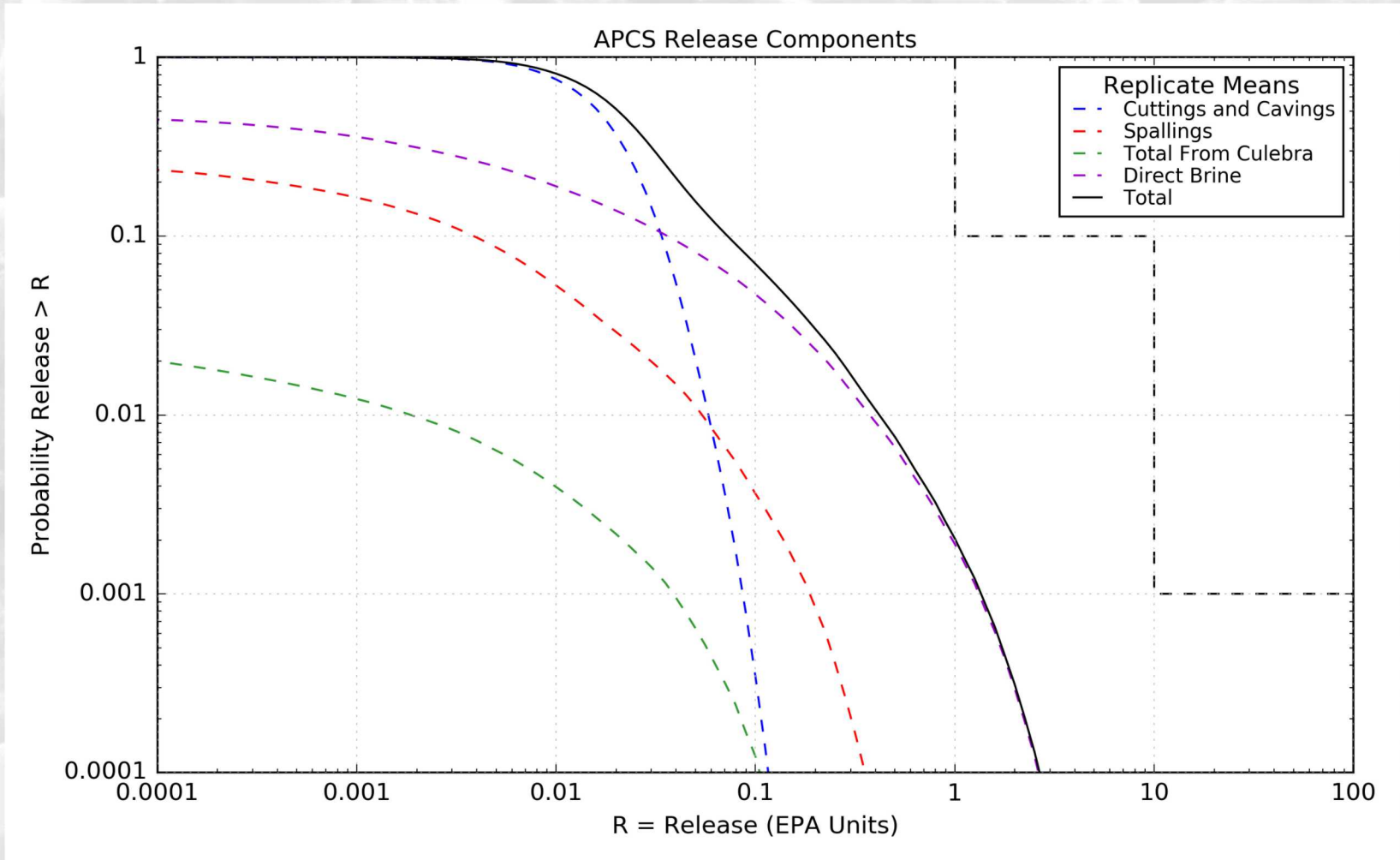


Backup Slides

PA Release Pathways



APCS Release Components



APCS Conclusions



- The APCS analysis incorporates a conservative representation of the repository that addresses no panel closures in Panels 3, 4, 5, and 6 and no waste in Panel 9 (that could be located in a new panel to the north)
- The APCS analysis results demonstrate with a reasonable expectation that a modified design of the repository would continue to ensure compliance with all release limits