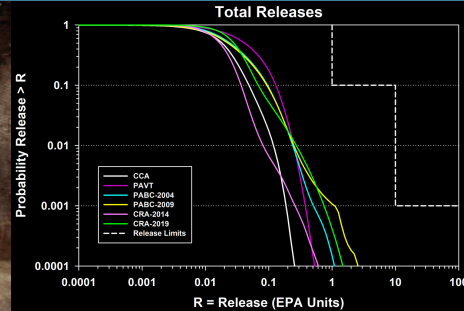
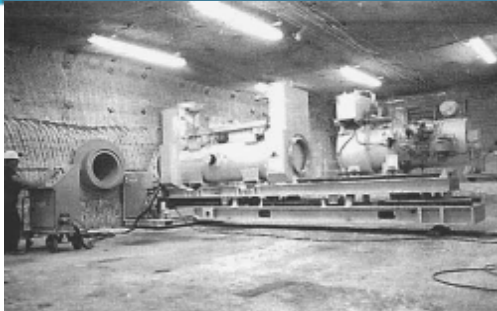
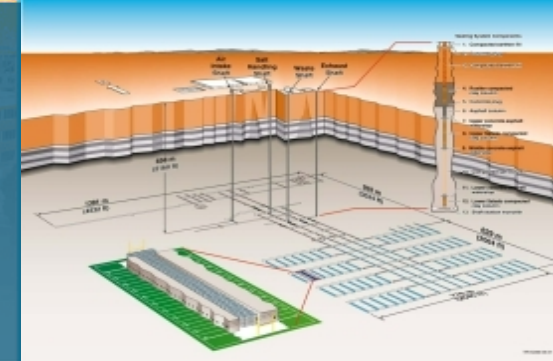




# Status of the Assessment of Abandoned Panel Closures in the South End of Repository



Seth King

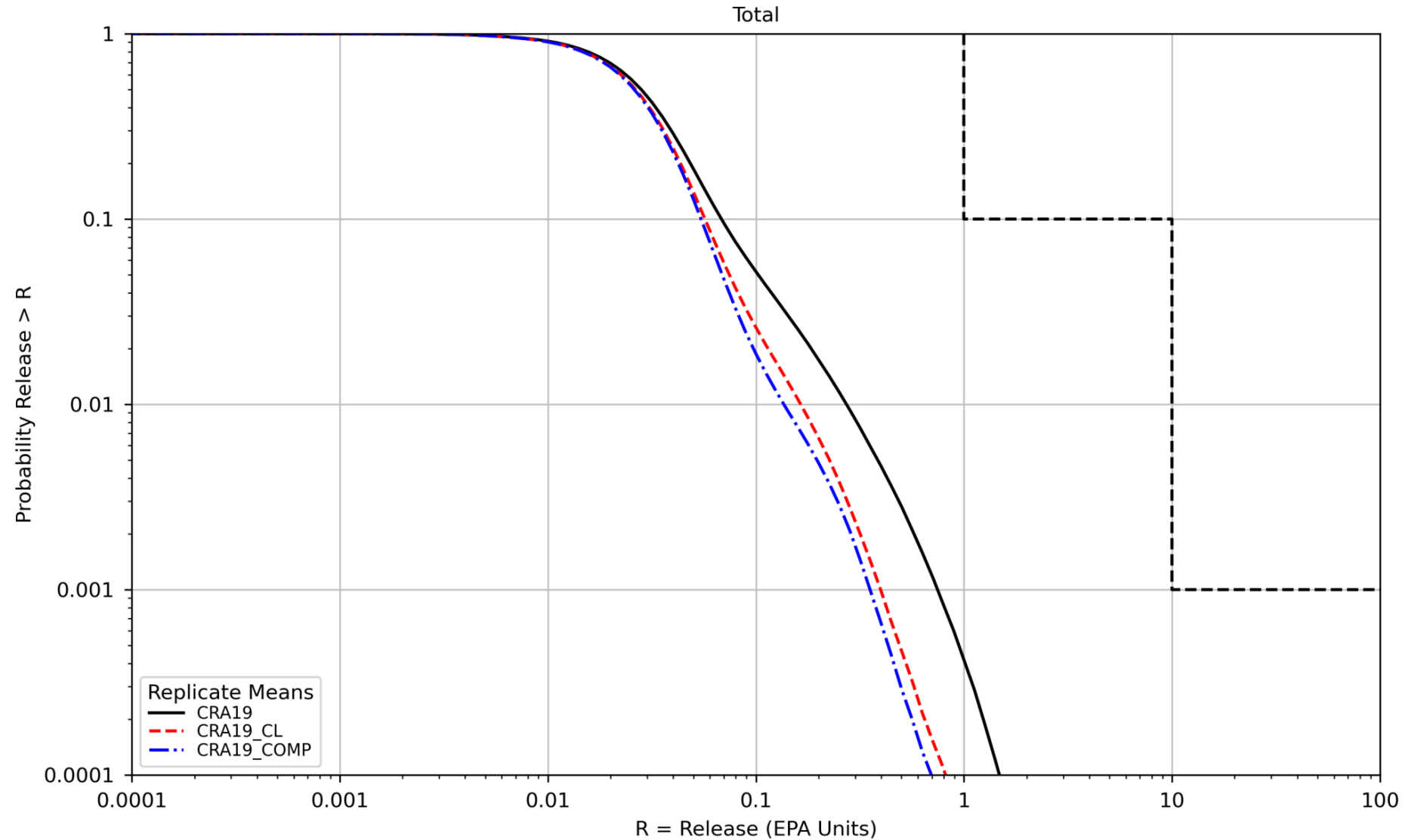
DOE-EPA Rock Mechanics Technical Exchange

October 25-27, 2022



Sandia National Laboratories is a multission laboratory managed and operated by National Technology & 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

## 3-Replicate Mean Total Releases



## Status of work described in AP-177



### **Status of work described in AP-177 (Analysis Plan for the Assessment of Abandoned Panel Closures in the South End of Repository and Lack of Waste Emplacement in Panel 9)**

- The Assessment of Abandoned Panel Closures in the South End of Repository was completed in August 2017 with the summary report by Zeitler, Day, Bethune, Sarathi, and Long. There is no current work being done under AP-177.

### **Impact on PA results of DOE's CRA19\_CL model not simulating the rapid consolidation and healing of the disturbed rock zones (DRZs) surrounding the drifts and treatment of material properties in future PAs.**

- The CRA19\_CL analysis (Zeitler et al. 2019), and EPA's subsequent CRA19\_COMP (EPA 2022), analysis showed that modeling the repository as more "open" is conservative with respect to releases. Modeling open areas as more closed, isolating sections of the repository tends to lower mean releases.



EPA. 2022. Technical Support Document (TSD) for Section 194.23 – Review of the APCS Approach to Analyzing WIPP Repository Performance in the CRA-2019 Performance Assessment. Washington, DC: Office of Air and Radiation. EPA-HQ-OAR-2019-0534.

Zeitler, T.R., and Day, B.A. 2017. Analysis Plan for the Assessment of Abandoned Panel Closures in South End of Repository and Lack of Waste Emplacement in Panel 9, Revision 0. July 13, 2017. Carlsbad, NM: Sandia National Laboratories. AP-177. ERMS 568138

Zeitler, T.R, B. Day, J. Bethune, R. Sarathi, J. Long. 2017. Assessment of Abandoned Panel Closures in South End of Repository and Lack of Waste Emplacement in Panel 9 Carlsbad, NM: Sandia National Laboratories. ERMS 568459

Zeitler, T.R., J. Bethune, S. Brunell, B. Day, D. Kicker, J. Long, and R. Sarathi. 2019. Summary Report for the 2019 Compliance Recertification Application Performance Assessment (CRA-2019 PA). 2019. Carlsbad, NM: Sandia National Laboratories. ERMS 571376