Environmental Remediation

boundary through monitoring and ICs rather than relying predominantly on numerical modeling. The final corrective action strategy developed with NDEP was implemented through a revision to the FFACO (as amended), Appendix VI, completed in May 2011 [4]. Closure was obtained at the CNTA UC-1 site in 2016 using the new strategy developed with NDEP.

References

1. U.S. DOE, *United States Nuclear Tests, July 1945 Through September 1992*, DOE/NV—209 Rev 16, National Nuclear Security Administration, Nevada Field Office, Office of Legacy Management (Sept. 2015).

2. Pawloski, G.A., *Development of Phenomenological Models of Underground Nuclear Tests on Pahute Mesa, Nevada Test Site— Benham and Tybo*, UCRL-ID-136006, Lawrence Livermore National Laboratory, Livermore, CA (1999).

3. McKeown, F.A., and D.D. Dickey, "Fault Displacements and Motion Related to Nuclear Explosions," Bulletin of the Seismological Society of America 59(6):2253–2269 (1969).

4. Federal Facility Agreement and Consent Order, 1996 (as amended 2011); agreed to by the state of Nevada, the U.S. DOE, and the U.S. Department of Defense.

5. U.S. DOE, Corrective Action Decision Document/Corrective Action Plan for Corrective Action Unit 443: Central Nevada Test Area (CNTA)—Subsurface, DOE/NV-977 Rev. 0, National Nuclear Security Administration/Nevada Site Office, Las Vegas, NV (2004).

6. Hassan, A., J. Chapman, H. Bekhit, B. Lyles, and K. Pohlmann, Validation Analysis of the Groundwater Flow and Transport Model of the Central Nevada Test Area, Desert Research Institute, Division of Hydrologic Sciences Publication No. 45221,
U.S. DOE Nevada Site Office report DOE/NV/13609-51 (2006).
U.S. DOE, *Corrective Action Plan Path Forward Proposal*, *Central Nevada Test Area*, Office of Legacy Management, Grand

Junction, CO (Apr. 2007). 8. U.S. DOE, Addendum to: Corrective Action Decision Document/Corrective Action Plan (CADD/CAP) for Corrective Action Unit (CAU) 443: Central Nevada Test Area (CNTA)—Subsurface Central Nevada Test Area, Nevada, DOE/NV-977, DOE– LM/1555-2007, Office of Legacy Management, Grand Junction, CO (Jan. 2008).

9. U.S. DOE, *Hydrologic Testing Report Central Nevada Test Area, Corrective Action Unit 443*, LMS/CNT/S06916, Office of Legacy Management, Grand Junction, CO (Nov. 2010).

10. Pohll, G., K. Pohlmann, J. Daniels, A. Hassan, and J. Chapman, Contaminant Boundary at the Faultless Underground Nuclear Test, Desert Research Institute Publication No. 45196, U.S. DOE, Nevada Operations Office Report DOE/NV/13609-24, Las Vegas, NV (2003).

11. U.S. DOE, *Closure Report Central Nevada Test Area Subsurface Corrective Action Unit 443*, Revision 1, LMS/CNT/S12760, Office of Legacy Management, Grand Junction, CO (July 2018).

Mark Kautsky is a federal project manager with the DOE Office of Legacy Management, and Richard Findlay and Rex Hodges are with Navarro Research and Engineering.

This article is based on a paper presented at the 2019 Waste Management Conference, held March 3-7, 2019, in Phoenix, Ariz. Copyright WM Symposia Inc.

