

## WM2016 Conference Panel Report

**PANEL SESSION 125: Lessons Learned from Yucca Mountain License Application Development Process**

**Co-Chairs:** **Paul Dickman**, *Argonne National Lab*  
**Eric Knox** (*substitute for Dr. Voegele*)

**Panel Reporter:** **Eric Knox**, *AECOM*

### **Panelists:**

1. **Robert Halstead**, *Executive Director, Nevada Nuclear Waste Projects Office*
2. **Dr. Daniel Bullen**, *Former Member, Nuclear Waste Technical Review Board*
3. **Donald Vieth**, *Former Program Director, Office OF Civilian Radioactive Waste Management, DOE*
4. **Kenneth Skipper**, *Office of Groundwater, U.S. Geological Survey (former USGS Program Director For Yucca Mountain)*
5. **Andy Zach**, *Professional Staff, U.S. House Energy and Commerce Committee*

This panel was widely attended and attendance ranged from a low of 89 and a high of 106. The various speakers covered specific topics that demonstrated how the work done on Yucca Mountain provided numerous lessons learned which can be used as a successful guide for future efforts in a different location or to pick up where the US DOE left off at Yucca Mountain.

### **Summary of Presentations**

**Robert Halstead** – Explained the history of DOE consideration of Yucca Mountain as a repository site and the Nevada Affected Unit of Local Government interactions. While the contentious relationship between DOE and Nevada is well known, Mr. Halstead noted that many good programs and efforts were started, such as the groundwater monitoring program, community interactions and oversight funding program for the State and Counties.

**Dr. Daniel Bullen** – provided a history of the Nuclear Waste Technical Review Board and how it was created by the Nuclear Waste Policy Act, (NWPA) Amendments Act of 1987 to provide independent review of DOE activities related to Yucca Mountain. Dr. Bullen listed several examples of their interactions that provided value added improvements to the overall approach.

**Donald Vieth** - Don Vieth provided valuable context and history of the repository development efforts. His history extended back to the 1970's prior to passage of the NWPA in 1982. He highlighted many of the early efforts to engage with the Governors, the public and stakeholders. The lessons learned from those early efforts helped inform and shape DOE Efforts at WIPP, Yucca Mountain and any future efforts.

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**Kenneth Skipper**– provided detail on the role USGS played in helping evaluate Yucca Mountain during the Site Characterization phase and during License Application development. Ken cited several areas where work on Yucca Mountain contributed significantly to advancements in science. Specifically areas where work increased knowledge modeling or approach are: Unsaturated zone hydrology and geochemistry; Flow and transport in fractured rock; Radionuclide transport; Saturated zone flow (fault behavior) and solute transport (conservative and reactive tracers/ species) through fractured rock at depth. Additionally, integration of coupled processes (e.g. geology, hydrology and geochemistry) for analysis and modeling; and new insights and assessment methods and applications for volcanic and seismic hazards.

**Andy Zach**– Mr. Zach discussed how the role of Congressional oversight has evolved from not just budgetary aspects, but also from the Science and Technology perspective. He also highlighted that over a period that spanned more than three decades, the U.S. Department of Energy, working with multiple national science laboratories, multiple government agencies, many states, and numerous Tribes, all successfully engaged and remained engaged on this issue toward a common goal of public safety and meeting a national need. He also provided valuable insights into the history of continuous and strong bipartisan support of the Yucca Mountain Project in both the US House and the US Senate.

### **Questions and Answers**

In response to a question from the audience about whether or not the Panel believes Yucca Mountain will be revived, the Panel unanimously felt it would come back but they did not agree as to the timing of a revival. Some were more optimistic with 2017 and others felt that it would be 8-10 years at a point after the proposed Consent Based Siting process has failed.