U.S. Department of Energy Opening Remarks

Presented to:
Appendix 7 Meeting on Peña Blanca Natural Analogue Studies

Presented by:
April V. Gil, PhD
Director, Regulatory Interactions and Strategy Division
Office of Repository Development
U.S. Department of Energy

February 16, 2006
Las Vegas, Nevada

Purpose of Appendix 7 Meetings

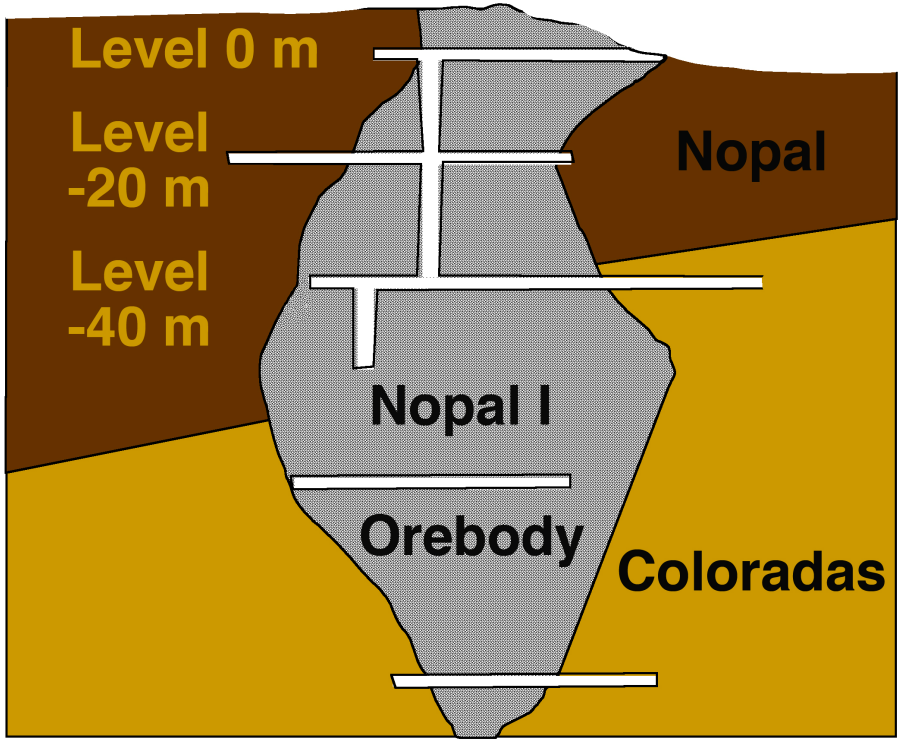
- **Formal interactions are governed by the**
  - ***Agreement between DOE/OCRWM and NRC/NMSS regarding pre-licensing interactions*** **(1999)**
- **Appendix 7 of the agreement covers communications with the NRC Onsite Representatives**
  - ***Agreement concerning the NRC Onsite Representatives for the repository project prior to licensing***
  - **Not considered formal interactions**

Purpose of Appendix 7 Meetings

- Discussions between the NRC Onsite Representative and NRC staff assigned to the Onsite Representative office and OCRWM and OCRWM contractors
- Focused discussion of technical topics
- Discuss data, share information
- No commitments may be made
- Does not require formal written reports or bilateral meeting summaries

Peña Blanca as a Natural Analogue to Yucca Mountain

- **Similarities to Yucca Mountain**
  - Thick (>200 m) unsaturated zone
  - Uranium deposit located in rhyolitic ash-flow tuff
  - Semi-arid to arid climate with low infiltration rates
  - Basin and range style structural setting
  - Ore body mineralogy similar to spent fuel



(from Reyes et al., 1980)

Peña Blanca Natural Analogue Site

- Use of information from Peña Blanca
  - Provide field observations to test process model results
    - Evaluating the fate of spent fuel, actinides, and fission products in tuff
  - Provide confidence in the adequacy of performance assessment models
  - Reduce uncertainty in long-term performance of natural barrier system

Overview of Presentations

- Summary of key results from previous studies
  - Seepage
  - Age dating
  - Uranium series nuclides in groundwater
- Use of Peña Blanca data in Total System Performance Assessment
- Future data exchanges and schedule for field work

Presenters

- Dr. Pat Dobson, LBNL
- Dr. Teamrat Ghezzehei, LBNL
- Dr. Mostafa Fayek, University of Tennessee
- Dr. Steve Goldstein, LANL
- Dr. George Saulnier, Framatome ANP/AREVA