

## DUSEL-Cascades Presentation Plan

### Project Overview (20 min)

*Wick Haxton*

- Site attributes, legal status
- Site infrastructure
- Development plan and its international context
- Distinguishing attributes of DUSEL-Cascades

### Subsurface and Environmental Characterization

*Phil Long*

- Regional geologic context
- Batholith geology
- Seismology: historical records, hazard code, Uniform Building code
- Environmental analyses
  - Mineralogical analysis: implications for ES&H and for rock disposal
  - Water analysis: Pioneer Tunnel and Old Cascade Tunnel drainage
  - Subsurface radioactivity: U/Th/K analysis and interpretation
  - Subsurface thermal gradient data: projections to depth

### Geotechnical Characterization (15 min)

*Red Robinson*

- Construction records: advance rates, water flows
- Predominant joint sets, in situ stress: 2004 study, regional trends
- March 2007 reconnaissance
  - Reconnaissance map
  - Observations: stability of openings
  - RQD and RMR
- Design phase site investigation
- Preliminary implications for large-cavity excavation

### DUSEL-Cascades Engineering Approach (15 min)

*Chris Laughton*

- The design philosophy: the industry/engineering/science interface
- The development plan: staging, optimization, value engineering, risk reduction
- Building in site-wide and experiment-specific electrical/mechanical requirements
- ES&H philosophy: contracting practices, concerns and remedies
- Risk Prompt List: major geo issues and implications for investigation, layout and design

### Surface Campus and Outreach Facilities/Vision (15 min) *Warren Buck and Paula Heron*

- Surface campus options: balancing proximity, infrastructure, recruiting
- Stevens Pass
  - REU and graduate program facilities
  - Underground experience in the Old Cascade Tunnel: engineering and engineering history, geology, seismology potential
- The Pacific Science Center/DUSEL/LIGO/Neptune partnership
  - Outreach/education/public policy goals
  - Scalability: real and virtual networks

Representative Science Issues (30 min)

- Superbeam: DUSEL-Cascades Stage I LB Attributes
- Stage II: Depth, International Implications, & Majorana
- Stages I/II: Geomicrobiology

*Bill Marciano*  
*John Wilkerson*  
*Rick Colwell*

The NSF/State/Science Community Interface (10 min)

- UW and URA role: ES&H, best-practices, and science
- DUSEL-Cascades as a national laboratory
- DUSEL-Cascades and local partners

*Lee Huntsman*