

A Federal Dam Owner's Perspective on Seismology

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Focus of My Comments Today

- Begin with the end in mind.
- Define the questions (problems) to address before you start.

Begin with the end in mind.

- Assure safe operations
- Defensible process
- Define loads
- How bad is bad
- Funding
- Risk assessment

Define the questions (problems) to address before you start.

- Changing Seismology (The Moving Target)
- Engineering Implications/Needs
- Approaches/Methods to Define Ground Motions
- Exposure Over Time
- Factor of Safety

Changing Seismology (The Moving Target)

- 28 March 2006 – USGS workshop
- New Data
- New Interpretation of Old Data
- Leads to
 - New Sources
 - New Location
 - Higher or Lower Ground Motions
 - Floating Earthquakes

Engineering Implications/Needs

- Type of Structure
- Site Conditions
- Types of Seismic Sources
- Near Field – Far Field
- Frequency Content
- PGA & Spectral Accelerations
- Duration
- Time Histories

Approaches/Methods to Define Ground Motions

- Deterministic VS Probabilistic
- Attenuation Relationships
- PGA – Which One to Use?
- Time Histories or Accelerograms

Exposure Over Time

- Clock Restarts Each Year
- Increased Likelihood of an Event Over Time

Factor of Safety or Conservatism on Conservatism

- Source Selection
- Magnitude
- MCE Recurrence
- Attenuation Relationship
- FS (total)=Conservative EQ source + 84th percentile ground motion + Analyze structure using FS of 1.2

Forum For Discussion and Technology Transfer

- Federal
- State
- Private Owner
- Industry Groups
- Academia
- Consultants
- Understanding others does not equal agreement.

Questions?