Yucca Mountain
Transportation Impacts and
Regulatory Challenges

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Additional documentation available on-line at:
http://www.state.nv.us/nucwaste/trans.htm

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DOE Proposed Yucca Mountain Transportation System

- Ship 9,495 rail casks (2,800 trains) & 2,650 truck casks over 50 years
- If No 2\textsuperscript{nd} Repository: 24,112 rail casks (7,000 trains) & 5,025 truck casks
- Average 1-3 trains & 1-2 trucks per week
- Every day, for 50 years, one or more casks on rail or road to Yucca Mountain
Spent Nuclear Fuel Transportation
Safety & Security Issues

- Spent nuclear Fuel (SNF) 90% of shipments
- SNF deadly for 50+ years
- SNF contains dangerous fission products (especially Cesium-137, half-life 30 years)
- Routine gamma radiation from casks hazardous to workers and to some members of public
- Very severe accident or successful terrorist attack could result in many hundreds of latent cancer fatalities (LCFs) and/or tens of billions of dollars in cleanup costs
- Shipping casks not tested full-scale
- Lesson from Exxon Valdez accident – Disaster can occur after 8,000 safe shipments
The potential SEIS routes traverse 836 counties with a 2005 Census Bureau estimated population of 161 million persons.
Rail & Truck Routes to Yucca Mountain Through Las Vegas & Clark County
In Addition to Trains 1-2 Trucks per Week through Metro Las Vegas to Yucca Mountain

Located within 0.5 mile (800 m) of Truck Routes to Yucca Mountain:
-113,000 Residents

Rail Casks through Las Vegas to Yucca Mountain via Caliente
Minimum – 8% Maximum – 79%

Located in Las Vegas within 0.5 mile (800 m) of UPRR Route to Caliente:
-95,000 Residents
-34 Hotels, 49,000 Hotel Rooms
-40,000 Visitors & Workers
Proximity of The Strip to UPRR Mainline to Caliente
Federal Regulations & DOE SNF Transportation

• NRC & DOT regulation of utility & DOE shipments, 1970s – 1980s


• State efforts to regulate utility shipments, 1980s - 1990s

• NRC 2002 Determination: Limited Regulation of Repository Shipments
State Efforts to Regulate SNF Transport

- Wisconsin unsuccessful attempt to apply hazmat spill prevention plans
- California proposed comprehensive safety regulations, including cask testing requirement
- Illinois successful inspection & escort program
- Colorado successful designation of alternative highway routes
DOE Proposal for Preemption
S.2589, April 2006

• Authorized DOE to “determine the extent” to which repository shipments regulated by DOT under the HMTAA of 1994

• Authorized DOT, on request by DOE, to preempt “any requirement of a State, political subdivision of a State, or Indian tribe regarding transportation done by or on behalf of” DOE repository program
Potential State Challenges to DOE Repository Shipments

• Likely
  - Permits & Fees
  - Inspections
  - Escorts
  - Use of DOE Section 180© Funds for Training & Planning

• Uncertain
  - Rail Safety
  - Rail Routing
  - Highway Routing
  - Tribe & Local Regulations