Yucca Mountain
Transportation Access Issues

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Board on Radioactive Waste Management
Transportation Research Board
Committee on Nuclear Waste Transportation
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Yucca Mountain Transportation Access Issues

- Rail Access to Yucca Mountain
- Legal-Weight Truck Access
- Shipment Modes, Numbers, & Routes

Additional documentation available at
www.state.nv.us/nucwaste/trans.htm
Rail Access is Desirable

- **Truck Shipments** (Most Rail Scenario):
  - Module 2: 3,122
  - Module 1: 3,122
  - Proposed Action: 1,079

- **Rail Shipments** (Most Rail Scenario):
  - Module 2: 18,953
  - Module 1: 18,243
  - Proposed Action: 9,646

- **Truck Shipments** (Most Truck Scenario):
  - Module 2: 108,544
  - Module 1: 105,685
  - Proposed Action: 52,786

- **Rail Shipments** (Most Truck Scenario):
  - Module 2: 355
  - Module 1: 300
  - Proposed Action: 300
Consideration of Rail Access in Repository Site Evaluations

- 1980 GEIS assumed rail access
- 1984 Siting guidelines identified proximity to mainline railroads and ease of rail access favorable conditions
- 1986 DOE Env. Assessments evaluated rail access for 5 repository candidate sites
- Yucca Mt had the most difficult rail access
## Yucca Mountain Transport Access Compared

<table>
<thead>
<tr>
<th>Condition</th>
<th>Davis Canyon, Utah</th>
<th>Deaf Smith, Texas</th>
<th>Hanford, Washington</th>
<th>Richton, Mississippi</th>
<th>Yucca Mountain, Nevada</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nearest Mainline railroad (miles)</td>
<td>74</td>
<td>25</td>
<td>51</td>
<td>17</td>
<td>100</td>
</tr>
<tr>
<td>Nearest Alternative Rail line</td>
<td>Not identified</td>
<td>40</td>
<td>101</td>
<td>26</td>
<td>265</td>
</tr>
<tr>
<td>Rail Access new Construction (miles)</td>
<td>39</td>
<td>26</td>
<td>3</td>
<td>26</td>
<td>100</td>
</tr>
<tr>
<td>Rail Access cost (Million 1985 dollars)</td>
<td>142</td>
<td>21</td>
<td>6</td>
<td>16</td>
<td>151</td>
</tr>
<tr>
<td>Nearest Interstate Highway (miles)</td>
<td>89</td>
<td>14</td>
<td>28</td>
<td>26</td>
<td>100</td>
</tr>
<tr>
<td>Nearest Alternative Interstate (miles)</td>
<td>198</td>
<td>200</td>
<td>72</td>
<td>84</td>
<td>208</td>
</tr>
</tbody>
</table>
Current DOE Approach to Yucca Mountain Rail Access

• Final EIS: “DOE would prefer to use a branch rail line to ship spent nuclear fuel and high-level radioactive waste to Yucca Mountain.”

• Final EIS identified five potential rail corridors: Caliente, Carlin, Chalk Mt, Jean, Valley

• DOE has not yet issued a Record of Decision (ROD) formally announcing a preference for rail or a preference between the rail corridors

• DOE is considering delay or deferral of rail spur construction plans (March 27, 2003)
## DOE FEIS Rail Corridors Compared

<table>
<thead>
<tr>
<th></th>
<th>Caliente</th>
<th>Carlin</th>
<th>Chalk Mountain</th>
<th>Jean</th>
<th>Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost (Millions of 2001 $)</strong></td>
<td>$880</td>
<td>$821</td>
<td>$622</td>
<td>$462</td>
<td>$283</td>
</tr>
<tr>
<td><strong>Length (miles)</strong></td>
<td>319</td>
<td>323</td>
<td>214</td>
<td>114</td>
<td>98</td>
</tr>
<tr>
<td><strong>One-way travel time (hrs)</strong></td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td><strong>Disturbed land area (sq mi)</strong></td>
<td>18.3</td>
<td>19.3</td>
<td>12.6</td>
<td>9.2</td>
<td>5</td>
</tr>
<tr>
<td><strong>Construction time</strong></td>
<td>46</td>
<td>46</td>
<td>43</td>
<td>43</td>
<td>40</td>
</tr>
<tr>
<td><strong>1990 Population</strong></td>
<td>350</td>
<td>3200</td>
<td>589</td>
<td>492</td>
<td>219</td>
</tr>
<tr>
<td><strong>Tribal Lands</strong></td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>
Potential Nevada Rail Routes to Yucca Mt
Desert Tortoise
Valley Corridor Land Use Conflicts

Sheep Mountains

Proposed Valley Rail Siding

Map Layers
- Indian Reservation
- 2002 Disposal Boundary
- Valley Rail
- Valley Railroad
- Interstate Highway
- Highway

Miles
0 1 2 3

Las Vegas

Nellis Air Force Base
Caliente Chalk-Mountain Land Use Conflicts
Hancock Summit
(Original Caliente Rail Route, Current HHT Route)
Crystal Springs
(Original Caliente Rail Route, Current HHT Route)
White River Springfish
Bennett Pass
(Caliente Rail Route)
Timber Mountain Pass
(Caliente Rail Route)
Warm Springs
(Caliende Rail Route)