Source: Appendix D, Table D-1

Figure 6.5.2-228. Spectral Match to SFA Design Spectrum at $10^{-4}$ AFE, Vertical, Set 5
Figure 6.5.2-229. Ratio of SFA Design Spectrum to Spectral Match at $10^{-4}$ AFE, Vertical, Set 5

Source: Appendix D, Table D-1
Source: Appendix D, Table D-1

Figure 6.5.2-230. Spectrally Matched Acceleration, Velocity, and Displacement Time Histories for the SFA, $10^{-4}$ AFE, Vertical, Set 5
Figure 6.5.2-231. SFA Strain Compatible Soil Properties S-wave Velocity, 30 ft of Alluvium Over Tuff, Northeast of the Fault 10^{-3} AFE

Source: Appendix D, Table D-1
Figure 6.5.2-232.  SFA Strain Compatible Soil Properties S-wave Damping, 30 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-3}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-233. SFA Strain Compatible Soil Properties P-wave Velocity, 30 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-3}$ AFE

Source: Appendix D, Table D-1
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Figure 6.5.2-234. SFA Strain Compatible Soil Properties P-wave Damping, 30 ft of Alluvium Over Tuff, Northeast of the Fault $10^3$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-235. SFA Strain Compatible Soil Properties S-wave Velocity, 70 ft of Alluvium Over Tuff, Northeast of the Fault $10^3$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-236. SFA Strain Compatible Soil Properties S-wave Damping, 70 ft of Alluvium Over Tuff, Northeast of the Fault 10^3 AFE

Source: Appendix D, Table D-1
Figure 6.5.2-237. SFA Strain Compatible Soil Properties P-wave Velocity, 70 ft of Alluvium Over Tuff, Northeast of the Fault $10^3$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-238. SFA Strain Compatible Soil Properties P-wave Damping, 70 ft of Alluvium Over Tuff, Northeast of the Fault $10^3$ AFE
Figure 6.5.2-239. SFA Strain Compatible Soil Properties S-wave Velocity, 100 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-3}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-240. SFA Strain Compatible Soil Properties S-wave Damping, 100 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-3}$ AFE
Source: Appendix D, Table D-1

Figure 6.5.2-241. SFA Strain Compatible Soil Properties P-wave Velocity, 100 ft of Alluvium Over Tuff, Northeast of the Fault $10^3$ AFE
Figure 6.5.2-242. SFA Strain Compatible Soil Properties P-wave Damping, 100 ft of Alluvium Over Tuff, Northeast of the Fault 10^3 AFE

Source: Appendix D, Table D-1
Figure 6.5.2-243. SFA Strain Compatible Soil Properties S-wave Velocity, 200 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-3}$ AFE

Source: Appendix D, Table D-1
<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Lower Bound</th>
<th>Median</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>300</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>500</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Appendix D, Table D-1

Figure 6.5.2-244. SFA Strain Compatible Soil Properties S-wave Damping, 200 ft of Alluvium Over Tuff, Northeast of the Fault $10^3$ AFE
Figure 6.5.2-245. SFA Strain Compatible Soil Properties P-wave Velocity, 200 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-3}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-246. SFA Strain Compatible Soil Properties P-wave Damping, 200 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-3}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-247. SFA Strain Compatible Soil Properties S-wave Velocity, 30 ft of Alluvium Over Tuff, South of the Fault $10^{-3}$ AFE

Source: Appendix D, Table D-1
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Figure 6.5.2-248. SFA Strain Compatible Soil Properties S-wave Damping, 30 ft of Alluvium Over Tuff, South of the Fault $10^{-3}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-249. SFA Strain Compatible Soil Properties P-wave Velocity, 30 ft of Alluvium Over Tuff, South of the Fault $10^{-3}$ AFE

Source: Appendix D, Table D-1
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Figure 6.5.2-250. SFA Strain Compatible Soil Properties P-wave Damping, 30 ft of Alluvium Over Tuff, South of the Fault $10^{-3}$ AFE

Source: Appendix D, Table D-1
Source: Appendix D, Table D-1

Figure 6.5.2-251. SFA Strain Compatible Soil Properties S-wave Velocity, 70 ft of Alluvium Over Tuff, South of the Fault $10^3$ AFE
Source: Appendix D, Table D-1

Figure 6.5.2-252. SFA Strain Compatible Soil Properties S-wave Damping, 70 ft of Alluvium Over Tuff, South of the Fault $10^{-3}$ AFE
Figure 6.5.2-253. SFA Strain Compatible Soil Properties P-wave Velocity, 70 ft of Alluvium Over Tuff, South of the Fault $10^{-3}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-254. SFA Strain Compatible Soil Properties P-wave Damping, 70 ft of Alluvium Over Tuff, South of the Fault $10^{-3}$ AFE

Source: Appendix D, Table D-1
Source: Appendix D, Table D-1

Figure 6.5.2-255. SFA Strain Compatible Soil Properties S-wave Velocity, 100 ft of Alluvium Over Tuff, South of the Fault $10^{-3}$ AFE
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Source: Appendix D, Table D-1

Figure 6.5.2-256. SFA Strain Compatible Soil Properties S-wave Damping, 100 ft of Alluvium Over Tuff, South of the Fault $10^{-3}$ AFE
Source: Appendix D, Table D-1

Figure 6.5.2-257. SFA Strain Compatible Soil Properties P-wave Velocity, 100 ft of Alluvium Over Tuff, South of the Fault $10^{-3}$ AFE
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Source: Appendix D, Table D-1

Figure 6.5.2-258.  SFA Strain Compatible Soil Properties P-wave Damping, 100 ft of Alluvium Over Tuff, South of the Fault $10^{-3}$ AFE
Figure 6.5.2-259. SFA Strain Compatible Soil Properties S-wave Velocity, 30 ft of Alluvium Over Tuff, Northeast of the Fault 5x10^{-4} AFE

Source: Appendix D, Table D-1
Figure 6.5.2-260. SFA Strain Compatible Soil Properties S-wave Damping, 30 ft of Alluvium Over Tuff, Northeast of the Fault $5 \times 10^{-4}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-261. SFA Strain Compatible Soil Properties P-wave Velocity, 30 ft of Alluvium Over Tuff, Northeast of the Fault $5 \times 10^{-4}$ AFE

Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Source: Appendix D, Table D-1
Figure 6.5.2-262. SFA Strain Compatible Soil Properties P-wave Damping, 30 ft of Alluvium Over Tuff, Northeast of the Fault $5 \times 10^{-4}$ AFE
Figure 6.5.2-263. SFA Strain Compatible Soil Properties S-wave Velocity, 70 ft of Alluvium Over Tuff, Northeast of the Fault 5x10^{-4} AFE

Source: Appendix D, Table D-1
Figure 6.5.2-264. SFA Strain Compatible Soil Properties S-wave Damping, 70 ft of Alluvium Over Tuff, Northeast of the Fault 5x10^-4 AFE

Source: Appendix D, Table D-1
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Figure 6.5.2-265. SFA Strain Compatible Soil Properties P-wave Velocity, 70 ft of Alluvium Over Tuff, Northeast of the Fault $5 \times 10^{-4}$ AFE

Source: Appendix D, Table D-1
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Figure 6.5.2-266.  SFA Strain Compatible Soil Properties P-wave Damping, 70 ft of Alluvium Over Tuff, Northeast of the Fault $5 \times 10^{-4}$ AFE

Source: Appendix D, Table D-1
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Source: Appendix D, Table D-1

Figure 6.5.2-267. SFA Strain Compatible Soil Properties S-wave Velocity, 100 ft of Alluvium Over Tuff, Northeast of the Fault $5 \times 10^{-4}$ AFE
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Figure 6.5.2-268. SFA Strain Compatible Soil Properties S-wave Damping, 100 ft of Alluvium Over Tuff, Northeast of the Fault 5x10^{-4} AFE

Source: Appendix D, Table D-1
Figure 6.5.2-269. SFA Strain Compatible Soil Properties P-wave Velocity, 100 ft of Alluvium Over Tuff, Northeast of the Fault $5 \times 10^{-4}$ AFE
Figure 6.5.2-270. SFA Strain Compatible Soil Properties P-wave Damping, 100 ft of Alluvium Over Tuff, Northeast of the Fault $5 \times 10^{-4}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-271. SFA Strain Compatible Soil Properties S-wave Velocity, 200 ft of Alluvium Over Tuff, Northeast of the Fault $5\times10^{-4}$ AFE

Source: Appendix D, Table D-1
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Figure 6.5.2-272. SFA Strain Compatible Soil Properties S-wave Damping, 200 ft of Alluvium Over Tuff, Northeast of the Fault $5 \times 10^{-4}$ AFE

Source: Appendix D, Table D-1
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Figure 6.5.2-273. SFA Strain Compatible Soil Properties P-wave Velocity, 200 ft of Alluvium Over Tuff, Northeast of the Fault 5x10^{-4} AFE

Source: Appendix D, Table D-1
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Source: Appendix D, Table D-1

Figure 6.5.2-274.  SFA Strain Compatible Soil Properties P-wave Damping, 200 ft of Alluvium Over Tuff, Northeast of the Fault $5 \times 10^{-4}$ AFE
Figure 6.5.2-275. SFA Strain Compatible Soil Properties S-wave Velocity, 30 ft of Alluvium Over Tuff, South of the Fault $5 \times 10^{-4}$ AFE

Source: Appendix D, Table D-1
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Lower Bound</th>
<th>Median</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>300</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>500</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Appendix D, Table D-1

Figure 6.5.2-276. SFA Strain Compatible Soil Properties S-wave Damping, 30 ft of Alluvium Over Tuff, South of the Fault $5 \times 10^{-4}$ AFE
Figure 6.5.2-277. SFA Strain Compatible Soil Properties P-wave Velocity, 30 ft of Alluvium Over Tuff, South of the Fault $5 \times 10^{-4}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-278. SFA Strain Compatible Soil Properties P-wave Damping, 30 ft of Alluvium Over Tuff, South of the Fault $5 \times 10^{-4}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-279. SFA Strain Compatible Soil Properties S-wave Velocity, 70 ft of Alluvium Over Tuff, South of the Fault. Source: Appendix D, Table D-1.
Figure 6.5.2-280.  SFA Strain Compatible Soil Properties S-wave Damping, 70 ft of Alluvium Over Tuff, South of the Fault $5 \times 10^{-4}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-281. SFA Strain Compatible Soil Properties P-wave Velocity, 70 ft of Alluvium Over Tuff, South of the Fault $5 \times 10^{-4}$ AFE
Figure 6.5.2-282. SFA Strain Compatible Soil Properties P-wave Damping, 70 ft of Alluvium Over Tuff, South of the Fault $5 \times 10^{-4}$ AFE

Source: Appendix D, Table D-1
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Figure 6.5.2-283. SFA Strain Compatible Soil Properties S-wave Velocity, 100 ft of Alluvium Over Tuff, South of the Fault $5 \times 10^{-4}$ AFE

Source: Appendix D, Table D-1

MDL-MGR-GS-000007 REV 00 February 2008
Figure 6.5.2-284. SFA Strain Compatible Soil Properties S-wave Damping, 100 ft of Alluvium Over Tuff, South of the Fault $5 \times 10^{-4}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-285.  SFA Strain Compatible Soil Properties P-wave Velocity, 100 ft of Alluvium Over Tuff, South of the Fault $5 \times 10^{-4}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-286. SFA Strain Compatible Soil Properties P-wave Damping, 100 ft of Alluvium Over Tuff, South of the Fault $5 \times 10^{-4}$ AFE

Source: Appendix D, Table D-1
Source: Appendix D, Table D-1

Figure 6.5.2-287. SFA Strain Compatible Soil Properties S-wave Velocity, 30 ft of Alluvium Over Tuff, Northeast of the Fault 10^{-4} AFE
Figure 6.5.2-288. SFA Strain Compatible Soil Properties S-wave Damping, 30 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-4}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-289. SFA Strain Compatible Soil Properties P-wave Velocity, 30 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-4}$ AFE
Figure 6.5.2-290. SFA Strain Compatible Soil Properties P-wave Damping, 30 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-4}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-291. SFA Strain Compatible Soil Properties S-wave Velocity, 70 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-4}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-292. SFA Strain Compatible Soil Properties S-wave Damping, 70 ft of Alluvium Over Tuff, Northeast of the Fault 10^{-4} AFE

Source: Appendix D, Table D-1
Figure 6.5.2-293.  SFA Strain Compatible Soil Properties P-wave Velocity, 70 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-4}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-294. SFA Strain Compatible Soil Properties P-wave Damping, 70 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-4}$ AFE

Source: Appendix D, Table D-1
Source: Appendix D, Table D-1

Figure 6.5.2-295. SFA Strain Compatible Soil Properties S-wave Velocity, 100 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-4}$ AFE
Figure 6.5.2-296.  SFA Strain Compatible Soil Properties S-wave Damping, 100 ft of Alluvium Over Tuff, Northeast of the Fault 10^{-4} AFE

Source: Appendix D, Table D-1
Figure 6.5.2-297. SFA Strain Compatible Soil Properties P-wave Velocity, 100 ft of Alluvium Over Tuff, Northeast of the Fault $10^4$ AFE

Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Source: Appendix D, Table D-1

Figure 6.5.2-298. SFA Strain Compatible Soil Properties P-wave Damping, 100 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-4}$ AFE
Figure 6.5.2-299. SFA Strain Compatible Soil Properties S-wave Velocity, 200 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-4}$ AFE

Source: Appendix D, Table D-1
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Figure 6.5.2-300. SFA Strain Compatible Soil Properties S-wave Damping, 200 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-4}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-301. SFA Strain Compatible Soil Properties P-wave Velocity, 200 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-4}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-302. SFA Strain Compatible Soil Properties P-wave Damping, 200 ft of Alluvium Over Tuff, Northeast of the Fault $10^{-4}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-303. SFA Strain Compatible Soil Properties S-wave Velocity, 30 ft of Alluvium Over Tuff, South of the Fault $10^{-4}$ AFE
Figure 6.5.2-304. SFA Strain Compatible Soil Properties S-wave Damping, 30 ft of Alluvium Over Tuff, South of the Fault $10^{-3}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-305. SFA Strain Compatible Soil Properties P-wave Velocity, 30 ft of Alluvium Over Tuff, South of the Fault $10^{-4}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-306. SFA Strain Compatible Soil Properties P-wave Damping, 30 ft of Alluvium Over Tuff, South of the Fault $10^{-4}$ AFE

Source: Appendix D, Table D-1
Source: Appendix D, Table D-1

Figure 6.5.2-307. SFA Strain Compatible Soil Properties S-wave Velocity, 70 ft of Alluvium Over Tuff, South of the Fault 10^-4 AFE
Figure 6.5.2-308. SFA Strain Compatible Soil Properties S-wave Damping, 70 ft of Alluvium Over Tuff, South of the Fault $10^{-4}$ AFE

Source: Appendix D, Table D-1
Figure 6.5.2-309. SFA Strain Compatible Soil Properties P-wave Velocity, 70 ft of Alluvium Over Tuff, South of the Fault 10\textsuperscript{-4} AFE

Source: Appendix D, Table D-1
<table>
<thead>
<tr>
<th>Damping (%)</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth (ft)</td>
<td>100</td>
<td>200</td>
<td>300</td>
<td>400</td>
<td>500</td>
</tr>
</tbody>
</table>

Source: Appendix D, Table D-1

Figure 6.5.2-310. SFA Strain Compatible Soil Properties P-wave Damping, 70 ft of Alluvium Over Tuff, South of the Fault 10^4 AFE
Figure 6.5.2-311. SFA Strain Compatible Soil Properties S-wave Velocity, 100 ft of Alluvium Over Tuff, South of the Fault $10^{-4}$ AFE
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Source: Appendix D, Table D-1

Figure 6.5.2-312. SFA Strain Compatible Soil Properties S-wave Damping, 100 ft of Alluvium Over Tuff, South of the Fault $10^{-4}$ AFE
Figure 6.5.2-313. SFA Strain Compatible Soil Properties P-wave Velocity, 100 ft of Alluvium Over Tuff, South of the Fault $10^{-4}$ AFE
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Source: Appendix D, Table D-1

Figure 6.5.2-314. SFA Strain Compatible Soil Properties P-wave Damping, 100 ft of Alluvium Over Tuff, South of the Fault 10⁻⁴ AFE
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Source: Appendix D, Table D-1

Note: Transfer functions computed for the RB soft zone velocity profile and UMT dynamic property curves; 5 to 10 Hz RE control motions: median and + 1 sigma estimates

Figure 6.5.3-1a. Example of horizontal transfer functions (amplification factors): 5 to 10 Hz RE.
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Figure 6.5.3-1b. Example of horizontal transfer functions (amplification factors): 5 to 10 Hz RE (continued).

Source: Appendix D, Table D-1

Note: Transfer functions computed for the RB soft zone velocity profile and UMT dynamic property curves; 5 to 10 Hz RE control motions: median and + 1 sigma estimates
Figure 6.5.3-1c. Example of horizontal transfer functions (amplification factors): 5 to 10 Hz RE (continued).
Source: Appendix D, Table D-1

Note: Transfer functions computed for the RB soft zone velocity profile and UMT dynamic property curves; 5 to 10 Hz RE control motions: median and + 1 sigma estimates

Figure 6.5.3-1d. Example of horizontal transfer functions (amplification factors): 5 to 10 Hz RE.
Figure 6.5.3-2. Example of analytical V/H ratios computed for the RB soft zone velocity profile and UMT dynamic property curves; 5 to 10 Hz RE control motions: median and ± 1 sigma estimates.
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Figure 6.5.3-3. Mean Horizontal and Vertical Seismic Hazard Curves for Tuff, “Soft” Sites, for PGA at the RB

Source: Appendix D, Table D-1
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Figure 6.5.3-4. Mean Horizontal and Vertical Seismic Hazard Curves for Tuff, “Soft” Sites, for 0.2 Sec SA at the RB

Source: Appendix D, Table D-1
Figure 6.5.3-5. Mean Horizontal and Vertical Seismic Hazard Curves for Tuff, “Soft” Sites, for 1.0 Sec SA at the RB

Source: Appendix D, Table D-1
Figure 6.5.3-6. Mean Horizontal and Vertical Seismic Hazard Curves for Tuff, “Stiff” Sites, for PGA at the RB

Source: Appendix D, Table D-1
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Figure 6.5.3-7. Mean Horizontal and Vertical Seismic Hazard Curves for Tuff, “Stiff” Sites, for 0.2 Sec SA at the RB

Source: Appendix D, Table D-1
Figure 6.5.3-8. Mean Horizontal and Vertical Seismic Hazard Curves for Tuff, “Stiff” Sites, for 1.0 Sec SA at the RB

Source: Appendix D, Table D-1
Source: Appendix D, Table D-1, DTN MO0801HCUSREB.001 [DIRS 184803]

Figure 6.5.3-9. Mean Horizontal and Vertical Seismic Hazard Curves for PGA at the RB
Source: Appendix D, Table D-1, DTN MO0801HCUHSREB.001 [DIRS 184803]

Figure 6.5.3-10. Mean Horizontal and Vertical Seismic Hazard Curves for 0.05 Sec SA at the RB
Figure 6.5.3-11. Mean Horizontal and Vertical Seismic Hazard Curves for 0.1 Sec SA at the RB
Figure 6.5.3-12. Mean Horizontal and Vertical Seismic Hazard Curves for 0.2 Sec SA at the RB

Source: Appendix D, Table D-1, DTN MO0801HCUHSREB.001 [DIRS 184803]
Source: Appendix D, Table D-1, DTN MO0801HCUHSREB.001 [DIRS 184803]

Figure 6.5.3-13. Mean Horizontal and Vertical Seismic Hazard Curves for 0.5 Sec SA at the RB
Figure 6.5.3-14. Mean Horizontal and Vertical Seismic Hazard Curves for 1.0 Sec SA at the RB

Source: Appendix D, Table D-1, DTN MO0801HCUHSREB.001 [DIRS 184803]
Source: Appendix D, Table D-1, DTN MO0801HCUHSREB.001 [DIRS 184803]

Figure 6.5.3-15. Mean Horizontal and Vertical Seismic Hazard Curves for 2.0 Sec SA at the RB
Source: Appendix D, Table D-1, DTN MO0801HCUHSREB.001 [DIRS 184803]
Figure 6.5.3-16. Mean Horizontal and Vertical Seismic Hazard Curves for 3.3 Sec SA at the RB
Source: Appendix D, Table D-1, DTN MO0801HCUHSREB.001 [DIRS 184803]
Figure 6.5.3-17a. Mean and Fractile Horizontal Seismic Hazard Curves for PGV at the RB
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Figure 6.5.3-17b. Comparison of Horizontal PGV Hazard at Repository Waste Emplacement Level

Sources: DTN MO0501BPVELEMP.001 [DIRS 172682] (Conditioned Hazard 2005), DTN MO0801HCUHSREB.001 [DIRS 184803] (Conditioned Hazard 2008), DTNs MO0401SEPVGVRL.022 [DIRS 169099], MO0303DPGV106.002 [DIRS 162712], MO0210PGVPB107.000 [DIRS 162713] (Unconditioned Hazard 2004)
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Source: Appendix D, Table D-1, DTN MO0801HCUHSREB.001 [DIRS 184803]

Figure 6.5.3-18. Mean and Fractile Vertical Seismic Hazard Curves for PGV at the RB
Source: Appendix D, Table D-1, DTN MO0801HCUHSREB.001 [DIRS 184803]

Figure 6.5.3-19. Horizontal and Vertical UHS at $10^{-3}$ AFE at the RB
Figure 6.5.3-20. Horizontal and Vertical UHS at $5 \times 10^{-4}$ AFE at the RB

Source: Appendix D, Table D-1, DTN MO0801HCUHSREB.001 [DIRS 184803]
Figure 6.5.3-21. Horizontal and Vertical UHS at $10^{-4}$ AFE at the RB

Source: Appendix D, Table D-1, DTN MO0801HCUSREB.001 [DIRS 184803]
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Source: Appendix D, Table D-1, DTN MO0801HCUHSREB.001 [DIRS 184803]

Figure 6.5.3-22. Horizontal and Vertical UHS at $10^{-5}$ AFE at the RB
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Source: Appendix D, Table D-1, DTN MO0801HCUHSREB.001 [DIRS 184803]

Figure 6.5.3-23. Horizontal and Vertical UHS at $10^6$ AFE at the RB
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Source: Appendix D, Table D-1, DTN MO0801HCUHSREB.001 [DIRS 184803]

Figure 6.5.3-24. Horizontal and Vertical UHS at $10^{-7}$ AFE at the RB
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Figure 6.5.3-25. Horizontal and Vertical UHS at $10^{-8}$ AFE at the RB

Source: Appendix D, Table D-1
Figure 6.5.3-26. Horizontal and Vertical 5%-Damped Design Spectra at $10^{-3}$ AFE at the RB
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Figure 6.5.3-27. Horizontal and Vertical 5%-Damped Design Spectra at 5×10^{-4} AFE at the RB

Source: Appendix D, Table D-1
Figure 6.5.3-28. Horizontal and Vertical 5%-Damped Design Spectra at $10^{-4}$ AFE at the RB

Source: Appendix D, Table D-1
Figure 6.5.3-29. Comparison of 2004 and 2007 Horizontal RB Design Spectra at $10^{-3}$ AFE

Source: Appendix D, Table D-1, DTN MO0405SDSTPNTB.001 [DIRS 169851]
Source: Appendix D, Table D-1, DTN MO0405SDSTPNTB.001 [DIRS 169851]

Figure 6.5.3-30. Comparison of 2004 and 2007 Vertical RB Design Spectra at $10^{-3}$ AFE
Figure 6.5.3-31. Comparison of 2004 and 2007 Horizontal RB Design Spectra at $5 \times 10^{-4}$ AFE

Source: Appendix D, Table D-1, DTN MO0407SDARS104.001 [DIRS 170683]
2004 Vertical Design Spectrum

2007 Vertical Design Spectrum

Source: Appendix D, Table D-1, DTN MO0407SDARS104.001 [DIRS 170683]

Figure 6.5.3-32. Comparison of 2004 and 2007 Vertical RB Design Spectra at 5x10^{-4} AFE
Figure 6.5.3-33. Comparison of 2004 and 2007 Horizontal RB Design Spectra $10^{-4}$ AFE

Source: Appendix D, Table D-1, DTN MO0306DSADVTH.000 [DIRS 164033]
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Source: Appendix D, Table D-1, DTN MO0306SDSAVDTH.000 [DIRS 164033]

Figure 6.5.3-34. Comparison of 2004 and 2007 Vertical RB Design Spectra $10^{-4}$ AFE
Source: Appendix D, Table D-1

Figure 6.5.3-35. Comparison of Mean UHS for $10^{-3}$ AFE Computed for the Stiff and Soft RB Profiles
Source: Appendix D, Table D-1

Figure 6.5.3-36. Comparison of Mean UHS for $5 \times 10^{-4}$ AFE Computed for the Stiff and Soft RB Profiles
Figure 6.5.3-37. Comparison of Mean UHS for $10^{-4}$ AFE Computed for the Stiff and Soft RB Profiles

Source: Appendix D, Table D-1
APE = 10⁻⁵ YR⁻¹
REPOSITORY

Source: Appendix D, Table D-1

Figure 6.5.3-38. Comparison of Mean UHS for 10⁻⁵ AFE Computed for the Stiff and Soft RB Profiles
APE = 10^{-6} YR^{-1} REPOSITORY

Source: Appendix D, Table D-1

Figure 6.5.3-39. Comparison of Mean UHS for 10^{-6} AFE Computed for the Stiff and Soft RB Profiles
APE = 10^-7 YR-1
REPOSITORY

Source: Appendix D, Table D-1
Figure 6.5.3-40. Comparison of Mean UHS for 10^-7 AFE Computed for the Stiff and Soft RB Profiles
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Figure 6.5.3-41. Comparison of Mean UHS for $10^{-8}$ AFE Computed for the Stiff and Soft RB Profiles

Source: Appendix D, Table D-1

Figure 6.5.3-41. Comparison of Mean UHS for $10^{-8}$ AFE Computed for the Stiff and Soft RB Profiles
Figure 6.5.3-42. Comparison of Mean UHS for 10^{-3} AFE Computed for the UMT and LMT G/Gmax and Hysteretic Damping Curves Using the RB Soft Profile

Source: Appendix D, Table D-1
Figure 6.5.3-43. Comparison of Mean UHS for 5x10^-4 AFE Computed for the UMT and LMT G/Gmax and Hysteretic Damping Curves Using the RB Soft Profile

Source: Appendix D, Table D-1
Figure 6.5.3-44. Comparison of Mean UHS for $10^{-4}$ AFE Computed for the UMT and LMT G/Gmax and Hysteretic Damping Curves Using the RB Soft Profile
Figure 6.5.3-45. Comparison of Mean UHS for $10^{-5}$ AFE Computed for the UMT and LMT G/Gmax and Hysteretic Damping Curves Using the RB Soft Profile

Source: Appendix D, Table D-1
Figure 6.5.3-46. Comparison of Mean UHS for $10^{-6}$ AFE Computed for the UMT and LMT G/Gmax and Hysteretic Damping Curves Using the RB Soft Profile

Source: Appendix D, Table D-1
Figure 6.5.3-47. Comparison of Mean UHS for 10⁻⁷ AFE Computed for the UMT and LMT G/Gmax and Hysteretic Damping Curves Using the RB Soft Profile

Source: Appendix D, Table D-1
Figure 6.5.3-48. Comparison of Mean UHS for $10^{-8}$ AFE Computed for the UMT and LMT G/Gmax and Hysteretic Damping Curves Using the RB Soft Profile
Figure 6.5.3-49. Seed Time Histories, Set #1 at $10^{-3}$ and $5\times10^{-4}$ AFE at the RB

Source: Appendix D, Table D-1
Figure 6.5.3-50. Seed Time Histories, Set #1 at $10^{-4}$ AFE at the RB

Source: Appendix D, Table D-1
Figure 6.5.3-51. Spectral Match to RB Design Spectrum at $10^{-3}$ AFE, Horizontal 1, Set 1

Source: Appendix D, Table D-1
Figure 6.5.3-52. Ratio of RB Design Spectrum to Spectral Match at $10^{-3}$ AFE, Horizontal 1, Set 1

Source: Appendix D, Table D-1
Figure 6.5.3-53. Spectrally Matched RB Acceleration, Velocity, and Displacement Time Histories, $10^{-3}$
AFE, Horizontal 1, Set 1

Source: Appendix D, Table D-1
Source: Appendix D, Table D-1

Figure 6.5.3-54. Spectral Match to RB Design Spectrum at $10^{-3}$ AFE, Horizontal 2, Set 1
Figure 6.5.3-55. Ratio of RB Design Spectrum to Spectral Match at $10^{-3}$ AFE, Horizontal 2, Set 1

Source: Appendix D, Table D-1
Figure 6.5.3-56. Spectrally Matched RB Acceleration, Velocity, and Displacement Time Histories, $10^{-3}$
AFE, Horizontal 2, Set 1

Source: Appendix D, Table D-1
Figure 6.5.3-57. Spectral Match to RB Design Spectrum at $10^{-3}$ AFE, Vertical, Set 1

Source: Appendix D, Table D-1
Figure 6.5.3-58. Ratio of RB Design Spectrum to Spectral Match at $10^{-3}$ AFE, Vertical, Set 1

Source: Appendix D, Table D-1
Figure 6.5.3-59. Spectrally Matched RB Acceleration, Velocity, and Displacement Time Histories, $10^{-3}$ AFE, Vertical, Set 1

Source: Appendix D, Table D-1
Figure 6.5.3-60. Spectral Match to RB Design Spectrum at 5x10^{-4} AFE, Horizontal 1, Set 1

Source: Appendix D, Table D-1
Figure 6.5.3-61. Ratio of RB Design Spectrum to Spectral Match at 5x10^-4 AFE, Horizontal 1, Set 1

Source: Appendix D, Table D-1
Source: Appendix D, Table D-1

Figure 6.5.3-62. Spectrally Matched RB Acceleration, Velocity, and Displacement Time Histories, $5 \times 10^{-4}$ AFE, Horizontal 1, Set 1
Source: Appendix D, Table D-1

Figure 6.5.3-63. Spectral Match to RB Design Spectrum at $5 \times 10^{-4}$ AFE, Horizontal 2, Set 1
Figure 6.5.3-64. Ratio of RB Design Spectrum to Spectral Match at 5x10^-4 AFE, Horizontal 2, Set 1

Source: Appendix D, Table D-1
Source: Appendix D, Table D-1

Figure 6.5.3-65. Spectrally Matched RB Acceleration, Velocity, and Displacement Time Histories, 5x10^{-4} AFE, Horizontal 2, Set 1
Figure 6.5.3-66. Spectral Match to RB Design Spectrum at $5 \times 10^{-4}$ AFE, Vertical, Set 1

Source: Appendix D, Table D-1
Figure 6.5.3-67. Ratio of RB Design Spectrum to Spectral Match at $5 \times 10^{-4}$ AFE, Vertical, Set 1

Source: Appendix D, Table D-1
Figure 6.5.3-68. Spectrally Matched RB Acceleration, Velocity, and Displacement Time Histories, 5x10^-4 AFE, Vertical, Set 1

Source: Appendix D, Table D-1
Supplemental Earthquake Ground Motion Input for a Geologic Repository at Yucca Mountain, NV

Source: Appendix D, Table D-1

Figure 6.5.3-69. Spectral Match to RB Design Spectrum at 10^-4 AFE, Horizontal 1, Set 1
Source: Appendix D, Table D-1

Figure 6.5.3-70. Ratio of RB Design Spectrum to Spectral Match at 10^{-4} AFE, Horizontal 1, Set 1
Figure 6.5.3-71. Spectrally Matched RB Acceleration, Velocity, and Displacement Time Histories, $10^{-4}$ AFE, Horizontal 1, Set 1

Source: Appendix D, Table D-1
Figure 6.5.3-72. Spectral Match to RB Design Spectrum at 10^{-4} AFE, Horizontal 2, Set 1
Figure 6.5.3-73. Ratio of RB Design Spectrum to Spectral Match at $10^{-4}$ AFE, Horizontal 2, Set 1

Source: Appendix D, Table D-1
Figure 6.5.3-74. Spectrally Matched RB Acceleration, Velocity, and Displacement Time Histories, $10^{-4}$ AFE, Horizontal 2, Set 1

Source: Appendix D, Table D-1
Figure 6.5.3-75. Spectral Match to RB Design Spectrum at $10^{-4}$ AFE, Vertical, Set 1

Source: Appendix D, Table D-1
Figure 6.5.3-76. Ratio of RB Design Spectrum to Spectral Match at $10^{-4}$ AFE, Vertical, Set 1

Source: Appendix D, Table D-1
Source: Appendix D, Table D-1
Figure 6.5.3-77. Spectrally Matched RB Acceleration, Velocity, and Displacement Time Histories, $10^{-4}$ AFE, Vertical, Set 1
Spectral Acceleration (g)

2004 Median
2004 -1 Sigma
2004 +1 Sigma
2008 RB UHS

Frequency (Hz)

Source: Appendix D, Table D-1; BSC (2004 [DIRS 170027], Figure 6.3-145)

Note: Before being scaled to the site-specific PGV, the seed time histories used in BSC (2004 [DIRS 170027], Section 6.3.2.3.3) were first spectrally conditioned to the repository waste emplacement level target spectrum.

Figure 6.5.3-78. Comparison of 2004 Median and ±1σ Horizontal Time History Response Spectra and 2008 RB UHS: 10^-5 AFE
Source: Appendix D, Table D-1; BSC (2004 [DIRS 170027], Figure 6.3-133)

Note: Before being scaled to the site-specific PGV, the seed time histories used in BSC (2004 [DIRS 170027], Section 6.3.2.3.1) were first spectrally conditioned to the reference rock outcrop target spectrum.

Figure 6.5.3-79. Comparison of 2004 Median and \( \pm 1\sigma \) Horizontal Time History Response Spectra and 2008 RB UHS: \( 10^6 \) AFE