Attachment C-6, San Andreas Fault Source Readme File

The San Andreas Fault source hazard input file, **SAF\_fm3.1\_sources.txt**, is provided as a separate electronic text file because of its size.

San Andreas Fault (SAF) Sources are excerpted from the UCERF3 Mean Branch Average Solution file (UCERF version 3.3, 5/10/2013). Each fault source has a magnitude, frequency, distance, latitude, longitude, strike, dip, and rake. Orientation data for the entire source is represented by parameters of the UCERF3 fault model subsection nearest to DCPP. UCERF3 parameter dip direction has been translated to strike. The input file is in ASCII format, tab-delimited, in eleven columns. Columns 1-5 are as follows:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S or R | Ruptid | Mag | Rate | Near Sub-section Id |
| 1 | 81641 | 7.78286 | 1.28168E-10 | 2352 |
| 1 | 81642 | 7.78906 | 1.32372E-10 | 2352 |
| 1 | 81643 | 7.79517 | 1.68193E-10 | 2352 |
| 1 | 81644 | 7.80119 | 1.23877E-09 | 2352 |
| 1 | 81645 | 7.80712 | 9.96196E-11 | 2352 |

“S or R”: an indicator, 1 for SAF sources, 0 for Regional fault sources.

“Ruptid”: UCERF3 assigned rupture identifier. Each rupture has a unique set of associated subsections. Ruptid = -1 is assigned to mark to magnitude-rate entries synthesized from the Cholame subsection 8 ruptures.

“Mag”: UCERF3-associated magnitude. In this example, all ruptures are within 0.025 M units.

“Rate”: Annual rate of each rupture, from the UCERF3 solution. In this example, all ruptures are relatively rare.

“Near Sub-section Id”: Number of the subsection in this rupture nearest to DCPP. These five ruptures share the same nearest subsection.

Columns 6-11 are as follows:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Dist (km) | Lat | Lon | Strike | Dip | Rake |
| 198.74 | 36.916603 | -121.52609 | 301.83902 | 90 | 180 |
| 198.74 | 36.916603 | -121.52609 | 301.83902 | 90 | 180 |
| 198.74 | 36.916603 | -121.52609 | 301.83902 | 90 | 180 |
| 198.74 | 36.916603 | -121.52609 | 301.83902 | 90 | 180 |
| 198.74 | 36.916603 | -121.52609 | 301.83902 | 90 | 180 |

“Dist (km)”: great-circle distance from DCPP to the nearest geographic point on the rupture, in km. Where the point is shared by two subsections, the first is selected.

“Lat”: Latitude in decimal degrees of the geographic point in the rupture nearest to DCPP.

“Lon”: Longitude in decimal degrees of the geographic point in the rupture nearest to DCPP.

“Strike”: Strike of the subsection containing the nearest point to DCPP, in degrees. North is 0. Strike increases in the counter-clockwise direction.

“Dip”: Dip of the subsection containing the nearest point to DCPP, in degrees. Dip =0 is horizontal, 90 degrees = vertical.

“Rake”: Rake of the slip vector in the subsection containing the nearest point to DCPP, in degrees. Rake=0 = left-lateral on a strike-slip fault; rake = 180 degrees is right-lateral.