

Chapter C22

SEISMIC GROUND MOTION, LONG-PERIOD TRANSITION AND RISK COEFFICIENT MAPS

The 2010 edition of ASCE 7 continues to use spectral response seismic maps that reflect seismic hazards on the basis of contours, as well as maps of the transition period for the long-period portion of a response spectrum. In addition, the 2010 edition has introduced risk coefficient contour maps for use in the site-specific ground motion procedures of Chapter 21. All of these maps were prepared by the United States Geological Survey (USGS) in collaboration with the ASCE 7 Seismic Subcommittee and the Building Seismic Safety Council (BSSC) Seismic Design Procedures Reassessment Group and were updated for the 2010 edition of this standard.

The USGS has also developed a companion software program that calculates spectral values for

a specific site based on a site's longitude, latitude, and site soil classification. The calculated values are based on the data used to prepare the maps in Chapter 22. The spectral values may be adjusted for Site Class effects using the Site Classifications Procedure in Chapter 20 and the site coefficients in Section 11.4.

The software program should be used for establishing spectral values for design because the maps found in ASCE 7 are at too large a scale to provide accurate spectral values for most sites. The software program may be accessed at the USGS website at <http://earthquake.usgs.gov/designmaps> or through the SEI website at <http://content.seiinstitute.org>.