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Over the past 30 years, we have (1) performed site-specific probabilistic and deterministic (scenario) seismic hazard analyses and compared the results for more than 200 U.S. dams and (2) compared our hazard estimates with the USGS National Seismic Hazard Maps. Based on our analyses, we observe the following: 1) in areas along the plate boundary e.g., coastal California where there are highly active faults (e.g., slip rates > 1 mm/yr), deterministic ground motion estimates have equivalent return periods less than 1,000 yrs. These return periods are much smaller than national guideline recommended return periods of 3,000 to 10,000 years for moderate to high hazard dams. 2) In the western U.S. away from the plate boundary but near low activity faults, deterministic hazard estimates can have equivalent return periods much greater than 10,000 years. 3) In large parts of the western U.S., background earthquakes control the hazard due to either the absence of active faults or the existing faults have very low recurrence rates. In these areas, deterministic ground motion estimates are meaningless and probabilistic seismic hazard analysis (PSHA) is the only reasonable approach in estimating the hazard. 4) Similarly in the central and eastern U.S. away from the few active faults or seismic zones i.e., New Madrid, PSHA is really the only approach for assessing the hazard at a damsite. 5) The USGS maps generally provide a reliable estimate of the hazard at a site but the ground motions need to be adjusted for the site-specific foundation conditions. This is particularly an issue in the eastern U.S. where many dams are located on hard rock (Vs30 > 1800 m/sec). 6) There are areas where site-specific hazard estimates can differ significantly from the USGS maps. For example, site-specific estimates can be much lower than the USGS values in areas such as the Rocky Mountains. There are areas in the western U.S. where there are active faults which are not in the USGS maps. Such areas will be characterized by higher estimates of hazard than on the USGS maps. The above observations can have a significant impact on the reliability of dam safety assessments and acceptable risk.