Q&A

This section addresses a variety of commonly asked questions concerning the proposed Auburn Dam.

Q: Would the Auburn Dam be earthquake safe?

A: Much has been written about the earthquake safety of the proposed Auburn Dam. The controversy began in 1975 — during which time the original Auburn Dam was under construction — when a 5.7 earthquake occurred near the Oroville Dam, located about 45 miles outside of Auburn.

This quake raised three main concerns related to the new Auburn Dam: 1) the durability of its originally proposed thin-arch design, 2) the ramifications of a possible fault line running under the original dam site, and 3) the possibility of reservoir induced seismicity.

A great deal of research has been conducted by state and federal officials to determine the earthquake safety of the proposed Auburn Dam, leading one Bureau of Reclamation Commissioner to comment that there was "more seismic information about this [Auburn] damsite than a damsite anywhere else in the world."

As a result of these myriad studies, some changes have been made over the years, and some conclusions drawn.

First, studies found that Auburn Dam's original thin arch design was not the best suited to withstand a potential earthquake. And after the Oroville quake, seismic safety became a big concern. So two changes were made. First, the Auburn Dam structure was changed from a thin arch dam to a solid concrete "gravity" dam, designed to withstand the "maximum credible earthquake," according to Bureau of Reclamation Engineers.

Second, the actual location of the Dam was moved so that it was no longer directly over what is often called the F-1 fault. By definition, a fault is any break or fracture of a rock formation caused by the movement of tectonic plates under the Earth's surface. While the F-1 fault is considered a "minor" fault (as opposed to, say, the San Andreas Fault, which is a "major" or "causative" fault), and has not experienced any movement for tens of millions of years, the government chose to take this added precaution.

Third, while there is still much debate over the concept of "reservoir induced seismicity," Bureau engineers are prepared to address this potential concern by filling the reservoir in stages over the course of multiple seasons — to avoid adding a sudden "load" of water that could be considered a "triggering" factor.

So after years of study and debate on the earthquake safety of the Auburn Dam, according to the U.S. Congress, "most experts now concur that a seismically safe dam can be built." (U.S. Congress, Congressional Budget Office, August 20, 1998)

Sources: U.S. Bureau of Reclamation, "Auburn Dam Report, Auburn Dam Alternative Study, " July 1987; Water and Power Resources Services, "Auburn Dam Statement," September 1980c.