

RECLAMATION

Managing Water in the West

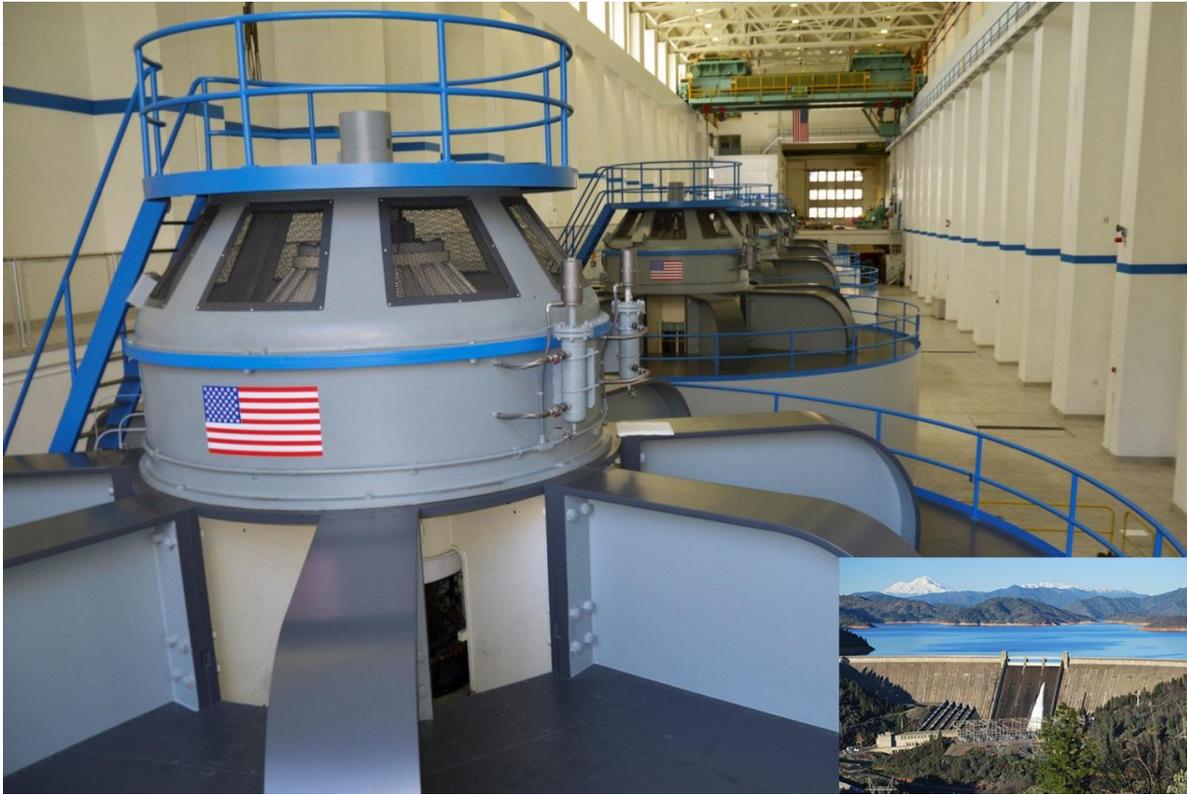


Photo Credit: Winetta Owens

The Shasta Hydroelectric Facility is located below Shasta Dam on the Sacramento River in Shasta County, California, nine miles northwest of Redding. At 156-feet tall, as tall as a 15-story building, it is one of the largest hydropower plants in California.

Water from the dam is released through penstocks driving the turbines which operate the five main generator units and the two station service units. The five penstocks are each 15 feet in diameter (large enough to drive a school bus through). To operate each turbine at full-generator load, 85 tons per second of water are required. Electricity is generated at 13,800 volts and through transformers is increased to 230,000 volts for transmission to California consumers. In 1944, the powerplant began operation with 2 generators. The last of the five generators went into operation in 1949 bringing the plants combined capacity to 584,000 kW. Work began in 1996 to replace the stator cores of generator units 3, 4, and 5 at a cost of \$8.8 million. When the work was completed in 2000, each was uprated to 142 megawatts.

The sale of generated power at the Shasta Powerplant is managed by the Department of Energy's Western Area Power Administration to power companies, which meet the needs of consumers in the western United States. The sale of this electricity produces over \$50 million dollars in revenue annually to the federal government.

For more information on the Shasta Project:

http://www.usbr.gov/projects/Project.jsp?proj_Name=Shasta/Trinity%20River%20Division%20Project

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