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## Mid-Pacific Region, Folsom Dam Division, Central Valley Project

### Background

Folsom Dam is located in Folsom, Calif., on the American River, roughly 23 miles east of Sacramento. Originally authorized in 1944 as a 355,000 acre-foot flood control unit, Folsom Dam was reauthorized in 1949 as an almost 1 million acre-foot multiple-purpose facility. The U.S. Army Corps of Engineers built the dam and then transferred it to the Bureau of Reclamation for coordinated operation as an integral part of the federal Central Valley Project. Construction of the dam began in October 1948 and was completed in May 1956. Water was first stored in February 1955.



Folsom Dam and Reservoir on the American River

### Folsom Facility

Folsom Dam is a concrete gravity dam 340 feet high and 1,400 feet long and flanked by two earthfill wing dams. The combined length of the Folsom facility's main dam, wing dams, Mormon Island Auxiliary Dam and eight dikes is 26,730 feet – more than 5

miles – with a total volume of materials of 13,970,000 cubic yards, including 1,050,000 cubic yards of concrete in the main dam alone. Folsom Dam's spillway is divided into eight sections, each controlled by a 42-by 50-foot radial gate. The spillway capacity is 567,000 cubic feet per second. Folsom Dam regulates flows in the American River for irrigation, power, flood control, municipal and industrial use, fish and wildlife, recreation and other purposes.

### Folsom Reservoir

Folsom Dam forms Folsom Reservoir – better known as Folsom Lake – with a capacity of 977,000 acre-feet and a surface area of 11,450 acres. Recreation facilities at the 18,000-acre park, administered by the California Department of Parks and Recreation, include picnicking, fishing, boating, water skiing, camping, swimming and some 50 miles of trails for hiking and horseback riding. Folsom Lake is one of the most popular multi-use, year-round units in the State Parks system, with more than 2.5 million visitors per year.

### Folsom Powerplant

Reclamation built and operates Folsom Powerplant at the foot of Folsom Dam on the north side of the American River. Water from the dam is released through three penstocks, which are 560 feet in length and 15 feet in diameter, to three generating units, each rated at just over 76,000 kilowatts and with a combined rating of 198,720 kilowatts.

Water is supplied to the three 74,000 horsepower turbines that drive the generators through the three penstocks, which run through the right abutment of the main dam. Construction of the Folsom Powerplant began in June 1951 and was completed in 1955.



Artist's rendition of the completed auxiliary spillway

## **Folsom Dam Joint Federal Project (JFP)**

Reclamation, the Corps, the Sacramento Area Flood Control Agency and the Central Valley Flood Protection Board are all part of an unprecedented partnership to provide enhanced flood protection for the Sacramento area under the JFP. The partnership is building a new 2,100-foot-long auxiliary spillway, a six-gated control structure, a stilling basin and an approach channel just southwest of the main Folsom Dam. When the project is completed in 2017, Reclamation will be better able to manage large floods by safely releasing more water from Folsom Reservoir earlier during a large storm. Floodwaters will be released through both the spillway gates on the main Folsom Dam, which sit at elevation 418 feet, and through the new control structure's six gates, which sit 50 feet lower in Folsom Reservoir at elevation 368 feet. Releasing more water from Folsom

Reservoir earlier will leave more storage capacity within the reservoir for flood flows coming into the lake from the Sierra Nevadas.

## **Nimbus Dam, Lake Natoma and Nimbus Powerplant**

Nimbus Dam, 7 miles downstream of Folsom Dam on the American River, regulates releases made through Folsom Dam. Nimbus Dam forms Lake Natoma, with a surface area of 540 acres and a capacity of 8,760 acre-feet. Nimbus Dam is a concrete gravity dam 1,093 feet long and 87 feet high. Eighteen radial gates, each 40-feet by 24-feet, control the flows. Nimbus Powerplant is located on the right abutment of the dam, on the river's north side. Its two generators have a capacity of 7,763 kilowatts each. Water is supplied to the two 9,400 horsepower turbines that drive the generators through six 46.5-foot-long penstocks. Nimbus Dam and Powerplant began operating in 1955. Power generated by the Folsom and Nimbus Powerplants is marketed by the Western Area Power Administration. Recreation at popular Lake Natoma, managed by the California Department of Parks and Recreation, includes boating, picnicking, fishing and swimming.

## **Flood Control**

Folsom Dam has many times demonstrated its ability to harness and control potentially devastating floods on the American River. Folsom and Nimbus Dams prevented some \$20 million in damage during flooding in 1955. In 1963 and 1964, Folsom and Nimbus Dams tamed 6-day flows of 630,000 acre-feet and 990,000 acre-feet, respectively, preventing an estimated \$90 million in damages. But the toughest test

came during a six-day period beginning Feb. 14, 1986, when Folsom and Nimbus dams held in check inflows of greater than 1,140,000 acre-feet. By 1986, Folsom and Nimbus Dams had already prevented an estimated total of \$483 million in flood damages.

## **Water Supply, Fisheries Enhancement and Water Quality**

Folsom Reservoir provides some 500,000 acre-feet of water yearly for irrigation and M&I uses. Nimbus Dam and Lake Natoma regulate the often-fluctuating releases from Folsom Dam, maintaining a consistent flow down the American River and providing a reliable water supply for the Folsom South Canal and the Nimbus Fish Hatchery.

Folsom Dam plays an important role in fisheries enhancement and water quality improvement. Due to changes in the operation of Shasta Dam to enhance the salmon run on the Sacramento River, releases from Folsom have been used to fulfill water delivery obligations and downstream water quality standards that would normally be met by releases from Shasta.