

Investigators seek cause of accident deep in Oroville Dam that injures five

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OROVILLE – Operations at America's tallest dam are back to normal after an accident deep inside the structure Wednesday hurt five people.

Workers were testing 6-foot-tall valves that move water through Oroville Dam, which is owned by the California Department of Water Resources. When they opened one, a steel wall in the valve chamber where they stood was blown out.

The accident is under investigation. Water flow and hydroelectric production were suspended for about three hours as a safety precaution.

Four of the five workers were treated and released at Oroville Hospital. The fifth remained there with a broken leg and other injuries, said Carl Torgersen, DWR chief of operations and maintenance.

There were no water or power shortages, officials said, and the dam was never at risk.

"This is not a dam-safety issue by any means," said Torgersen.

Oroville is the nation's tallest dam, rising 770 feet above its foundation in the Feather River. An earthen dam, it was completed in 1967.

The dam is California's second-largest, after Shasta Lake. It's the primary supply for the State Water Project.

A prolonged outage at Oroville could have been devastating for a state suffering a third year of drought.

Torgersen said workers were opening a giant valve deep inside the dam when the accident occurred. The valves control flow through two tunnels that allow water in the reservoir to move into the Feather River.



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Visitors John Timon, left, and Kent Smith stride across Oroville Dam on Wednesday afternoon in a peaceful scene far above where five workers had been injured earlier when a steel wall gave way. One of the five remained hospitalized Wednesday night.

The tunnels were built before the dam to divert the Feather River away from the dam construction site, he said. The valves are tested annually but not used routinely, except in drought years.

Because the valves draw colder water from the bottom of the river, they are used when the reservoir drops sharply during drought years to ensure the Feather River has enough cold water for its fish.

In this case, said Torgersen, workers opened the valves to test effectiveness of repairs to the concrete tunnel lining. The crew stood above the valves in a control room. Between them and the tunnel was a steel wall with windows overlooking the tunnel.

The steel wall was in the shape of a semicircle, measuring about 6 feet high and 10 feet wide, bolted to the surrounding concrete.

When workers opened the valve, the steel wall was sucked away from them into the tunnel, Torgersen said.

"I know they were able to act very quickly, under what I'm sure was a very stressful situation, to be able to shut off the two valves," he said.

The steel wall was pulled completely out of its mounting and sucked into the tunnel, said Bill Cochran, a DWR unit chief who works at Oroville Dam. The suction was so great that the men were hit by flying debris and thrown into fixed objects in the room.

Cochran said each tunnel can flow water at 5,000 cubic feet per second, or about the same as today's flow in the American River. The valve in question was flowing 4,000 cfs when the accident occurred.

He said the tunnel is fitted with a vent to prevent a suction force when the valves are opened. Investigators will check to learn whether that vent failed.

"The wall basically fell over," Cochran said. "It could be a pressure issue. We're unsure."

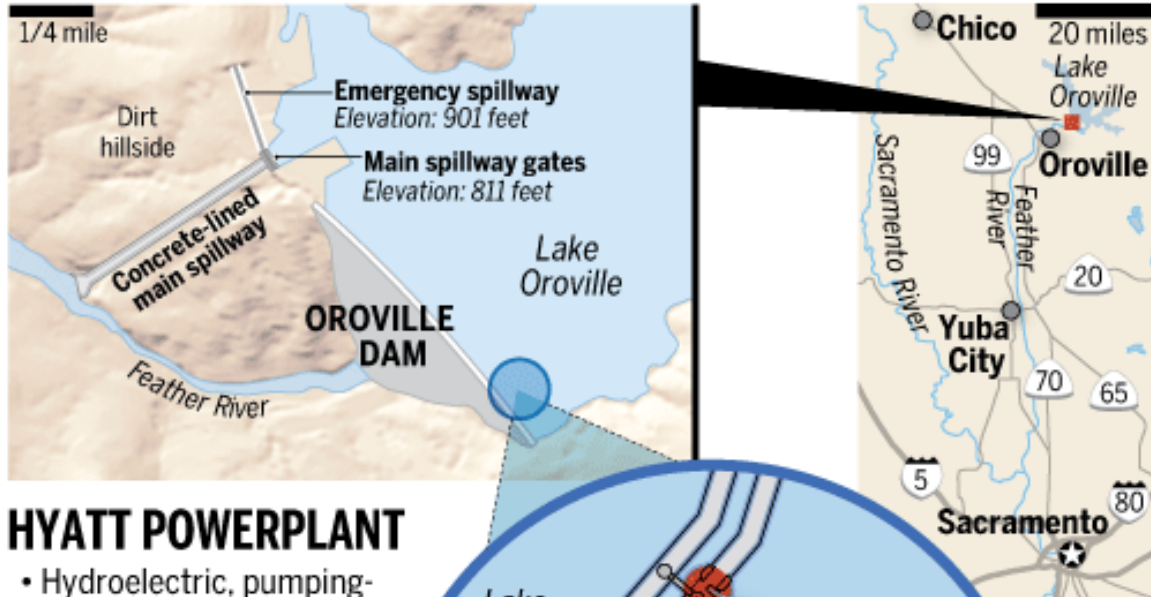
In addition to a probe by DWR engineers, the incident is being investigated by the state Occupational Safety and Health Administration.

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<http://www.sacbee.com/2009/07/23/2048602/investigators-seek-cause-of-accident.html#ixzzondogQtUU>

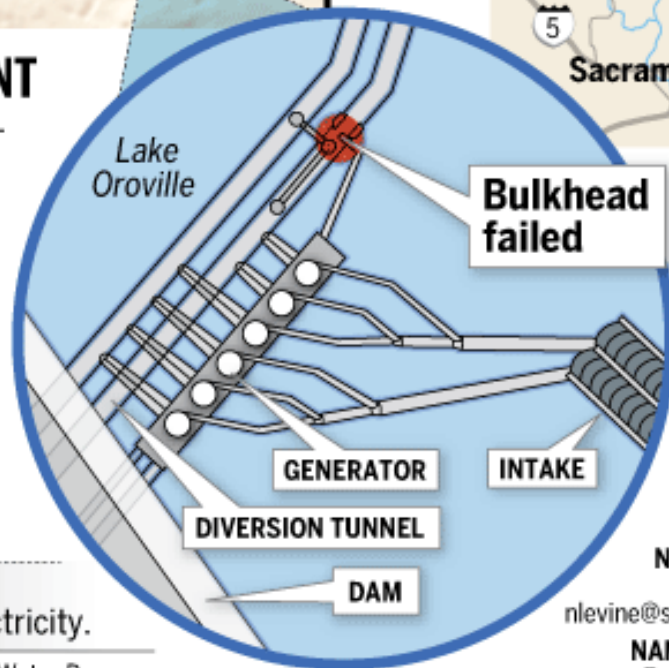
OROVILLE DAM ACCIDENT

A 6-foot-tall steel bulkhead failed inside Oroville Dam Wednesday morning, injuring five workers. The bulkhead is not a water-containment structure, but is linked to tunnels that move water from the lake to the powerhouse. All water and power operations at the dam were shut down as a precaution for three hours.



HYATT POWERPLANT

- Hydroelectric, pumping-generating facility.
- Constructed in the bedrock below Lake Oroville.
- Size of two football fields.
- Completed in 1967.
- 6 turbine generators
3 conventional and
3 reversible
- Capable of producing 67,788 megawatts of electricity.



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Source: California Department of Water Resources