Oroville Dam: Feds and state officials ignored warnings 12 years ago

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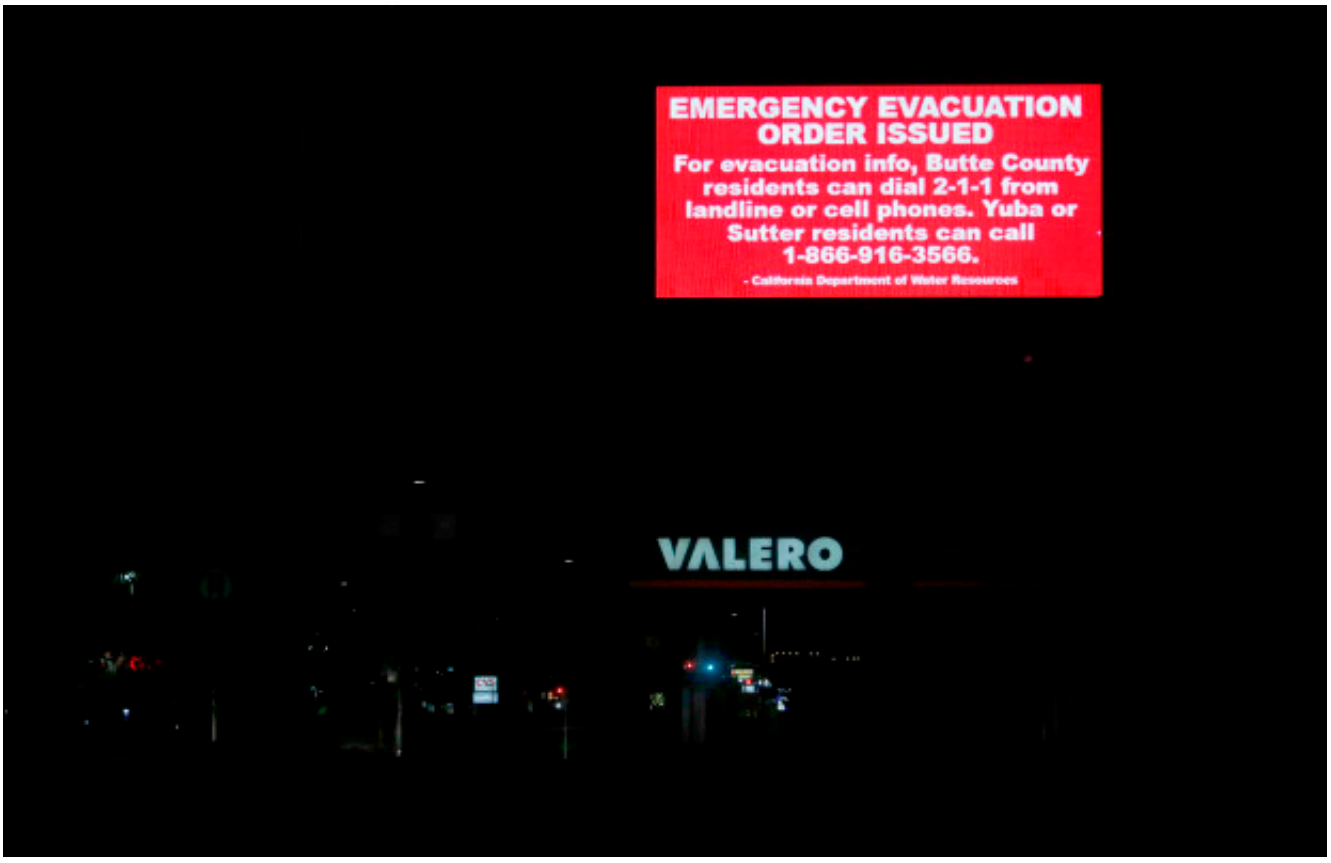
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- California Department of Water Resources
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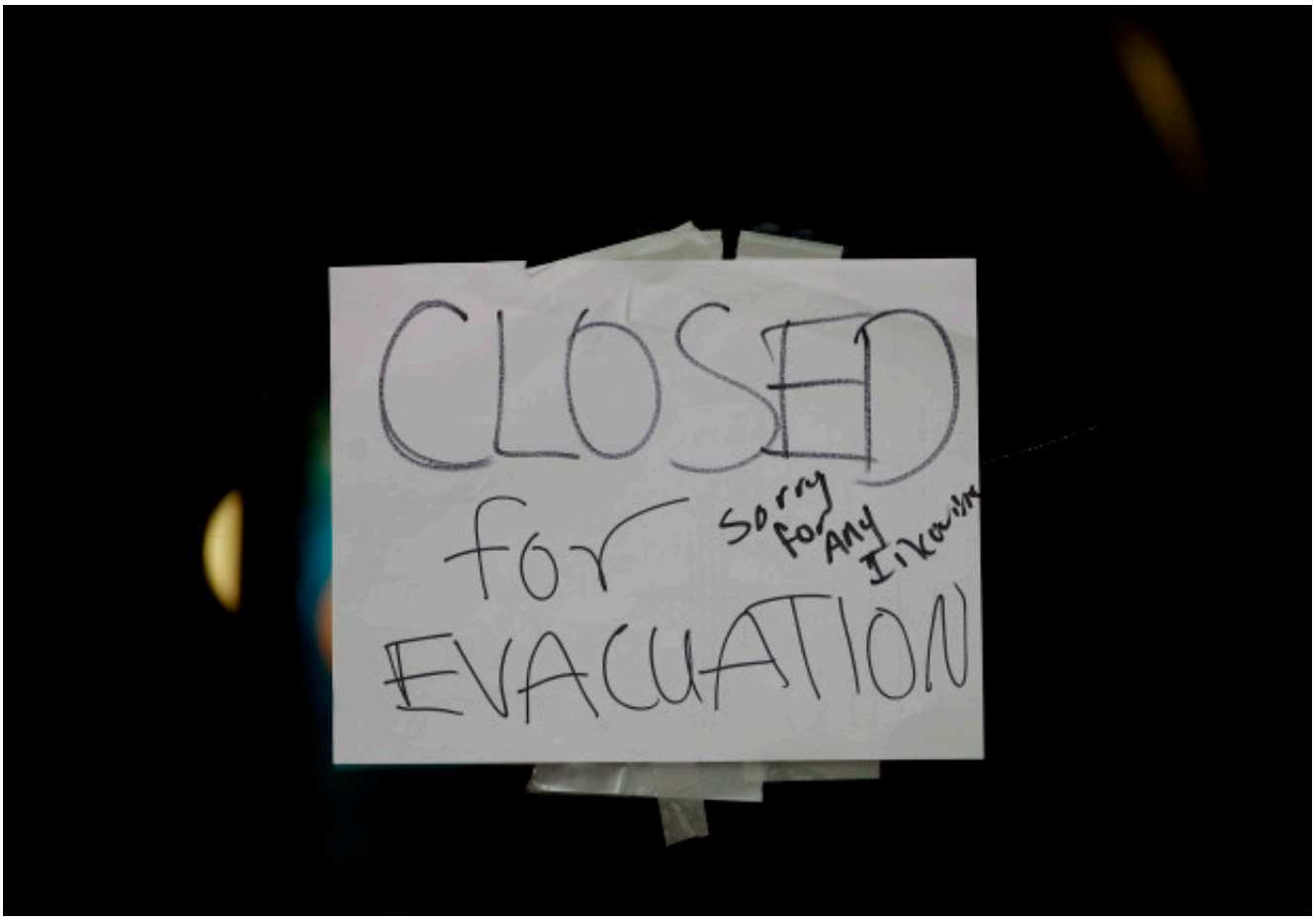
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A helicopter pulls away with a bag of rocks near the Oroville Dam outlook in Oroville, Calif., on Monday, Feb. 13, 2017. Two helicopters are being loaded with bags of rocks to take to the damaged areas of the emergency spillway. (Laura A. Oda/Bay Area News Group)

More than a decade ago, federal and state officials and some of California's largest water agencies rejected concerns that the massive earthen spillway at Oroville Dam — at risk of collapse Sunday night and prompting the evacuation of 185,000 people — could erode during heavy winter rains and cause a catastrophe.

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Three environmental groups — the Friends of the River, the Sierra Club and the South Yuba Citizens League — filed a motion with the federal government on Oct. 17, 2005, as part of Oroville Dam's relicensing process, urging federal officials to require that the dam's emergency spillway be armored with concrete, rather than remain as an earthen hillside.

The groups filed the motion with FERC, the Federal Energy Regulatory Commission. They said that the dam, built and owned by the state of California, and finished in 1968, did not meet modern safety standards because in the event of extreme rain and flooding, fast-rising water would overwhelm the main concrete spillway, then flow down the emergency spillway, and that could cause heavy erosion that would create flooding for communities downstream, but also could cause a failure, known as "loss of crest control."

"A loss of crest control could not only cause additional damage to project lands and facilities but also cause damages and threaten lives in the protected floodplain downstream," the groups wrote.

FERC rejected that request, however, after the state Department of Water Resources, and the water agencies that would likely have had to pay the bill for the upgrades, said they were unnecessary. Those agencies included the Metropolitan Water District of Southern California, which provides water to 19 million people in Los Angeles, San Diego and other areas, along with the State Water Contractors, an association of 27 agencies that buy water from the state of California through the State Water Project. The association includes the Metropolitan Water District, Kern County Water Agency, the Santa Clara Valley Water District and the Alameda County Water District.

Federal officials at the time said that the emergency spillway was designed to handle 350,000 cubic feet per second and the concerns were overblown.

“It is important to recognize that during a rare event with the emergency spillway flowing at its design capacity, spillway operations would not affect reservoir control or endanger the dam,” wrote John Onderdonk, a senior civil engineer with FERC, in the Federal Energy Regulatory Commission’s San Francisco Office, in a July 27, 2006, memo to his managers.

“The emergency spillway meets FERC’s engineering guidelines for an emergency spillway,” he added. “The guidelines specify that during a rare flood event, it is acceptable for the emergency spillway to sustain significant damage.”

This weekend, as Lake Oroville’s level rose to the top and water couldn’t be drained fast enough down the main concrete spillway because it had partially

collapsed on Tuesday, millions of gallons of water began flowing over the dam's emergency spillway for the first time in its 50-year history.

On Sunday, with flows of only 6,000 to 12,000 cubic feet per second — water only a foot or two deep and less than 5 percent of the rate that FERC said was safe — erosion at the emergency spillway became so severe that officials from the State Department of Water Resources ordered the evacuation of more than 185,000 people. The fear was that the erosion could undercut the 1,730-foot-long concrete lip along the top of the emergency spillway, allowing billions of gallons of water to pour down the hillside toward Oroville and other towns downstream.

Such an uncontrolled release from California's second-largest reservoir while it was completely full could become one of the worst dam disasters in U.S. history.

"We said 'are you really sure that running all this water over the emergency spillway won't cause the spillway to fail?'" said Ron Stork, policy director with Friends of the River, a Sacramento environmental group that filed the motions in 2005. "They tried to be as evasive as possible. It would have cost money to build a proper concrete spillway."

Stork watched with horror Sunday night as the emergency spillway was at risk of collapse.

"I'm feeling bad that we were unable to persuade DWR and FERC and the Army Corps to have a safer dam," he said Sunday.

Stork said that officials from the Department of Water Resources told him informally at the time that the Metropolitan Water District and the water contractors who buy water from Oroville did not want to incur the extra costs.

“I’m sad and hoping, crossing my fingers, that they can prevent the reservoir from failing,” he said. “I don’t think anybody at DWR has ever been this close in their careers to such a catastrophic failure.”

Lester Snow, who was the state Department of Water Resources director from 2004 to 2010, said Sunday night that he does not recall the specifics of the debate during the relicensing process 11 years ago.

“The dam and the outlet structures have always done well in tests and inspections,” Snow said. “I don’t recall the FERC process.”

Stork said at the time he talked to Snow about the environmental group’s concerns, and he recalls that Snow said the issue was being handled mostly by one of his lieutenants.

A filing on May 26, 2006, by Thomas Berliner, an attorney for the State Water Contractors, and Douglas Adamson, an attorney for the Metropolitan Water District of Southern California, discounted the risk. It urged FERC to reject the request to require that the emergency spillway be armored, a job that would have cost tens, if not hundreds, of millions of dollars.

“The emergency spillway was designed to safely convey the Probable Maximum Flood, and DWR has reviewed and confirmed the efficacy of the PMF hydrologic analysis for Oroville Reservoir,” the attorneys noted.

Ultimately, they were successful. FERC did not require the state to upgrade the emergency spillway.