

AP Top News

## AP Exclusive: Managers made errors in handling of dam crisis

By Ellen Knickmeyer and Michael R. Blood  
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OROVILLE, Calif. (AP) — Late in the afternoon of Feb. 12, Sheriff Kory Honea was at the emergency operations center for the tallest dam in America when he overheard someone say something that stopped him in his tracks:

"This is not good."

Over six straight days, the operators of the Oroville Dam had said there was no immediate danger after water surging down the main spillway gouged a hole the size of a football field in the concrete chute. But now suddenly they realized that the dam's emergency backup spillway — essentially an unpaved hillside — was falling apart, too, and could unleash a deadly torrent of water.

Honea reacted by ordering the immediate evacuation of nearly 200,000 people downstream.

In the end, after frantic action by the dam's keepers, catastrophe was averted. But an Associated Press examination of state and federal documents, emails obtained under public records requests and numerous interviews reveal a sequence of questionable decisions and missteps, some of them made years ago, some of them in the middle of the crisis.

Among other things, the dam's federal and state overseers overestimated the durability of the two spillways. And in public statements during the emergency, they failed to acknowledge — or perhaps recognize — that while they were busy dealing with one crisis, they were creating a possible new one.

During the darkest hours of the emergency, the fear was that if the hillside collapsed, "it was not whether people would die, but how many would die," Honea recalled.



In this Feb. 9, 2017, file photo, water rushes down the damaged Oroville Dam spillway.  
(AP Photo/Rich Pedroncelli, File)

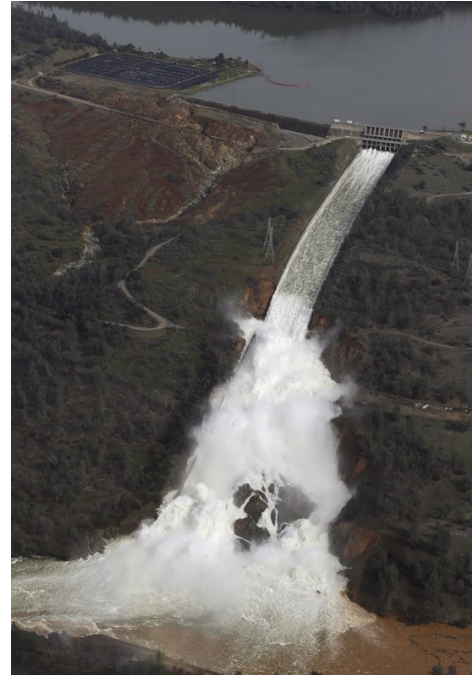
State water officials have defended their handling of the crisis at the 770-foot-high (235-meter) dam in the Sierra Nevada foothills 150 miles (241 kilometers) northeast of San Francisco, saying it was managed as effectively as possible under extraordinary circumstances, including one of the wettest winters on record.

William Croyle, acting head of the California Department of Water Resources, likened the spillway failures to a car getting a flat tire or running out of oil. "This happened. Stuff happens," he said last month.

The crisis began Feb. 7 with the rupture in the main spillway. Dam managers responded by obtaining an uncommon exemption from the Army Corps of Engineers to bypass a rule that would have required them to release huge amounts of water from the rapidly filling dam. Water releases down the main spillway were scaled back drastically, sometimes to zero.

Engineers did this because they wanted to inspect the hole, study how much bigger it might get and think of a way to keep the spillway from crumbling further, state officials said.

All the while, the reservoir behind the dam kept rising, reaching the highest level in the structure's history, because of one of the biggest storms in two decades.



In this Feb. 13, 2017, file photo, water flows down the damaged spillway. (AP Photo/Rich Pedroncelli, File)



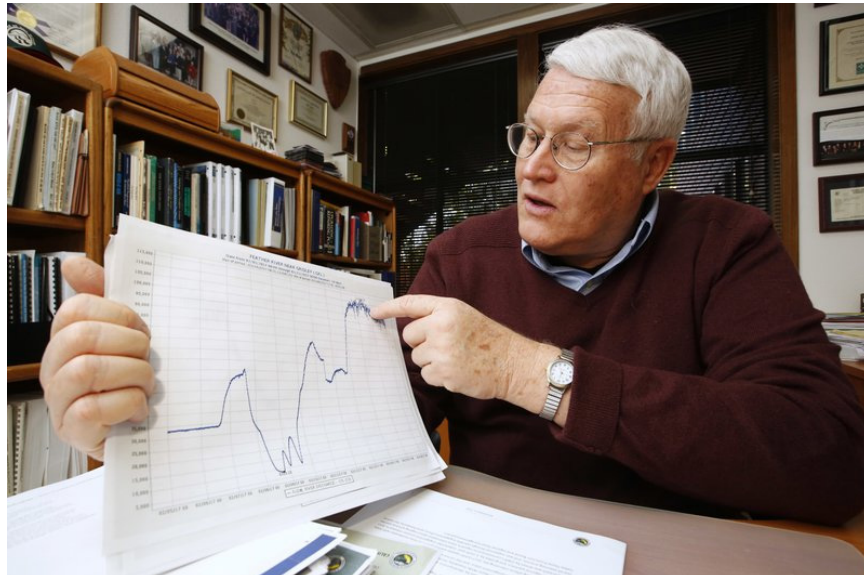
Water runs down the crippled spillway on Feb. 28, 2017. (AP Photo/Rich Pedroncelli, File)

Dam managers repeatedly assured the public there was "no imminent threat." Just 12 hours before water began running down the hillside on Feb. 11, they told Honea in an email that the water releases, though reduced, "will still keep the lake from spilling over the emergency ... spillway."

Not long after the water started going down that spillway, it began ripping away the hillside. That triggered the sheriff's evacuation order, which was quickly endorsed by the dam's managers, who said the emergency spillway could fail within an hour.

"They were futzing around with the main service spillway that had broken. They turned off the flow and were inspecting it and testing it," said Ron Stork, senior policy adviser with Friends of the River, an environmental group. "And all of the time the reservoir was filling."

"And then it [nearly] failed," Stork said of the emergency spillway. "And you know, they almost lost control."



Ron Stork, senior advisor with the Friends of the River conservation group, points to a chart showing water releases from the Oroville Dam, in his office in Sacramento, Calif. (AP Photo/Rich Pedroncelli)

It was the first time in the history of the 50-year-old dam that the emergency spillway was used, but not the first hint it might be inadequate.

"There's always been an understanding that, man, you don't want to use that emergency spillway, because when you do, it's going to be a mess," said Jerry Antonetti, a retired engineer who was a construction inspector for one of the dam's power plants when the dam was built in the 1960s.

Friends of the River and other environmental groups had argued as far back as 2005 that the earthen spillway needed to be reinforced with concrete. The Department of Water Resources and local water agencies said that was unnecessary.



In 2014, the Federal Energy Regulatory Commission not only affirmed the safety of both spillways but also said there was no point in studying or discussing the possibility that either could fail, state water officials told the AP.

Ultimately, the spillways broke apart while handling just a fraction of the water they were designed to carry.

As families from the Gold Rush-era towns below the dam fled their homes, Oroville Dam's managers finally ramped up water releases down the damaged main spillway, bringing the reservoir back down to safer levels. The main spillway kept eroding but handled the flow.



In this Feb. 13, 2017, file photo, Delores Dearte, right, and Merna Thompson, neighbors from the town of Gridley, Calif., rest at a shelter for evacuees in Chico, Calif. (AP Photo/Marcio Jose Sanchez, File)

Local officials downstream said the dam's operators failed to keep them fully informed as the emergency unfolded.

On Feb. 7, when word started spreading that a big hole had opened in the main spillway, Honea's dispatchers called state water officials to inquire, and were told that the state was doing only "routine maintenance inspections," according to the sheriff.

In an email a day before the evacuation, Mark Sorensen, the city administrator of the small town of Biggs, about 25 miles from the dam, told the state agency that the state "earned a grade of F on its ability to timely and completely communicate during this incident." State officials are expanding efforts to inform the public, but say there have been dozens of news briefings, updates and advisories.

Department of Water Resources officials said during the crisis that they were primarily worried that the hole in the main spillway would grow larger and take out power-line towers at the dam's hydroelectric plant.

After the evacuation, however, agency spokesman Ed Wilson said the main concern was that the hole could take out the release gates, too. That could lead to devastating flooding downstream.



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In this Feb. 13, 2017, file photo, a helicopter takes off with a bag filled with rock to be dropped in a hole on the lip of the dam's emergency spillway. (AP Photo/Rich Pedroncelli, File)

A federally ordered investigation is underway. In the meantime, the spillways will need hundreds of millions of dollars in repairs before the fall rainy season.

Rick Poeppelman, chief of the Army Corps' engineering division for the region, said his agency and the state water managers made the best decisions they could.

"It's kind of the hindsight thing," he said. "The expectation was that the emergency spillway was going to be able to pass."

On Wednesday, a group of U.S. House Democrats called on the auditing arm of Congress to review dam safety standards.

"The Oroville Dam failure did not come without warning," they said in a letter to the Government Accountability Office. The group that includes six House members from California said a changing climate raises risks for aging dams around the U.S.

Meanwhile, the environmental groups Wednesday renewed their request with federal regulators that the earthen, backup spillway be armored with concrete. They also urged more transparency and communication from the government.



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