



Oroville Dam, ICOLD President intervenes on the radio

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Aerial View of the Oroville Dam (photo by California Department of Water Resources)

There is now a rush to repair the spillways at the [Oroville Dam in Northern California](#) and lower the water level in Lake Oroville before rain arrives again. It is feared that damage to an emergency spillway could dump large amounts of water into the Feather River, which runs through downtown Oroville. This fear led to the evacuation of nearly 200 000 people living under the lake. The main dam (235m high) was never in danger and remains safe. The Oroville Dam issue started with an unexplained structural failure of a lower part of the 3000-foot-long gated service spillway.

The owner, The State of California Department of Water Resources ([DWR](#)), reduced flows down the service spillway that allowed the reservoir to surcharge to the 100% full level. This allowed excess flows over the ungated emergency spillway, which had never been used since the dam was put into service more than 50 years ago, in 1968.

On February 11, water flowing over the emergency spillway discharged down an unlined hillside area, which unexpectedly started to erode very deeply, head-cutting its way back up towards the concrete spillway weir.

Once this unexpected situation was identified, DWR re-opened the service spillway gates fully and accepted continued loss of the lower concrete portion of the service spillway in order to quickly lower the reservoir level below the crest of the emergency spillway. The DWR also initiated its emergency action plan when the unexpected scour was observed at the emergency spillway just in case that section failed. Almost 200,000 persons have been reported to have evacuated the downstream areas.

It should be noted that the main 235 meter high dam was never in danger and remains safe.

At this time, the DWR is continuing to lower the reservoir as much as possible through the service spillway in order to make room for rain storms expected later this week.

Bill Croyle, the acting director of the state Department of Water Resources, described the situation at Oroville as "unprecedented".

"I'm not sure anything went wrong," he said in a news conference on February 12. "This was a new, never-happened-before event."

ICOLD President Anton Schleiss gave an interview on February 14th to the Swiss Radio RTS on the situation of dams of Oroville and Mossul. You can listen to it [here](#).

Oroville Dam has been designed and is owned by the California Department of Water Resources. It is 235m high and 21,089m long. It's a rock fill Earth Dam, with a reservoir Capacity of 4 366 526 000 cubic meter. Oroville Dam has a gated spillway and has rock foundations. All these data are available in [ICOLD World Register](#).

Others sources with Photos

at vox.com: a good explanation of the problem and current situation at Oroville Dam.

<http://www.vox.com/science-and-health/2017/2/13/14598042/oroville-dam-flood-evacuation>

OROVILLE DAM

FEBRUARY 2017

Oroville Dam normal operations

1. When the lake is full, extra water flows down the concrete spillway to get to the river below.
2. The emergency spillway, which has a 30' high concrete wall at the top of the hill, isn't normally used.



2/7/2017: Main spillway fails

Cater appears in main spillway. To avoid increasing the damage to the spillway, water releases are slowed, allowing the lake to rise.



2/11/2017: Emergency spillway used

Water flows over the emergency spillway, causing erosion and damage. This is by design and prevents water from going over the top of the main dam. However, the ground erodes faster than expected.



2/13/2017: Repairs made

Rocks are placed under the emergency spillway's 30' wall to repair erosion damage. The rate of water released into the main spillway is increased to lower the lake in preparation for rain on the 15th.



Potential risks

While the main 720' dam is not threatened, if the ground underneath the emergency spillway's 30' wall is eroded away, the wall could collapse, releasing water. The main spillway could also erode up to the gates, causing it to fail.

