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Update on the Oroville Dam

Thursday, May 11, 2017

State Water Project Background and Financing

Oroville Dam, which is owned and operated by the California Department of Water Resources (DWR), is part of the California State Water Project (SWP). The SWP is the state-built water storage and delivery system that distributes water to two-thirds of California's population.

Lake Oroville is the SWP's largest storage facility with a capacity of approximately 3.5 million acre feet. One acre foot of water is about 326,000 gallons.

SWP facilities have been mostly financed by general obligation bonds and revenue bonds. Repayment of these funds as well as the operation, maintenance, power and replacement costs associated with water supply are paid by the 29 agencies and districts that have long-term contracts with DWR for SWP water delivery.

DWR releases and posts online an annual report titled "Management of the California State Water Project," which includes information about project costs and financing, water supply planning, power operations, and significant events that impact the SWP. The most recent report, released in July, 2016, includes information from the 2014 calendar year.

During that year, the SWP had just more than \$1 billion in revenues with nearly all of it from water contract payments. Its expenses were just more than \$1 billion, with about 67% directed toward project operation, maintenance, power, and replacement while 28% paid bond principal and interest, and 5% was deposited into reserves.

Oroville Oversight and Coordination

Several entities, in addition to DWR, have oversight responsibilities in the Oroville spillway recovery project. While some roles are required by state or federal law, others are specified by agreements. The following provides a breakdown of various Oroville oversight responsibilities.

Division of Safety of Dams (DSOD, state entity within DWR) oversees all dams within the jurisdiction of the state to:

- Review and approve designs.
- Oversee and approve construction.
- Make independent evaluations to ensure dam safety.

Federal Energy Regulatory Commission (federal) under its dam safety program (since Oroville has a hydroelectric facility) to:

- Review and approve designs.
- Oversee and approve construction.
- Review and comment on recovery work.

U.S. Army Corps of Engineers (federal) and DWR entered into an agreement for assistance to:

- Provide advice and support for spillway operations and short-term stabilization.
- Review and advise on design aspects.
- Provide direct support with equipment.

Board of Consultants (experts hired by DWR) is required under state law when modifying DWR-owned dams to:

- Provide an independent review and comment on repairs.

Forensic Team (experts) chosen in consultation with dam-industry groups to provide an independent review to:

- Determine the root cause of the spillway incident.
- Determine contributing causes of the incident.
- Incorporate potentially beneficial findings into the recovery plan.

Inspection Frequency and Records

According to DWR, the DSOD's practice is to inspect each dam within the jurisdiction of the state at least once a year. This timeframe is not required by statute, and is not always met.

In the 10 years prior to the Oroville incident, DSOD inspected the dam 15 times, with an average of slightly more than seven months between inspections. While some inspections were conducted just months apart, others occurred less than annually and the greatest gap between inspections was approximately 19 months. According to DWR, that gap between the middle of 2011 and the beginning of 2013 occurred due to scheduling conflicts and state furloughs.

While some Oroville inspections were completed in one day and focused on specific areas, nearly half of them were multi-day inspections, lasting between two and four days.

The following table shows when the dam was inspected and provides the approximate number of months between inspections:

DSOD's Inspections of Oroville Dam for the Past 10 Years

	Inspection Start Date	Months Between Inspections
1	1/14/2008	
2	5/6/2008	4
3	6/2/2009	13
4	8/25/2009	3
5	6/1/2010	9
6	2/2/2011	8
7	5/16/2011	3
8	1/8/2013	19
9	7/15/2013	6
10	4/10/2014	9
11	6/18/2014	2
12	8/11/2014	2
13	2/3/2015	6
14	7/20/2015	5
15	8/22/2016	13

Oversight Policy Questions

1. What is DWR's approach in coordinating oversight efforts to ensure they are meaningful and beneficial to the recovery?
2. Are the types and frequency of dam inspections appropriate?
3. When problems are found during dam inspections, how are they evaluated and who decides when urgent repairs are needed?
4. How does DWR plan for long-term capital expenses in the SWP?
5. What is the appropriate role of the Legislature in overseeing this recovery effort, dam safety, and the SWP?