

UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION

In the Matter of	)	January 16, 2018
	)	
State of California	)	
Department of Water Resources	)	Project No. 2100
	)	
“Oroville Facilities”	)	

**COMMENTS OF  
FRIENDS OF THE RIVER, SIERRA CLUB  
SOUTH YUBA RIVER CITIZENS LEAGUE,  
CALIFORNIA SPORTFISHING PROTECTION ALLIANCE,  
AND AMERICAN WHITEWATER**

**SUMMARY OF COMMENTS**

In a January 10, 2018, legislative oversight hearing at the California Capitol, representatives of the California Department of Water Resources (DWR) revealed their lack of confidence in the reliability of the power supply to the spillway radial gate hoists on Oroville Dam’s main spillway during the February 2017 Oroville Dam spillway incident. DWR representatives stated that, during the incident, they had believed that loss of the ordinary means of supplying power to these hoists (powerhouse/transmission-line power) would have left DWR unable to control the gates for “a few days.”

This statement of DWR’s representatives is at odds with the description of standby power for the radial gates in DWR’s Bulletin 200. Consistent with the Commission’s regulations (18CFR 4.51(g)(2)) requiring relicensing applicants to “demonstrate that existing structures are safe and adequate to fulfill their stated functions,” the Commission should ask DWR to describe why it now believes that independent standby power was not available during the February 2017 spillway incident and whether such deficiency continues to exist. The Commission should also require that DWR provide adequate standby power infrastructure for the radial gates.

## LICENSING BACKGROUND

Friends of the River (FOR), Sierra Club, and the South Yuba River Citizens League (SYRCL) are parties to the Oroville Dam relicensing proceeding.<sup>1</sup> In their intervention, FOR, Sierra Club, and SYRCL requested that the Commission address in relicensing or other expeditious proceeding the physical deficiencies at the Oroville Facilities, and in particular deficiencies in the infrastructure needed to conduct (when necessary) floodwater-management surcharge operations over the dam's emergency/auxiliary spillway. The California Sportfishing Protection Alliance (CSPA) is also an intervenor. CSPA's intervention supported FOR's arguments in relation to flood-related facilities modifications.<sup>2</sup> American Whitewater (AW) intervened as well, citing the FOR *et al.* intervention. In its intervention, AW recommended that the licensee respond to concerns relating to the ungated spillway at Oroville Dam and that the Commission analyze these concerns.<sup>3</sup>

The FOR *et al.* intervention described the damage that could result if the spillway hillside was used for a spillway discharge, including problems to transmission towers, power lines, and backwater conditions that would prevent operation of the Hyatt Powerhouse.

Based on geologic opinions from DWR, FERC's Division of Dam Safety and Inspections did not accept the concerns of FOR *et al.* as factual.<sup>4</sup> FERC's Office of Energy Projects (OEP) issued a Final EIS for the relicensing of the Oroville Facilities on May 27, 2007<sup>5</sup> that rejected the relevance of the matter in a licensing proceeding<sup>6</sup> and that apparently rejected the factual basis of these concerns.

In February 2017, both Oroville Dam complex spillways experienced significant damage, causing a major dam-safety incident that resulted in the evacuation of 188,000 residents in the Feather River Basin. Contrary to FERC's Division of Safety of Dam and Inspections and DWR's

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<sup>1</sup> Motion to Intervene of Friends of the River, Sierra Club, South Yuba River Citizen's League, Project No. 2100-052 (filed Oct. 17, 2005), eLibrary no. 20051017-5033 (FOR *et al.* Intervention).

<sup>2</sup> Comments and Motion to Intervene, Draft Environmental Impact for the Oroville Facilities (filed December 19, 2006), eLibrary no. 20061219-5001, p. 3. (CSPA Intervention)

<sup>3</sup> Motion to Intervene of American Rivers, American Whitewater and Chico Paddleheads (filed March 31, 2017), eLibrary no. 20060331-5090, p. 5 (AW Intervention).

<sup>4</sup> Memo from John Onderdonk, Senior Civil Engineer, San Francisco Regional Office, Division of Dam Safety and Inspections Emergency Spillway Safety Questions related to Intervention Motion, Proj. No. 2100, Letter to John Mudre, FERC Division of Hydropower Licensing, July 27, 2006. (Onderdonk Memo), eLibrary no. 20060801-0158. *Independent Forensics Team Report, Oroville Dam Spillway Incident*, January 5, 2018, Appendix C, Sections 3.13 & 3.14, pp. C-28–32. The Commission has ordered DWR to file a copy of the report with the Commission, along with any comments from DWR. That filing is expected shortly.

<sup>5</sup> Federal Energy Regulatory Commission *Final Environmental Impact Statement for the Oroville Facilities Project* Docket No. P-2100-052, May 18, 2007, eLibrary no. 20070518-4001. (FERC Oroville Facilities FEIS)

<sup>6</sup> *Id.* p. C-10, eLibrary no. 20070518-4001.

2005–06 representations, major hillside erosion occurred.<sup>7</sup> The incident gained worldwide attention.

In a letter to the Commission on April 19, 2017, FOR *et al.*, CSPA, and AW asked the Commission to clarify what decisions of concern to relicensing participants the Commission would make in the apparent Dam Safety reconstruction process and what decisions the Commission would make in the licensing process. This April 19, 2017 letter also asked the Commission to devise a transparent and expeditious process to make these decisions with involvement by an informed public.<sup>8</sup>

The Commission has not clarified these issues. The Commission has not issued a new Project license.

### **RADIAL GATE POWER SUPPLY**

According to DWR Bulletin 200,

The flood control outlet radial gates are operated by electric-motor-powered cable-drum hoists located on the hoist deck. The gates may be operated locally or remotely from the Oroville Area Control Center. Normal power for hoist operation is supplied through a buried distribution line from Edward Hyatt station service power system. Standby power is available locally in the form of a 55-kW generator operated by a liquid-propane-gas-fueled engine. Normal power supply is sufficient to operate all gates simultaneously.<sup>9</sup>

The California State Assembly conducted a joint informational hearing on the “Oroville Dam Update and Dam Safety Efforts” on January 10, 2018. During this hearing, DWR Deputy Director Joel Ledesma discussed concerns during the incident that potential erosion of the hillside might have threatened a transmission line tower near the broken main spillway.

That tower works backwards ... towards a transmission line for PG&E. So that line, if we had lost it at the time, would have lost power to the radial gates that were allowing us to release water, and it would have taken out the power for the power plant, which would have taken us months to rebuild that powerline.<sup>10</sup>

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<sup>7</sup> Appendix C of the *Independent Forensics Team Report, Oroville Dam Spillway Incident*, provides a detailed discussion on the history of the erroneous erosion-resistant hillside belief. Section 4.0, pp. C-38–40, the summary, provides a concise description of this appendix.

<sup>8</sup> FOR, Sierra Club, SYRCL, CSPA, and American Whitewater Request for Clarification and Public Process, Project 2100, April 19, 2017, eLibrary no. 20170419-5231 (FOR *et al.* Request for Clarification)

<sup>9</sup> *California State Water Project, Volume III Storage Facilities, Bulletin 200*, November 1974. State of California, the Resources Agency, Department of Water Resources, p. 100.

<https://www.documentcloud.org/documents/3532240-DWR-Bulletin-200-State-Water-Project.html>.

<sup>10</sup> The California State Assembly joint informational hearing, Oroville Dam and Dam Safety Efforts, a hearing of the California Assembly’s Accountability and Oversight and Water Parks and Wildlife

During the same hearing, DWR Deputy Director Cindy Messer noted the following:

At the same time, DWR needed to protect the powerlines, as Joel just described to us, that were installed on the hillside that was parallel to the main spillway, the same hillside that was eroding. Without these powerlines, as Joel pointed out, DWR would have temporarily lost not only its ability to operate the power plant but also the main gates at the top of the spillway, and this would have temporarily, could have been just a few days, but in the case of the power plant might have been months.<sup>11</sup>

It is difficult to reconcile Bulletin 200 and the testimony provided by DWR to the legislature on January 10. Perhaps standby power was also offline for some unrelated or incident-related reason. Perhaps the standby power was merely less adequate than the normal distribution feeds from the powerhouse—the meaningfulness of less adequate is speculative. Furthermore, we don't know if this matter was attended to during the 2017 reconstruction effort. Perhaps there was an error in testimony.<sup>12</sup>

The Independent Forensic Team Report<sup>13</sup> did not discuss the lack of an independent means to provide standby power to the Oroville Dam Flood Control Outlet radial gates. Neither to our knowledge was this information previously made available by DWR. This makes it difficult for us to meaningfully assess the nature of the physical facilities to provide power to the radial gates during the incident. The same would be true for the Commission if it relied completely on the Forensics Report to conduct a facility adequacy review.

From press accounts, we know that PG&E has relocated lines to make them less vulnerable to hillside erosion from Oroville Dam's main or emergency spillways.<sup>14</sup> The commenters here intervened in the recent FERC proceeding (Project # 2100-108) in support of relocation of DWR's transmission lines away from these spillways. However, the proceeding was so abbreviated that we know little about the consequences of the relocation other than what was contained in the following DWR letter to the Commission:

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Committees, January 10, 2018, time 36.50–37.20. <http://assembly.ca.gov/media/joint-hearing-accountability-administrative-review-water-parks-wildlife-20180110/video>.

<sup>11</sup> *Id.* Time 41.20–41.48.

<sup>12</sup> Mistakes in recollection can occur. Ronald Stork, one of the commenters here and without access to the reference documents during the hearing, offered concluding comments at the hearing on this subject. He recalled that the Army Corps of Engineers Reservoir Regulation Manual for Oroville described the backup power to the radial gates. Post-hearing review found that was not the case; he had misassigned the text of Bulletin 200 describing standby power to the reservoir regulation manual.

<sup>13</sup> Independent Forensics Team Report, January 2018. To the extent that the fear of complete loss of power to the radial affected DWR's assessment of the balances and risks that resulted in the use of the emergency/auxiliary spillway, the availability or non-availability of standby power should have been covered in the IFT Report. See section 2.1 p. 3.

<sup>14</sup> "PG&E to fly poles as it re-routes power lines near Oroville Dam Spillway," Gridley Herald, May 26, 2017, <http://www.gridleyherald.com/article/20170426/NEWS/170429740>.

As part of the Oroville Emergency Recovery – Spillways response effort covered by the federal major disaster declaration for California issued on April 2, 2017, DWR is permanently relocating approximately two miles of 230kV electrical transmission lines located near the Lake Oroville Flood Control Outlet spillway and the emergency spillway. The transmission lines are being relocated to avoid the potential for future damage to the transmission lines if water is released over the emergency spillway.

Due to record precipitation and inflows to Lake Oroville, continued use of the gated spillway was required following the February 7 event as erosion occurred from spillway use. This compromised two of the Oroville-Table Mountain 230kV Transmission Line Towers, critical components of the power conduit used by the Hyatt Powerplant to interconnect to the Bulk Electric System. DWR has determined that a permanent realignment of the transmission lines is essential to restore the reliability and capability to transmit high-voltage power to and from the Hyatt Powerplant. The new route will move the transmission line away from the main spillway and emergency spillway erosion zones and restore a permanently reliable route for power to and from the Oroville Facilities.<sup>15</sup>

While we appreciate the statement of intent, we can only speculate whether Oroville Dam’s radial gates hoist mechanism will remain at risk of losing its normal power supply if the powerhouse is shut down. Such a shutdown remains a real possibility if significant spillway outflows reach a hillside that has shown significant erosion potential. This lack of clarity suggests that neither DWR nor the Commission has sorted through the issues that we raised in our Request for Clarification and Public Process<sup>16</sup> or our Oroville Dam 2017 Spillway Incident Report.<sup>17</sup>

Independent backup power should be the standard of good engineering practice for key mechanisms of Commission-licensed dams—and especially of the tallest dam in the United States. Commission-licensed dams should conform to good engineering practice. Commenters and the public at large deserve to know with clarity whether there is standby power to operate the gates at Oroville Dam’s main spillway. The Commission should order clarification forthwith.

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<sup>15</sup> High Voltage Transmission Line Relocation, DWR letter to FERC, May 17, 2017, p. 1. eLibrary no. 20170517-5093.

<sup>16</sup> FOR, Sierra Club, SYRCL, CSPA, and American Whitewater Request for Clarification and Public Process, Project 2100, April 19, 2017, eLibrary no. 20170419-5231 (FOR et al. April 2017 request).

<sup>17</sup> See eLibrary no. 20171010-5246.

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## **CERTIFICATE OF SERVICE**

I hereby certify that I have e-filed this document in the Commission's e-library for Project 2100, and have this day served this document on each person designated on the official service list compiled by the Secretary in this proceeding, via e-mail or surface mail as directed on the service list.

Dated this 16<sup>th</sup> day, January 2018

/s/

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