

July 16, 2020
Staff Presentation
Item H-1

H-1: Safety of Water Power Projects and Project Works

Good morning, Mr. Chairman and Commissioners.

Today, the Commission is proposing important changes to its dam safety regulations, which are located in 18 CFR Part 12. While staff in the Commission's Division of Dam Safety and Inspections has periodically updated its Engineering Guidelines to reflect evolving dam safety practices, these regulations provide one of the cornerstones of the Commission's dam safety program: the Independent Consultant Inspection Program, commonly referred to as the Part 12D Program.

First, I will provide some background to explain the dam safety incident, and the resulting review, that precipitated the changes to the Commission's dam safety program that are proposed in today's Notice of Proposed Rulemaking.

Why are we here

In February 2017, a major incident at the Oroville Dam spillways resulted in extensive damage to its primary spillway and the first activation of its auxiliary spillway; the evacuation of approximately 180,000 people; and an extensive repair project, in both scope and speed, to ensure the safety of the highest dam in the United States.

Within days of this incident, the Commission ordered the owner of Oroville Dam, the California Department of Water Resources, to convene an Independent Forensic Team to evaluate what factors contributed to the Oroville spillway incident. At the same time, the Commission convened an After-Action Review Panel to scrutinize the incident and the Commission's own Dam Safety Program, and to suggest potential changes to our program that might have improved our ability to detect the underlying problems at Oroville in advance. The reports on both of these initiatives, which are available through the Commission's website, offered recommendations to improve the Commission's dam safety program policies and practices.

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Shortly after the Oroville reports were published, the Division of Dam Safety and Inspections convened an internal team to review the findings and conclusions of these reports, other previous incidents, and the practices of other agencies with dam safety responsibilities, including the Army Corps of Engineers and the Bureau of Reclamation. The team was tasked with proposing any specific changes they thought were necessary and appropriate to address the recommendations and improve our dam safety program. The team has done a tremendous amount of work to develop these proposed changes to our Part 12D Program and continues to work to develop training for our staff and regulated industry.

We recognize the substantial hardship and economic damage caused by the recent failures of Edenville and Sanford Dams in Michigan. However, the changes we are proposing today have been in development for nearly two years as a direct response to the Oroville spillway incident, and were substantially complete before the Michigan dam failures. A forensic investigation is being undertaken to understand the root causes of the Michigan dam failures. Commission staff will review any findings and recommendations when that investigation is complete.

What are we doing

Now, I will briefly outline the proposed changes to the Commission's dam safety program that are described further in today's Notice of Proposed Rulemaking. I note that these changes will not affect Commission staff's safety inspections of all regulated projects.

First, we propose to adopt a two-tier independent consultant inspection cycle. Projects would still be subject to a Part 12D Inspection every five years, but the required scope of the inspection would alternate between a Periodic Inspection and a Comprehensive Assessment. A Periodic Inspection would focus on the performance of the project over the previous five years, and would include a field inspection, a review of project

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operations, an in-depth review of monitoring data trends and behavior, and an evaluation of whether any potential failure modes are occurring. A Comprehensive Assessment builds on a Periodic Inspection with a deep dive into every aspect of a project, including a detailed review of the design basis, analyses of record, and construction history; an evaluation of spillway adequacy; a Potential Failure Modes Analysis; and a Risk Analysis.

Second, we propose to revise how we review and evaluate who performs Part 12D Inspections. Instead of focusing on the individual Independent Consultant, we would focus on the qualifications of the Independent Consultant Team. Our goal is to ensure that each project is inspected by an independent consultant or an independent consultant team with sufficient experience and expertise for each project's site-specific conditions.

Third, we propose to codify an existing requirement that owners of high and significant hazard dams prepare and maintain an Owner's Dam Safety Program, which formalizes a licensee's policies and procedures related to organizational oversight and responsibility, internal communication, resource allocation, and continuous improvement. This requirement, established in 2012, has succeeded in raising dam safety awareness by licensees and exemptees across the country. A proactive, conscientious licensee is the first line of defense against potential dam safety issues.

Finally, concurrent with the issuance of this Notice of Proposed Rulemaking, the Commission is issuing for public comment four draft chapters of Engineering Guidelines that relate to the proposed changes to the Commission's regulations.

Closing statement

We believe that the proposed changes to our dam safety regulations are necessary and, once implemented along with the new chapters of the Engineering Guidelines, will significantly improve our dam safety program. We will never be able to prevent every

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dam safety incident and failure, but these changes will increase the likelihood that we can identify design and operational deficiencies before they progress to major incidents or failures.

We appreciate the Chairman's and the Commissioners' consideration of this important revision to the Commission's dam safety policies and procedures. This concludes our presentation. We are happy to answer any questions you may have.