



NHA Summary of the Federal Energy Commission's (FERC) Safety of Water Power Projects and Project Works Final Rule Issued December 16,2021

FERC Rule: 18 CFR Part 12, Safety of Water Power Projects and Project Works, Docket No. RM20-9-000; Order No. 880

FERC issued a Notice of Proposed Rulemaking (NOPR) to 18 CFR Part 12, along with the release of Chapters 15 – 18 of the Engineering Guidelines on July 16, 2020. NHA filed comments on the NOPR and Chapters 15 – 18 of the Engineering Guidelines in September of 2020. The updates to the regulations and the new additions to the Engineering Guidelines reflect suggested alternative practices as a result of past dam safety incidents and the procedures of agencies such as the U.S. Army Corps of Engineers and the Bureau of Reclamation. The final rule will take effect 90 days after publication in the *Federal Register*. Key revisions to the rule are provided below.

18 CFR Part 12 Final Rule released December 16, 2021:

[18 CFR Part 12\[Docket No. RM20-9-000; Order No. 880\] Safety of Water Power Projects and Project Works](#)

Final Engineering Guidelines for the Evaluation of Hydropower Projects released December 16, 2021:

[Chapter 15- Supporting Technical Information Document and Digital Project Archive under AD20-20-000](#)

[Chapter 16- Part 12D Program under AD20-21-000](#)

[Chapter 17- Potential Failure Mode Analysis under AD20-22-000](#)

[Chapter 18- Level 2 Risk Analysis under AD20-23-000](#)

Subpart A – General Provisions

New conditions affecting project safety include: misoperation; failure to operate facilities that control release or storage of water flow; internal erosion; foundation settlement; security incidents; and overtopping a dam, abutment, or water conveyance.

The rule clarifies that failure to comply with a directive issued under part 12 by the Commission, Regional Engineer or authorized representative may result in a cease generation order, penalties or revoking of a project's license.

Subpart B – Reports and Records

Mandatory applicant or licensee reports about conditions affecting project safety can now be made by email, as well as orally, preferably within 72 hours after discovery. Reporting should not interfere with emergency responses. A written report on the safety condition must be filed with the Regional Engineer. The Rule does not set a deadline for filing the written report.

The rule clarifies project-related incidents as those that take place at project works or involve project operations.

Subpart E – Other Responsibilities of Applicant and Licensee

In addition to existing requirements, licensees “must install, operate, and maintain warning and safety devices to protect the public.” Current guidance will be codified allowing the Commission to potentially “require a licensee to submit a public safety plan that documents the installation, operation and maintenance of public safety devices.”

Subpart D – Review, Inspection, and Assessment by Independent Consultant

Applicability

Like the existing regulation, Subpart D applies to any licensed project development that has a dam more than 32.8 feet above a streambed; an impoundment gross storage capacity of more than 2,000 acre-feet; or designated by a FERC official. The rule now includes project works having a dam or water conveyance, such as a canal, that has a high hazard potential (risk of loss of human life).

Independent Consultants (IC) & Independent Consultant Teams (IC Team)

The rule defines parameters surrounding the IC and the IC Team. The IC is defined as a professional engineer who: has at least 10 years of experience in dam design and construction and in the investigation of the safety of existing dams; is not an employee of the licensee or its affiliates has not been an employee of the licensee or its affiliates within two years prior to performing engineering and/or scientific services for an inspection or assessment under this subpart; and has not been an agent acting on behalf of the licensee or its affiliates, prior to performing engineering and/or scientific services for an inspection or assessment under this subpart.

An independent consultant team is considered as having one or more ICs and additional engineering and scientific personnel, as needed, to ensure the team has the expertise necessary (relative to the project’s scale, complexity and relevant technical disciplines) to sufficiently review the project. A comprehensive assessment requires a higher degree of expertise than the periodic inspection.

Additional parameters surrounding the IC team, including:

Professional Licensure: The IC responsible for signing and sealing the inspection report is to be a licensed professional engineer, licensed in the state in which the project is located.

Dam Design and Construction Experience: Lead IC must have a minimum of ten years’ experience in dam design and construction in the evaluation of dams.

Relationship with Licensee: The professional relationship between an IC or IC Team members and licensee is broken down into three requirements.

- A current employee of the licensee or its affiliates cannot serve as an IC or IC Team member.
- A person who was an employee of licensee or its affiliates within the previous two years cannot serve as an IC or IC Team member.
- A person taking part in a periodic inspection or comprehensive assessment cannot have been an agent acting on behalf of the licensee or its affiliates for a period of time prior to the inspection to ensure that an IC or IC Team member is not reviewing work they contributed to substantially. It is possible that an IC team member may be able to take part in a periodic assessment after taking part in the comprehensive assessment of a project but

will not be able to take part in the next comprehensive assessment. Further explanation is included within Part 12D. These restrictions may also apply to the consulting firm.

A licensee is to submit a detailed independent consultant team proposal within the part 12D inspection plan at least 180 days prior to a periodic inspection, comprehensive assessment, risk assessment or potential failure mode analysis, whichever comes first. The Director of D2SI has the authority to disapprove an independent consultant team member.

Exemption

The Director of D2SI will retain the authority to exempt projects from subpart D with good cause. The Director may rescind any exemption from the rule and may also require a comprehensive assessment be completed prior to considering a subsequent request for exemption from the license. According to Subpart D, a blanket waiver from a comprehensive assessment will not be considered unless a comprehensive assessment has already been conducted to provide an understanding of the project.

Two Tier Part 12 Inspection Approach

The final rule designates a complete replacement of the consultant's inspection under Order 122 inspection scope. A comprehensive assessment and periodic inspection are to take place at a project development within a ten-year period with no more than a five-year interval between the two reviews. The periodic inspection comprises a reduced scope in comparison to the previous independent consultant's inspection under Order 122 and the comprehensive assessment. The comprehensive assessment involves an increased scope in comparison to the previous independent consultant's inspection under Order 122 and periodic inspection.

A periodic inspection or comprehensive assessment must be completed, and the report filed, within five years of the due date of the previous Part 12D Report. The D2SI Regional Engineer has the authority to require the next Part 12 inspection report be either a comprehensive assessment or periodic inspection. The first comprehensive assessment under the subpart must be completed, and the report filed, by December 31, 2038.

Periodic Inspection

The periodic inspection is a performance focused evaluation with a scope encompassing: review of prior reports; detailed review of the supporting technical information document; a physical field inspection; review of surveillance and monitoring plan and data; evaluation of project performance with respect to PFMs; and review of the dam safety program, hazard potential, emergency action plan (if subject to Subpart C) and public safety programs.

Subsequent reports can no longer incorporate project information or analysis contained in an initial report by reference only. The subsequent report must include the referenced language.

Comprehensive Assessment

A comprehensive assessment is an in-depth evaluation of a project with a scope encompassing: review of prior reports and analyses of record; detailed review of the supporting technical information document, physical field inspection; review of surveillance and monitoring plan and data; evaluation of project performance with respect to PFMs; review of the dam safety program, hazard potential,

emergency action plan (if subject to Subpart C) and public safety programs; potential failure mode analysis; and risk analysis.

The comprehensive assessment expands on current requirements for evaluating spillway adequacy. Additional requirements include, potential for misoperation, failure to operate, blockage, debilitating damage to the spillway and impacts maximum reservoir level and potential for overtopping. The final rule grants the D2SI Regional Engineer the authority to waive the risk analysis requirement.

Additionally, the final rule removes provisions allowing independent consultants the ability to reference prior reports and only documenting new observations since the last report.

The rule codifies an analysis of record must be evaluated for accuracy with current dam safety engineering practices. If the independent consultant team is unable to review or disagrees with an analysis of record, the team is required to recommend a new analysis be conducted.

Corrective Measures

In cases where the independent consultant finds that corrective action is needed, the licensee must submit a plan and schedule addressing the recommendations of the independent consultant within 60 days of filing the periodic inspection or comprehensive report. The plan and schedule may include an alternative corrective measure or taking no action on a recommended corrective action but must include a complete justification.

Emergency corrective measures are to be immediately reported to the licensee with the licensee then notifying the Regional Engineer. Emergency corrective measures must be included the within the corrective plan and schedule.

Owner's Dam Safety Program

The final rule requires any licensee of a dam or project feature with a high or significant hazard potential to submit an Owner's Dam Safety Program, designating a Chief Dam Safety Engineer or a Chief Dam Safety Coordinator. Specifically, a Chief Dam Safety Engineer must be a licensed professional engineer. The owner may choose to bring on an outside party to serve as the Chief Dam Safety Engineer or Chief Dam Safety Coordinator. However, the Owner still remains ultimately responsible for their project(s). The Owner's Dam Safety Program is to include at a minimum: dam safety policy, objectives, and expectations; responsibilities for dam safety; dam safety training program; communication, coordination, reporting, and reports; record keeping and databases; continuous improvement; and other information as further described by the Guidelines.

The rule requires dam safety personnel and senior management to review the program annually with any findings, corrective actions or revisions reported to the D2SI Regional Engineer. In addition, the Owner's Dam Safety Program is to be audited and reviewed at a minimum of every five years for all high hazard potential dams or other projects. This review is separate and apart from the review conducted as part of a comprehensive assessment or periodic inspection.