

**DEPARTMENT OF ENERGY****Federal Energy Regulatory Commission****18 CFR Part 12****[Docket No. RM20–9–000]****Safety of Water Power Projects and Project Works****AGENCY:** Federal Energy Regulatory Commission.**ACTION:** Notice of proposed rulemaking.

**SUMMARY:** The Commission is proposing to amend its regulations governing the safety of hydropower projects licensed by the Commission under the Federal Power Act. These regulations are intended to promote the safe operation, effective maintenance, and efficient repair of licensed hydropower projects and project works to ensure the protection of life, health, and property in surrounding communities. Specifically, the Commission proposes to revise its regulations to: Incorporate two tiers of project safety inspections by independent consultants, codify existing guidance requiring certain licensees to develop an owner's dam safety program and a public safety plan, update existing regulations related to public safety incident reporting, and make various minor revisions.

**DATES:** Comments are due September 22, 2020.

**ADDRESSES:** You may send comments, identified by RM20–9–000, by either of the following methods:

- **Agency Website:** Electronic Filing through <http://www.ferc.gov>. Documents created electronically using word processing software should be filed in native applications or print-to-PDF format and not in a scanned format.
- **Mail:** Those unable to file electronically may mail comments to: Federal Energy Regulatory Commission, Secretary of the Commission, 888 First Street NE, Washington, DC 20426. Hand-delivered comments should be delivered to Health and Human Services, 12225 Wilkins Avenue, Rockville, Maryland 20852.

**Instructions:** For detailed instructions on submitting comments and additional information on the rulemaking process, see the Comment Procedures section of this document.

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1. The Federal Energy Regulatory Commission (Commission or FERC), under Part I of the Federal Power Act (FPA), licenses hydropower projects that are developed by non-Federal entities including individuals, private entities, states, municipalities, electric cooperatives, and others. Under section 10(c) of the FPA, the licensee of any hydropower project under the jurisdiction of the Commission must conform to “such rules and regulations as the Commission may from time to time prescribe for the protection of life, health, and property.”<sup>1</sup>

2. Since early 2017, the Commission has solicited, received, and reviewed expert opinions on the structure and implementation of the Commission's dam safety program, particularly the provisions for independent consultants' safety inspections required under part 12, subpart D of the Commission's regulations.<sup>2</sup> These independent consultant safety inspections, commonly referred to as part 12 inspections, are facilitated by licensees and are in addition to the dam safety inspections conducted by Commission staff.

3. To address expert recommendations on the part 12 inspection process, and to codify guidance issued by the Commission's

Office of Energy Projects, Division of Dam Safety and Inspections (D2SI) over the past several years, the Commission proposes to revise its rules in Title 18, part 12 of the Code of Federal Regulations. Under this proposal to revise the Commission's part 12 regulations, the entirety of subpart D will be replaced, a new subpart F will be added, and minor revisions will be made to subparts A, B, C, and E.

**I. Background**

4. Section 10(c) of the FPA requires licensees, in pertinent part, to “maintain the project works in a condition of repair adequate . . . for the efficient operation of said works in the development and transmission of power,” to “make all necessary renewals and replacements,” and to “conform to such rules and regulations as the Commission may from time to time prescribe for the protection of life, health, and property.”<sup>3</sup>

5. Pursuant to FPA section 10(c), on December 27, 1965, the Commission's predecessor agency, the Federal Power Commission (FPC), in Order No. 315, promulgated regulations that require licensees to provide complete safety inspections of licensed water power project works by independent consultants at five-year intervals, or more frequently if necessary.<sup>4</sup> Order No. 315 was intended to supplement D2SI staff's inspections of project works with detailed periodic inspections overseen by an independent consultant.<sup>5</sup>

6. On January 21, 1981, the Commission issued Order No. 122 to consolidate the Commission's orders, regulations, and practices relating to project safety under part 12 of the Commission's rules and to revise the existing project safety inspection regulations.<sup>6</sup> The Commission's rules related to independent consultant safety inspections have not been substantially revised or amended since 1981.

7. To ensure that the Commission's dam safety program remains current with the evolving nature of the dam safety field, D2SI staff issues, and periodically updates, *Engineering Guidelines for the Evaluation of Hydropower Projects* (Engineering Guidelines).<sup>7</sup> D2SI staff has also

<sup>3</sup> 18 U.S.C. 803(c).

<sup>4</sup> *Hydroelectric Licensed Projects—Inspections to Insure Safe Operation*, Order No. 315, 34 FPC 1551 (1965).

<sup>5</sup> *Id.*

<sup>6</sup> *Water Power Projects and Project Works Safety*, Order No. 122, FERC Stats. & Regs. ¶ 30,225 (1981) (cross-referenced at 14 FERC ¶ 61,041).

<sup>7</sup> D2SI's Engineering Guidelines are available on the Commission's website at <https://www.ferc.gov/industries-data/hydropower/dam-safety-and->

<sup>1</sup> 16 U.S.C. 803(c).

<sup>2</sup> 18 CFR part 12.

augmented the part 12 inspection process over the years by adding additional inspection components (*e.g.*, the Potential Failure Mode Analysis, the Supporting Technical Information Document, and the Dam Safety Surveillance and Monitoring Program and Report).

8. In June 2002, D2SI began a licensee pilot program for conducting a Potential Failure Mode Analysis<sup>8</sup> as a component of a part 12 inspection and issued for comment a draft Chapter 14 of the Engineering Guidelines, which would guide licensees in performing this type of dam safety analysis. In April 2003, D2SI issued a final Chapter 14 of the Engineering Guidelines and required a Potential Failure Mode Analysis to be performed during all part 12 inspections. Consistent with this requirement, licensees have conducted over a thousand Potential Failure Mode Analyses. The Commission proposes to codify the Potential Failure Mode Analysis as part of the scope of a part 12 inspection, specifically during a comprehensive assessment and typically at a ten-year interval.

9. On December 14, 2005, the upper reservoir of the Taum Sauk Hydroelectric Project No. 2277, a pumped storage project, was overtopped during the final pumping cycle, causing a breach of the upper reservoir which released over 1 billion gallons of water, resulting in personal injury and significant environmental and property damage.<sup>9</sup> Following the December 2005 failure of Taum Sauk Dam, D2SI began requiring licensees to develop and maintain an Owner's Dam Safety Program, with the goal of ensuring that licensees have a robust and focused dam safety program to protect public safety, the environment, and project facilities. In August 2012, D2SI staff required all owners of high and significant hazard potential dams<sup>10</sup> to submit an Owner's

*inspections/engineering-guidelines-evaluation-hydropower.*

<sup>8</sup> A Potential Failure Mode Analysis is a method to evaluate the various ways a dam and its components could possibly fail. Generally, this involves identifying possible failure scenarios and evaluating those factors that could make the failure mode scenario more or less likely to occur. Finally, the significance of each potential failure mode is determined and a prioritized plan to address the most significant potential failure modes is developed.

<sup>9</sup> More information about the Taum Sauk Dam Breach Incident can be found on the Commission's website at <https://www.ferc.gov/industries-data/hydropower/dam-safety-and-inspections/taum-sauk-pumped-storage-project-p-2277-dam>.

<sup>10</sup> Hazard potential is a classification based on the potential consequences in the event of failure or misoperation of the dam, canal, or water conveyance, and is subdivided into categories (*e.g.*, Low, Significant, High). High hazard potential generally indicates that failure or misoperation of

Dam Safety Program.<sup>11</sup> The Commission proposes to codify this requirement by adding a new subpart F to the Commission's part 12 regulations.

10. On February 7, 2017, high flows in the Feather River basin caused the water level in the Feather River Hydroelectric Project No. 2100 reservoir to rise at Oroville Dam and, for the first time in project history, flow down the emergency spillway, resulting in extensive erosion and damage to Oroville Dam's main spillway and emergency spillway area.<sup>12</sup> This event precipitated the evacuation of nearly 188,000 residents from the town of Oroville and from other downstream communities north of Sacramento, California. Following the February 2017 Oroville Dam spillway incident, the Commission required the project licensee, California Department of Water Resources (CA DWR), to convene a team of independent, third-party consultants to complete a forensic analysis to determine the cause of the incident.<sup>13</sup> The Oroville Independent Forensic Team Report documented the team's findings, conclusions, and recommendations.<sup>14</sup> Several of the Oroville Independent Forensic Team's observations related to potential areas for improvement in the Commission's dam safety program, particularly the part 12 inspection process.

11. Separately, the Commission convened a FERC After Action Panel to review and evaluate the Commission's dam safety program in the months following the Oroville Dam spillway incident. The D2SI Director's mandate to the FERC After Action Panel was to: "Review project documents and history for Oroville Dam . . . ;" "review the performance of the FERC dam safety

the project feature will probably cause loss of human life. Significant hazard potential and low hazard potential generally indicate that failure or misoperation will probably not cause loss of human life but may have some amount of economic, environmental, or other consequences. Hazard classifications are based solely on the consequences of dam failure and do not in any way reflect the condition of the rated dams.

<sup>11</sup> See Commission staff's August 15, 2012 letter to owners of high and significant hazard potential dams, <https://www.ferc.gov/sites/default/files/2020-04/letter-submit-odsp.pdf>.

<sup>12</sup> More information about the Oroville Dam Spillway Incident can be found on the Commission's website at <https://www.ferc.gov/industries-data/hydropower/dam-safety-and-inspections/oroville-dam-service-spillway-p-2100>.

<sup>13</sup> See Commission staff's letter to CA DWR regarding the emergency repair and board of consultants for Oroville Dam spillway, Project No. 2100 (Feb. 13, 2017), <https://www.ferc.gov/sites/default/files/2020-04/OrovilleDam.pdf>.

<sup>14</sup> Independent Forensic Team Report, Oroville Dam Spillway Incident (Jan. 5, 2018), <https://damsafety.org/sites/default/files/files/Independent%20Forensic%20Team%20Report%20Final%2001-05-18.pdf>.

program at the Oroville Dam Project, which includes both work and actions by FERC staff, and the program requirements on the dam owner, such as the [part 12 process, the [Potential Failure Mode Analyses] process, the Instrumentation and Monitoring Program, and Owners Dam Safety Program . . . ;" "make conclusions regarding any shortcomings in the FERC dam safety program implementation at Oroville Dam;" and if shortcomings are identified, recommend "improvement or changes to the FERC dam safety program to ensure that future incidents like Oroville can be avoided."<sup>15</sup>

12. The FERC After Action Panel Report documented several shortcomings of the Commission's dam safety program with respect to its implementation at the Oroville Dam Project, and provided several recommendations for improvements to the part 12 inspection process that could increase the likelihood that design and operational deficiencies are detected in advance of a major incident.

13. In light of the Oroville Independent Forensic Team Report and the FERC After Action Panel Report findings, the desire to codify existing dam safety guidance, and the Commission's authority under FPA section 10(c) to promulgate rules protecting life, health, and property, the Commission proposes to revise its part 12 regulations as discussed further below.<sup>16</sup>

## II. Discussion

14. In evaluating potential revisions to its part 12 regulations, the Commission considered the findings of the Oroville Independent Forensic Team and FERC After Action Panel; reviewed the inspection practices of other Federal agencies responsible for ensuring the safety of a large number of dams, including those of the Bureau of Reclamation (Reclamation)<sup>17</sup> and the US Army Corps of Engineers (Army

<sup>15</sup> See FERC After Action Panel Assessment of Oroville Spillway Incident Causes and Recommendations to Improve Effectiveness of the FERC Dam Safety Program (Nov. 23, 2018), <https://www.ferc.gov/sites/default/files/2020-04/report-damsafety.pdf>.

<sup>16</sup> Recently, the failures of the Edenville and Sanford Dams in Michigan have resulted in substantial hardship and economic damage. A forensic investigation is being undertaken to understand the root causes of those failures. This proposed rule was substantially complete prior to the Michigan dam failures and is not intended to address any findings or recommendations that may result from the forensic investigation. The Commission will review the findings once the investigation is complete.

<sup>17</sup> Reclamation, Review/Examination Program for High and Significant Hazard Dams (Sept. 2018), <https://www.usbr.gov/recman/fac/fac01-07.pdf>.

Corps);<sup>18</sup> and reviewed the Federal Emergency Management Agency's (FEMA) *Federal Guidelines for Dam Safety*.<sup>19</sup>

15. First, the Commission proposes to implement two tiers of part 12 inspections, in addition to staff's regular inspections. The two-tier structure would include two types of inspections: A comprehensive assessment and a periodic inspection. Each type of inspection would be performed at a ten-year interval, with the periodic inspection occurring midway between comprehensive assessments. The proposed structure would maintain the current five-year interval between part 12 inspections (alternating between a comprehensive assessment and a periodic inspection) and would mirror FEMA's recommendation that formal inspections be conducted at an interval not to exceed five years.<sup>20</sup> The proposed alternating two-tier structure is similar to those used by Reclamation and Army Corps. Because the existing five-year interval between part 12 inspections remains the same, the proposed regulations will not increase the likelihood that undiscovered safety issues will persist for longer periods of time between inspections. The comprehensive assessment would require a more in-depth review than the current part 12 inspection, would formally incorporate the existing potential failure modes analysis (PFMA) process, and would require a semi-quantitative risk analysis, as recommended by the Oroville Independent Forensic Team and FERC After Action Panel. The periodic inspection would have a narrower scope than the current part 12 inspection and focus primarily on the performance of project works between comprehensive assessments.

16. Second, the Commission proposes to change the process by which D2SI reviews and evaluates the qualifications of independent consultants that conduct part 12 inspections. Currently, § 12.34 of the Commission's regulations require the licensee to submit to the Director of D2SI for approval a resume describing the independent consultant's experience.<sup>21</sup> FEMA recommends that "the inspection team should be chosen on a site-specific basis considering the

nature and type of dam . . . [and] should comprise individuals having appropriate specialized knowledge in structural, mechanical, electrical, hydraulic, and embankment design; geology; concrete materials; and construction procedures."<sup>22</sup>

17. The proposed process would require the licensee to submit to the Director of D2SI an independent consultant team proposal, comprising one or more independent consultants and additional engineering or scientific personnel, as needed, which must demonstrate that the members of that team possess an appropriate level of expertise for the specific project under consideration. This proposed change reflects the reality that, for many of the hydropower projects under the Commission's jurisdiction, a single independent consultant will not possess the appropriate degree and diversity of technical proficiency necessary to evaluate all aspects of the project. The current requirement that an independent consultant be a licensed professional engineer with a minimum of ten years' experience in "dam design and construction and in the investigation of the safety of existing dams" would remain.<sup>23</sup> However, as proposed, this requirement would apply only to the designated independent consultants, and not to other supporting members of the independent consultant team.

18. Third, the Commission proposes to codify existing guidance related to the Owner's Dam Safety Program. Currently, the Commission's part 12 regulations do not explicitly require a licensee to develop an Owner's Dam Safety Program. However, pursuant to 18 CFR 12.4(b)(2)(ii)(B), the Commission has the authority to require licensees to submit reports or information on any condition affecting the safety of the project. Since the initial request for an Owner's Dam Safety Program in August 2012,<sup>24</sup> approximately 250 have been developed by licensees and submitted to the Commission. This Notice of Proposed Rulemaking (NOPR) proposes to codify the requirement that licensees of one or more high or significant hazard potential dams<sup>25</sup> must prepare, maintain, file with the Commission, and periodically review and update an Owner's Dam Safety Program. Licensees would be required to designate a person responsible for overseeing day-to-day

implementation of the dam safety program.

19. The Commission also proposes to update its regulations related to public safety at or near hydropower projects. Currently, licensees are required to install and maintain public safety devices and to report deaths or serious injuries at their projects.<sup>26</sup> The NOPR proposes to revise the definition of a "project-related" incident to clarify that licensees are required to report those public safety incidents that are related to the operation of hydropower projects; to report rescues in addition to deaths and serious injuries; and to prepare, maintain, and submit a public safety plan to D2SI, which is the current practice required by existing D2SI guidance.

20. Finally, the Commission plans to update the Engineering Guidelines by adding new Chapters 15 through 18. Concurrently with the issuance of this NOPR, the Commission will solicit public review and comment on these guidelines, which will be issued in draft format in four separate advisory dockets accessible on the Commission's eLibrary website. Chapter 15, available for review and comment in Docket No. AD20-20-000, will provide licensee guidance for developing and maintaining a Supporting Technical Information Document.<sup>27</sup> Chapter 16, available for review and comment in Docket No. AD20-21-000, will provide licensee guidance on the scope of the part 12D independent consultant inspection program. Chapter 17, available for review and comment in Docket No. AD20-22-000, will provide licensee guidance for conducting a Potential Failure Mode Analysis. Chapter 18, available for review and comment in Docket No. AD20-23-000, will provide licensee guidance for conducting a Level 2 Risk Analysis. Comments on draft Chapters 15 through 18 of the Engineering Guidelines should be filed in the corresponding docket numbers listed above.

#### *A. Review, Inspection, and Assessment by Independent Consultants*

21. In response to the findings and recommendations in the Oroville Independent Forensic Team Report and FERC After Action Panel Report, the Commission is proposing to revise its regulations under 18 CFR part 12,

<sup>26</sup> See 18 CFR 12.10(b) (death or serious injury reporting) and 12.42 (warning and safety devices).

<sup>27</sup> As explained in draft Chapter 15, the Supporting Technical Information Document is a "living" document that serves as a compendium of existing project information, including information about a project's design, construction history, operating procedures, and engineering analyses.

<sup>18</sup> Army Corps, *Safety of Dams—Policy and Procedures* (Mar. 2014), [https://www.publications.usace.army.mil/Portals/76/Publications/EngineerRegulations/ER\\_1110-2-1156.pdf](https://www.publications.usace.army.mil/Portals/76/Publications/EngineerRegulations/ER_1110-2-1156.pdf).

<sup>19</sup> FEMA, *Federal Guidelines for Dam Safety* (Apr. 2004), <https://www.fema.gov/media-library-data/20130726-1502-20490-5785/fema-93.pdf> (FEMA Dam Safety Guidelines).

<sup>20</sup> *Id.* at 42.

<sup>21</sup> 18 CFR 12.34.

<sup>22</sup> FEMA Dam Safety Guidelines at 42.

<sup>23</sup> 18 CFR 12.31(a).

<sup>24</sup> See *supra* P 9.

<sup>25</sup> See *supra* note 10 (defining high hazard and significant hazard potentials).

subpart D, to enhance the program for inspections by independent consultants. The proposed regulations, if enacted, would replace the existing subpart D in its entirety. Due to the proposed implementation of two tiers of part 12 inspections (periodic inspections and comprehensive assessments), subpart D would include §§ 12.30 through 12.41, which results in changes to the numbering of subpart E (existing § 12.40 becomes § 12.50).

#### 1. Section 12.30—Applicability

22. Section 12.30 establishes the applicability of subpart D's independent consultant inspection requirement and identifies three conditions that result in a project being subject to its provisions. As § 12.30 is currently written, subpart D applies to any project development that has a dam (1) greater than a specified height; (2) with an impoundment exceeding a specific gross storage capacity; or (3) that has a high hazard potential and is determined by the Regional Engineer to require inspection by an independent consultant. Although the subpart D regulations could be interpreted as only applying to dams, this subpart has in practice also been applied to those portions of canals and penstocks judged to have a high hazard potential.

23. The proposed revisions to § 12.30 are intended to clarify that the provisions of subpart D may apply to projects that do not have a dam. The proposed revisions maintain the existing height and storage thresholds but clarify that they are applicable only to dams. The revisions also clarify that the high hazard potential consideration is applicable to all project features; the project development would be subject to subpart D if any portion of a project feature has a high hazard potential. Additionally, subpart D would apply to a project development if the Regional Engineer or other Commission representative determines that an inspection is required for reasons not listed. The proposed revisions to § 12.30 are consistent with existing D2SI practice.

#### 2. Section 12.31—Definitions

24. Section 12.31 defines independent consultant, high hazard potential, height above streambed, and gross storage capacity for the purposes of the provisions of subpart D. Section 12.31 also provides the D2SI Director the authority to grant a waiver from the ten-year experience requirement in the definition of independent consultant.

25. The proposed revisions to § 12.31 update the existing definitions of an independent consultant and hazard

potential, and provide new definitions for independent consultant team, periodic inspection, and comprehensive assessment.

26. The existing definition of an independent consultant is a licensed professional engineer, with at least ten years of experience and expertise related to dams, and is not, and has not been within two years, an employee of the licensee or its affiliates or an agent acting on behalf of the licensee. The proposed definition maintains the licensure and experience requirements. But, rather than one requirement regarding the professional relationship between the independent consultant and licensee, the proposed definition divides the requirement into three separate requirements. First, the independent consultation is not an employee of the licensee or its affiliates. Second, the independent consultant has not been an employee of the licensee or its affiliates within two years prior to performing the inspection under this subpart. The third restriction is that the independent consultant has not been an agent acting on behalf of the licensee or its affiliates before performing services under this part, for a manner and time period defined in the Engineering Guidelines. The guidelines provide examples of the type of information Commission staff will consider when making this determination. The circumstances of each case will differ and require evaluation by Commission staff; therefore, specific thresholds for scope or duration of services are not established in the proposed definition. The Commission intends to apply this restriction narrowly, with the primary goal of ensuring that independent consultants are not responsible for reviewing work products to which they contributed substantially.

27. The Commission proposes to adopt a definition of an independent consultant team as comprising one or more independent consultants and additional engineering and scientific personnel, as needed.

28. The Commission proposes to require that collectively the independent consultant team has expertise commensurate with the scale, complexity, and relevant technical disciplines of the project and type of review being performed (periodic inspection or comprehensive assessment). This approach will ensure that each review is conducted by qualified personnel such that the Commission can reasonably expect that potential issues relating to project safety or stability can be identified. The Commission intends to place higher expectations on the qualifications of the

personnel on an independent consultant team, and their collective experience and expertise, for comprehensive assessments compared to periodic inspections; projects with higher consequences or total project risk; projects with a greater number of, or more technically diverse or challenging, project features; and projects with a history of unusual or adverse performance. As further discussed below, the proposed regulations in § 12.34 also require that the licensee obtain approval of the independent consultant team from the Director of D2SI. Currently, § 12.34 only requires that resumes be submitted for any independent consultants.

29. The existing definition of hazard potential, which refers to an outdated source, is updated to ensure that it is consistent with FEMA's Hazard Potential Classification System for Dams.<sup>28</sup> The proposed definition also ensures that it is applicable to dams, canals, and other water conveyances, or any portion thereof, and refers to the Engineering Guidelines for specific criteria that result in a classification of low, significant, or high hazard potential.

30. Definitions for periodic inspection and comprehensive assessment are proposed for inclusion in § 12.31. The definitions of "height above streambed" and "gross storage capacity" would remain unchanged.

#### 3. Section 12.32—General Inspection Requirement

31. Existing § 12.32 establishes the requirement for periodic inspection, by an independent consultant, of the project works of each development<sup>29</sup> subject to the provisions of subpart D.

32. The proposed revisions to § 12.32 incorporate the terms "periodic inspection" and "comprehensive assessment" and require that a report be filed following each type of inspection. There are no substantive changes to the general requirement that an independent consultant's inspection be performed. The general requirement to file a report following an inspection would be relocated from existing § 12.37 to proposed § 12.32.

<sup>28</sup> See FEMA, *Federal Guidelines for Dam Safety: Hazard Potential Classification System for Dams* (Apr. 2004), <https://www.fema.gov/media-library-data/20130726-1516-20490-7951/fema-333.pdf> (FEMA Hazard Potential Classification System).

<sup>29</sup> Development means that part of a project comprising an impoundment and its associated dams, forebays, water conveyance facilities, power plants, and other appurtenant facilities. A project may comprise one or more developments. 18 CFR 12.3(b)(7).

#### 4. Section 12.33—Exemption

33. Existing § 12.33 grants the Director of D2SI the authority to exempt projects from the provisions of subpart D for good cause and provides an example of what may constitute good cause. At the Director of D2SI's discretion, the exemption may be granted in perpetuity or may require periodic reevaluation of the exemption justification (*e.g.*, by reviewing and confirming that the project has a low hazard potential). The Director of D2SI's authority to exempt projects from subpart D is retained in proposed § 12.33(a).

34. The proposed revisions to § 12.33(b) update the example of good cause to include canals and other water conveyances and refer to the Engineering Guidelines for what constitutes a low hazard potential.

35. Proposed § 12.33(c) rescinds any exemption from subpart D that was issued prior to the effective date of this proposed rule. Existing subpart D exemptions have been granted over several decades and, as the state of the practice of dam safety has evolved, have not been reconsidered consistently. Accordingly, an entity desiring an exemption will be required to reapply for one to ensure that any justification for a subpart D exemption is reviewed based on the current state of the practice, considering potential failure modes, consequences, and total project risk.

#### 5. Section 12.34—Approval of Independent Consultant Team

36. Prior to performing an inspection, existing § 12.34 requires a licensee to submit to the Director of the Office of Energy Projects, for approval, a detailed resume for an independent consultant. The Commission proposes several revisions to § 12.34 to address concerns raised in the Oroville Independent Forensic Team report, the FERC After Action Panel report, and issues related to implementation of the existing rule over the past several years.<sup>30</sup>

37. Proposed § 12.34(a) requires that the licensee obtain written approval of the independent consultant team, from the Director of D2SI instead of the Director of the Office of Energy Projects, prior to performing a periodic

inspection or comprehensive assessment. While in practice D2SI has granted approval of independent consultants prior to inspections, the regulation as currently written does not stipulate that D2SI approval must be obtained.

38. Proposed § 12.34(b), which requires that the licensee submit a detailed independent consultant team proposal to the Director of D2SI at least 180 days prior to performing a periodic inspection or comprehensive assessment, includes two major changes. First, the existing regulations require the detailed resume to be submitted 60 days in advance. The proposed increase in the time period from 60 days to 180 days does not represent a change in practice. D2SI staff routinely issue reminder letters to licensees approximately 18 months in advance of any inspection required under subpart D, and for several years have requested that independent consultants' resumes be submitted six months in advance to ensure that all parties are aware of their roles and responsibilities, and have sufficient time to prepare for the inspection. The proposed regulation codifies D2SI's current practice.

39. Second, existing § 12.34 requires that resumes be submitted only for any independent consultant, to demonstrate that they meet the requirements provided in § 12.31. Proposed § 12.34(b) requires that the licensee submit documentation of the experience and qualifications for all members of the independent consultant team, including one or more independent consultants and additional contributing members, as needed. The regulation includes separate paragraphs that apply depending on whether the independent consultant team comprises one or multiple persons. This change will allow Commission staff to evaluate the breadth and depth of the team's experience and ensure that it is commensurate with the scale, complexity, and technical disciplines of the project and type of review being performed. The Commission intends for a comprehensive assessment to require a higher level of experience and expertise than a periodic inspection, due to the broader scope of the comprehensive assessment.

40. Proposed § 12.34(c) grants the Director of D2SI the authority to disapprove of an independent consultant team member, regardless of demonstrated experience and qualifications, for good cause, such as having a report rejected by the Commission within the preceding five years. This provision will allow the

Commission to ensure that independent consultants' inspections are performed by qualified parties.

#### 6. Section 12.35—Periodic Inspection

41. Existing § 12.35 establishes the scope of the independent consultant's inspection. The Commission proposes to replace § 12.35 in its entirety such that it establishes the scope of a periodic inspection, the less intensive of the two proposed tiers of part 12 inspections.

42. Proposed § 12.35 establishes the scope of a periodic inspection, which includes review of prior reports, a physical field inspection, review of the surveillance and monitoring plan and data, and review of dam and public safety programs. A periodic inspection has a reduced scope compared to the existing independent consultant's inspection.

#### 7. Section 12.36—Report on Periodic Inspection

43. Existing § 12.36 is related to emergency corrective measures. We propose to combine existing §§ 12.36 and 12.39 under a single "corrective measures" heading in § 12.41, as discussed subsequently in this NOPR.

44. Proposed § 12.36 establishes the requirements for the periodic inspection report and is intended to serve a purpose similar to existing § 12.37 (report of the independent consultant) with several notable changes. Existing § 12.37(b) includes provisions specific to initial reports filed under subpart D, which currently requires the initial report to include general project information (project descriptions, maps, design summary information, geologic information, etc.) and allows licensees to incorporate by reference existing information and analyses contained in previously-prepared independent consultant reports (existing § 12.37(b)(2)). The Commission proposes to eliminate the differentiation between initial and subsequent reports and to require every periodic inspection report to meet the same standard, without relying on the practice of incorporating by reference information or analyses contained in earlier reports.

45. Proposed § 12.36(b) provides a list of items that require specific evaluation in the periodic inspection report. These items pertain to the surveillance, monitoring, and performance of the project, with a focus on whether any potential failure modes, whether previously identified or not, are active, developing, or warrant further evaluation at the time of the periodic inspection.

46. The Commission proposes to eliminate the provisions that allow

<sup>30</sup> In particular, the improvements intended by the proposed changes to the independent consultant team approval process include: Broadening the composition of independent consultant team members to include representation from varied technical disciplines; ensuring thorough review of project features by qualified individuals with the appropriate technical disciplines; and performing comprehensive reviews of the original project design, construction, and subsequent performance.

independent consultants to incorporate the previous independent consultant's report by reference and document only that information that has changed since the previous report. Proposed § 12.36(c) provides a list of items which require a status update and evaluation of any changes since the previous inspection.

47. Existing provisions in §§ 12.37(c)(4) through (8) are retained as proposed §§ 12.36(d) through (h) with minor changes to ensure consistency with other proposed revisions. Section 12.36(i) is added to refer to the Engineering Guidelines, which contain additional guidance regarding the format and contents of the information discussed above.

#### 8. Section 12.37—Comprehensive Assessment

48. Existing § 12.37 establishes requirements for the report of the independent consultant. As discussed elsewhere in this NOPR, the proposed revisions to §§ 12.36 and 12.38 incorporate this information for reports on periodic inspections and comprehensive assessments, respectively.

49. Proposed § 12.37 establishes the scope of a comprehensive assessment, the more intensive of the two proposed tiers of part 12 inspection. As many components of the comprehensive assessment are identical to or build upon the periodic inspection, several paragraphs of the proposed regulations reference their corresponding paragraphs in § 12.35. Below, we discuss the aspects of a comprehensive assessment that are not required for a periodic inspection.

50. In addition to those elements required for a periodic inspection set forth in proposed § 12.35, a comprehensive assessment includes review of prior reports and analyses of record, review of the supporting technical information document, performance of a potential failure modes analysis, and performance of a risk analysis. A comprehensive assessment has an expanded scope compared to the existing independent consultant's inspection. Proposed § 12.37(a)(2) requires the independent consultant team to perform a more detailed review of existing documentation, including as-built drawings, monitoring data, and analyses of record, than required by the current independent consultant's inspection.

51. Proposed § 12.37(f) requires a comprehensive assessment to include a potential failure mode analysis, which is already standard practice for current part 12 inspections. D2SI has developed draft Chapter 17 of the Engineering

Guidelines, which describes how to conduct a potential failure mode analysis. As discussed above, the Commission is soliciting public comments on draft Chapter 17 in Docket No. AD20–22–00.<sup>31</sup>

52. Proposed § 12.37(g) incorporates a semi-quantitative risk analysis as part of the scope of a comprehensive assessment. Other Federal agencies, including Reclamation, Army Corps, and the Tennessee Valley Authority, have incorporated semi-quantitative risk analyses into their systematic comprehensive dam safety reviews. FEMA also provides recommendations and guidance for the performance of semi-quantitative risk analysis in their guidelines.<sup>32</sup> D2SI has developed draft Chapter 18 of the Engineering Guidelines, which describes the process of, and procedures for performing, a semi-quantitative risk analysis. As discussed above, the Commission is soliciting public comments on draft Chapter 18 in Docket No. AD20–23–00.<sup>33</sup>

53. Proposed § 12.37(g) grants the D2SI Regional Engineer the authority to waive the requirement to complete a risk analysis during a comprehensive assessment. This allows the Commission to focus efforts on those projects that present greater risk to life, health, and property, and provides flexibility for D2SI staff to gradually phase in the risk analysis component of a comprehensive assessment, allowing sufficient time for D2SI staff to develop and deliver training on the proposed risk analysis procedures to D2SI staff, licensee staff, and consultants.

#### 9. Section 12.38—Report on Comprehensive Assessment

54. Existing § 12.38 is related to the timeline for submitting reports on an independent consultant's inspection. This information would be relocated to proposed § 12.40, discussed subsequently in this NOPR.

55. Proposed § 12.38 establishes the requirements for the report on a comprehensive assessment. As with the corresponding section regarding a report on a periodic inspection, the Commission proposes to eliminate the difference between initial and subsequent reports and to require every comprehensive assessment report to meet the same standard.

56. Proposed § 12.38(b) references § 12.36(b) and provides a list of items that require specific evaluation in the comprehensive assessment report. In addition to those elements required for a periodic inspection, a comprehensive assessment report must include an evaluation of spillway adequacy; the potential for internal erosion and/or piping of embankments, foundations, and abutments; structural integrity and stability of all structures under credible loading conditions; any other analyses of record pertaining to geology, seismicity, hydrology, hydraulics, or project safety; and the supporting technical information document, potential failure modes analysis, and risk analysis. An evaluation of an analysis of record must include an evaluation of the accuracy, relevance, and consistency with the current state of the practice of dam engineering, and the comprehensive assessment report must include clear documentation of the independent consultant team's rationale. If the independent consultant team is unable to review any analysis of record or disagrees with the analysis of record in any way, the independent consultant must recommend new analyses.

57. The Commission also proposes to eliminate the provisions that allow independent consultants to incorporate the previous independent consultant's report by reference and document only that information that has changed since the previous report. By referencing the periodic inspection report requirements (§ 12.36(c)) (*i.e.*, report on periodic inspection), proposed § 12.38(c) requires the independent consultant to provide, across seven categories, a status update and evaluation of any changes since the previous inspection, which are the same required for a periodic inspection.

58. The existing provisions in §§ 12.37(c)(4) through (8) are retained as proposed §§ 12.38(d) through (h) with minor changes to ensure consistency with other proposed revisions. Proposed § 12.38(j) is added to refer to the Engineering Guidelines, which contain additional details regarding the format and contents of the information discussed above.

#### 10. Section 12.39—Evaluation of Spillway Adequacy

59. Existing § 12.39 relates to taking corrective measures after the report; this information is relocated to § 12.41, discussed subsequently in this NOPR. Currently, the requirement to evaluate spillway adequacy is a required component of the part 12 inspection and is found in § 12.35(b) of our regulations. However, providing this information in

<sup>31</sup> See *supra* P 20.

<sup>32</sup> FEMA, *Federal Guidelines for Dam Safety Risk Management* (Jan. 2015), <http://www.fema.gov/media-library-data/1423661058965-58dfcecc8d8d18b7e9b2a79ce1e83c96/FEMAP-1025.pdf>.

<sup>33</sup> See *supra* P 20.

a standalone section will highlight the importance of evaluating spillway adequacy. Accordingly, we propose to relocate this requirement to proposed § 12.39.

60. Proposed § 12.39 expands the existing requirements for evaluating spillway adequacy. These additional requirements are intended to address scenarios similar to the 2017 Oroville Dam spillway incident, and would require the independent consultant to evaluate the potential for misoperation of, failure to operate, blockage of, or debilitating damage to a spillway, and the resulting effects on the maximum reservoir level and the potential for overtopping.

#### 11. Section 12.40—Time for Inspections and Reports

61. The timelines for performing independent consultant inspections and submitting inspection reports, currently found in existing § 12.38, would be relocated to proposed § 12.40. The existing rules establishes a five-year cycle between inspections and includes provisions for initial inspections of existing licensed projects, projects licensed but not yet constructed, and all other projects; includes a separate set of provisions related to projects inspected by an independent consultant prior to March 1, 1981; and authorizes the D2SI Regional Engineer to grant extensions of time to file an independent consultant's inspection report.

62. Proposed § 12.40 revises the timeline for submitting reports on inspections by independent consultants. While the current five-year interval between inspections and reports is maintained, the inspections will alternate between periodic inspections and comprehensive assessments; thus, there is a ten-year interval between any pair of consecutive comprehensive assessments or periodic inspections.

63. Proposed § 12.40(a) consolidates the timing of inspections and reports for projects previously inspected by an independent consultant. Section 12.40(a)(1) maintains the five-year cycle for an independent consultant's inspection of each project development. Section 12.40(a)(2) grants the D2SI Regional Engineer the authority to require that the initial report due to be filed after January 1, 2021, be either a comprehensive assessment or periodic inspection, enabling D2SI to balance the number of comprehensive assessments due each year over the ten-year cycle. Section 12.40(a)(3) requires that the first comprehensive assessment be completed, and the report on it filed, by December 31, 2034.

64. Proposed § 12.40(b) retains and updates the terminology related to existing provisions for existing licensed projects previously inspected, projects licensed but not yet constructed, and other projects.

65. Proposed § 12.40(c) establishes the ten-year interval between comprehensive assessments and requires that a periodic inspection be performed within five years following a comprehensive assessment.

66. Proposed §§ 12.40(d) and 12.40(e) authorize the D2SI Regional Engineer to extend the time to file an independent consultant's report, for good cause shown, and may require that any inspection scheduled to be performed be a periodic inspection or comprehensive assessment. For example, where a project is scheduled for a periodic inspection but a dam safety incident, extreme loading condition (*e.g.*, unprecedented flood, large earthquake, etc.), or other significant change in condition has occurred since the previous comprehensive assessment, the D2SI Regional Engineer may require that the project undergo a comprehensive assessment rather than a periodic inspection. Alternatively, for projects that have no life safety consequences and a low total project risk, the D2SI Regional Engineer may allow comprehensive assessments to be performed at an interval greater than every ten years.

#### 12. Section 12.41—Corrective Measures

67. The procedures for addressing items identified during a part 12 inspection that require corrective measures are currently set forth in existing § 12.39. In this proposed rule, these procedures would be relocated to proposed § 12.41. The existing regulations require licensees to: Submit to the D2SI Regional Engineer a plan and schedule within 60 days of filing an independent consultant's report with the Commission, and complete all corrective measures in accordance with the plan and schedule approved or modified by the D2SI Regional Engineer. Under the existing regulations, the D2SI Regional Engineer may extend the time for filing the plan and schedule. This NOPR does not propose to modify or eliminate these requirements.

68. Proposed § 12.41 incorporates the requirements of existing § 12.36 (emergency corrective measures) and § 12.39 (post-inspection corrective measures) into a single section titled "corrective measures." The proposed revisions in § 12.41(a)(1)(i) clarify that the licensee's plan and schedule must address the recommendations of the

independent consultant and include investigation as an option for the licensee to implement. Proposed § 12.41(b)(2) would be added to ensure that emergency corrective measures are documented in the corrective plan and schedule required by § 12.41(a)(1).

#### B. Owner's Dam Safety Program

69. The Commission began developing the Owner's Dam Safety Program guidance following the December 2005 failure of Taum Sauk Dam. The lack of a strong dam safety culture in the licensee's organization was a major contributing factor to that incident, as well as to several dam safety incidents that preceded and followed it. In August 2012, the Director of D2SI issued letters to all owners of high or significant hazard potential dams requiring them to submit an Owner's Dam Safety Program.<sup>34</sup> Additional information and guidance on the development of an Owner's Dam Safety Program development has been available on the Commission's website since this time. Proposed subpart F consolidates and codifies that guidance, as discussed further below.

##### 1. Section 12.60—Applicability

70. Proposed § 12.60 specifies that an Owner's Dam Safety Program must be submitted by any licensee that has a dam or other project feature with a high or significant hazard potential. This does not represent a change from existing practice.

##### 2. Section 12.61—Definitions

71. Proposed § 12.61 defines the terms "Chief Dam Safety Engineer" and "Chief Dam Safety Coordinator," as used in subpart F. The Chief Dam Safety Engineer or Chief Dam Safety Coordinator is defined as the person who oversees the implementation of the Owner's Dam Safety Program and has primary responsibility for ensuring the safety of the licensee's dams and other project features. The only difference between the definitions is that a Chief Dam Safety Engineer must be a licensed professional engineer.

##### 3. Section 12.62—General Requirements

72. Proposed § 12.62 establishes three general requirements for an Owner's Dam Safety Program. Section 12.62(a) requires an Owner's Dam Safety Program to designate either a Chief Dam Safety Engineer or a Chief Dam Safety Coordinator. Any Owner's Dam Safety

<sup>34</sup> Letter to All Licensees and Exemtees of High and Significant Hazard Potential Dams Requiring Submittal of an Owner's Dam Safety Program, August 2012, <https://www.ferc.gov/sites/default/files/2020-04/letter-submit-odsp.pdf>.



Program that applies to one or more dams or other project features with a high hazard potential must designate a Chief Dam Safety Engineer. Section 12.62(b) requires the Owner's Dam Safety Program to be signed by the owner and the Chief Dam Safety Engineer or Chief Dam Safety Coordinator, as applicable. Section 12.62(c) requires the Owner's Dam Safety Program to be reviewed and updated on a periodic basis. Section 12.62(d) permits the Owner to designate outside parties, such as consultants, to serve as Chief Dam Safety Engineer or Chief Dam Safety Coordinator, though the owner retains ultimate responsibility for the safety and day-to-day implementation of their projects.

#### 4. Section 12.63—Contents of Owner's Dam Safety Program

73. Proposed § 12.63 establishes the minimum contents of an Owner's Dam Safety Program. Sections 12.63(a)–(f) each correspond to a topic area that should be addressed in an Owner's Dam Safety Program document and reflected in the document's table of contents, as provided in current D2SI guidance available on the Commission's website.<sup>35</sup> Under § 12.63(g), the Owner's Dam Safety Program should also include any additional information that may be prescribed by the Engineering Guidelines, a draft chapter of which is in development and will be provided at a later date for public review and comment.

#### 5. Section 12.64—Annual Review and Update

74. Proposed § 12.64 describes the requirements for reviewing and updating an Owner's Dam Safety Program. Section 12.64 specifies that any Owner's Dam Safety Program must be reviewed by the licensee's dam safety staff and discussed with senior management on an annual basis, and that any findings, analysis, corrective measures, or revisions be submitted to the D2SI Regional Engineer.

#### 6. Section 12.65—Independent External Audit and Peer Review

75. Section 12.65 describes the requirements of independent external audits and peer reviews, which must be completed at least once every five years for any Owner's Dam Safety Program that applies to one or more dams or other project features having a high hazard potential classification. The qualifications of the review team must

be submitted to the D2SI Regional Engineer in advance, and the Regional Engineer's acceptance must be obtained prior to performing the audit or peer review. The Commission will review the qualifications to ensure that the review team has sufficient expertise and a defined plan to review the Owner's Dam Safety Program. The findings of the external audit or peer review team must be documented in a report to be reviewed by licensee staff, including senior management, and submitted to the Regional Engineer.

#### C. Public Safety and Miscellaneous Updates

76. This NOPR also proposes several changes to subparts A, B, C, and E of 18 CFR part 12, most of which are minor in nature and necessary to ensure consistency with the replaced subpart D and new subpart F. The two notable proposed revisions relate to the reporting of public safety incidents and the development of public safety plans and their submittal to the Commission.

##### 1. Subpart A—General Provisions

77. Subpart A sets forth general provisions and definitions that apply to 18 CFR part 12. The proposed rule would update or add several definitions and make other minor changes to ensure consistency with replaced subpart D and new subpart F. Section 12.3(b)(4) provides a list of conditions affecting the safety of project works. Two of these conditions would be updated to ensure their definitions are consistent as applied in current practice. In addition, “overtopping of any dam, abutment, canal, or water conveyance” would be added to the list of conditions that could affect project safety. New definitions for “water conveyance,” “Engineering Guidelines,” and “Owner's Dam Safety Program” would also be added. All other revisions in subpart A are proposed to ensure consistent terminology and to update internal references.

78. Section 309 of the FPA authorizes the Commission “to perform any and all acts, and to . . . issue . . . such orders, rules, and regulations as it may find necessary or appropriate to carry out the provisions of the [FPA],” and FPA section 31 gives the Commission authority to enforce legal and regulatory requirements. Non-compliance with dam safety directives could result in the Commission taking actions such as issuing a cease generation order, assessing civil penalties, or revoking the project's license pursuant to section 31 of the FPA. Accordingly, the proposed addition of § 12.4(d) makes clear that a licensee's failure to comply with any

order or directive issued under part 12 by the Commission, a Regional Engineer, or other authorized Commission representative may result in sanctions as noted above.

##### 2. Subpart B—Reports and Records

79. Subpart B sets forth requirements for reporting, verifying, and providing records to the Commission regarding dam safety-related matters, including public safety incidents. The Commission proposes minor revisions to ensure consistency with other sections of the regulations and the dam safety program as implemented. In addition, the proposed rule would require additional reporting of public safety-related incidents that involve deaths, serious injuries, or rescues.

80. The proposed revisions to § 12.10(a)(1) express the Commission's preference that oral reports of conditions affecting the safety of a project or its works are made within 72 hours of discovery of the condition. The reporting of an incident to the Commission must not in any way inhibit an emergency response to that incident.

81. The proposed revisions to § 12.10(b) would require the reporting of rescues in addition to deaths and serious injuries, as well as clarify what constitutes a project-related incident. For precision and to use terminology that is generally accepted in the dam safety community, we propose to replace the term “project-related accident” with “project-related incident.” Currently, § 12.10(b)(4) defines “project-related,” as “any deaths or serious injuries involving a dam, spillway, intake, or power line, or which take place at or immediately above or below a dam.”<sup>36</sup> In our experience, the final clause of the definition has been the most problematic for licensees to apply, often leading licensees to report as project-related those deaths or serious injuries that occur near a dam but are wholly unrelated to the project or its operation. By revising the definition of “project-related,” we intend to make clear that an incident is project-related only if it occurs at project works, involves changes in water levels resulting from operations of project works, or is otherwise attributable to the project or its operation.

82. The proposed revisions to § 12.12(b)(3) permit storage media other than microform, which is consistent with part 125 of the Commission's regulations. Section 12.12(d) is added to require the licensee to provide physical and electronic records to the D2SI

<sup>35</sup> FERC, *Outline for Owner's Dam Safety Program—Table of Contents*, <https://www.ferc.gov/sites/default/files/2020-04/outline-with-discussion.pdf>.

<sup>36</sup> 18 CFR 12.10(b)(4) (emphasis added).



Regional Engineer for all projects subject to subpart D, or as requested by the D2SI Regional Engineer, for which the information is necessary for the Commission to ensure the safety of the project works. The existing § 12.12(b)(2)(ii)(A) already grants the Regional Engineer the authority to require that an applicant or licensee submit such reports or information and is unchanged; this provision has historically been applied to all projects subject to subpart D through the requirement to develop, maintain, and submit a Supporting Technical Information Document, which is described in the Engineering Guidelines. Neither of these requirements represent a change in D2SI practice.

### 3. Subpart C—Emergency Action Plans

83. Subpart C sets forth requirements related to emergency action plans. The Commission proposes only minor revisions to §§ 12.20, 12.22, and 12.24 to ensure consistency with the hydropower filing guidelines available on the Commission's website, terminology with respect to the Engineering Guidelines, and to update cross-references to other sections in this part.

### 4. Subpart E—Other Responsibilities of Applicant or Licensee

84. Subpart E sets forth other applicant and licensee responsibilities, including the requirement to install warning and public safety devices, and test spillway gates. The Commission proposes to replace one section and update another to codify a function of the dam safety program as currently implemented and to ensure the use of consistent terminology in conjunction with the proposed replacement of subpart D. Subpart E will be redesignated as §§ 12.50 to 12.54 to accommodate the proposed inclusion of additional sections in subpart D. These proposed revisions to subpart E do not represent a change in practice.

85. The proposed revisions to § 12.52 (warning and safety devices; currently § 12.42) preserve the current regulatory requirement that licensees must install, operate, and maintain warning and safety devices to protect the public, with a minor revision to ensure consistency with the rest of part 12. Proposed § 12.52(b) codifies existing D2SI guidance that the Commission may require a licensee to submit a public safety plan that documents the

installation, operation, and maintenance of public safety devices.<sup>37</sup>

86. Finally, we propose to revise § 12.54 (testing spillway gates; currently § 12.44) to replace the term “periodic inspection” with the more generic term “an inspection.” This change in terminology will ensure that Commission staff can continue to verify the operability of spillway gates during their routine inspections, and will prevent this section from being misconstrued as applying only to a periodic inspection as it is proposed to be defined and described in subpart D of this NOPR.

## III. Regulatory Requirements

### A. Information Collection Statement

87. The Paperwork Reduction Act<sup>38</sup> requires each federal agency to seek and obtain the Office of Management and Budget's (OMB) approval before undertaking a collection of information (including reporting, record keeping, and public disclosure requirements) directed to ten or more persons or contained in a rule of general applicability. OMB regulations require approval of certain information collection requirements contemplated by proposed rules (including deletion, revision, or implementation of new requirements).<sup>39</sup> Upon approval of a collection of information, OMB will assign an OMB control number and an expiration date. Respondents subject to the filing requirements of this proposed rule will not be penalized for failing to respond to the collection of information unless the collection of information displays a valid OMB control number.

88. The following discussion describes and analyzes the collections of information modified by this proposed rule.

89. The Commission solicits comments on the Commission's need for the proposed information collection in this NOPR and in draft Chapters 15 through 18 of the Engineering Guidelines,<sup>40</sup> whether the information will have practical utility, the accuracy of the burden estimates, ways to enhance the quality, utility, and clarity

of the information to be collected or retained, and any suggested methods for minimizing respondents' burden, including the use of automated information techniques. All burden estimates for all proposed information collection activities (including those in draft Chapters 15 through 18 of the Engineering Guidelines) are discussed in this NOPR and in the Paperwork Reduction Act supporting statement.

90. Interested persons may submit questions about the information collection activities by contacting Ellen Brown, Office of the Executive Director, at [DataClearance@ferc.gov](mailto:DataClearance@ferc.gov), or (202) 502-8663. Please send comments concerning the collection of information and the associated burden estimates to: Office of Information and Regulatory Affairs, Office of Management and Budget [Attention: Federal Energy Regulatory Commission Desk Officer]. Due to security concerns, comments should be sent directly to [www.reginfo.gov/public/do/PRAMain](http://www.reginfo.gov/public/do/PRAMain). Comments submitted to OMB should be sent within 60 days of publication of this notice in the **Federal Register** and refer to FERC-517 and OMB Control No. 1902-TBD.

91. Please submit to the Commission copies of comments concerning the collection of information and the associated burden estimates (identified by Docket No. RM20-9-000) by either of the following methods:

- *Electronic Filing through the Commission's website:* <https://www.ferconline.ferc.gov/eFiling.aspx>; or
- *Mail/Express Services:* Persons unable to file electronically may mail similar pleadings to the Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426. Hand-delivered submissions in docketed proceedings should be delivered to Health and Human Services, 12225 Wilkins Avenue, Rockville, Maryland 20852.

92. *Public Reporting Burden:* In this NOPR, the Commission proposes to establish two tiers of Independent Consultant's Safety Inspection Reports, further develop the Owner's Dam Safety Program, and require reporting of rescues that occur at hydroelectric projects. The NOPR, in conjunction with the corresponding updates to the Engineering Guidelines, would revise and add some information collection activities in 18 CFR part 12.

93. The proposed revisions to 18 CFR part 12, subpart D (independent consultant inspections), if adopted, would not affect the current five-year filing cycle for Independent Consultant's Safety Inspection Reports; however, they would modify the scope

<sup>37</sup> FERC, *Guidelines for Public Safety at Hydropower Projects* (Mar. 1992), <https://www.ferc.gov/sites/default/files/2020-04/public-safety.pdf>.

<sup>38</sup> 44 U.S.C. 3501-3521.

<sup>39</sup> See 5 CFR 1320.

<sup>40</sup> Concurrently with issuance of this NOPR, the Commission is issuing for public comment the draft chapters of the Engineering Guidelines in Docket Nos. AD20-20-000 (Chapter 15—Supporting Technical Information Document), AD20-21-000 (Chapter 16—Part 12D Program), AD20-22-000 (Chapter 17—Potential Failure Mode Analysis), and AD20-23-000 (Chapter 18—Level 2 Risk Analysis). See *supra* P 20.

of reports on an alternating cycle, such that the reports would alternate between a periodic inspection (a reduction in scope compared to current inspection requirement) and a comprehensive assessment (an increase in scope compared to current inspection requirement). The hydroelectric facilities regulated by the Commission vary greatly in size and complexity, and there is no single representative project. To evaluate the burden associated with the proposed revisions to Independent Consultant's Safety Inspection Reports, Commission staff developed separate cost estimates for "Simple" and "Complex" hydroelectric facilities, which are listed in the table below. Commission staff recognizes that there will be projects with annualized costs less than the "Simple" estimate or greater than the "Complex" estimate, but Commission staff believe the values presented are appropriately representative when averaged across the total inventory of hydroelectric projects

and respondents. The assumption underlying these burden estimates is that one-half of licensed projects can be represented by each category.<sup>41</sup>

94. The proposed addition of 18 CFR part 12, subpart F (Owner's Dam Safety Program) would codify existing requirements for the preparation or collection of information. Those licensees who are required to prepare an Owner's Dam Safety Program, due to the hazard potential classification of their licensed project(s), have already done so. When a new license is issued for a non-constructed or previously unlicensed project, the Commission includes a license article requiring an Owner's Dam Safety Program if warranted. There may be situations in which a project's hazard potential classification increases from low to either significant or high (*e.g.*, due to new housing development within the hypothetical inundation area). If that licensee has no other projects classified as significant or high (*i.e.*, does not have

an Owner's Dam Safety Program), then the licensee would be required to prepare a new Owner's Dam Safety Program. However, this is not expected to occur frequently or with any regularity. Thus, Commission staff estimates no added incremental burden or cost from the proposed addition of subpart F.

95. The proposed minor revisions to 18 CFR part 12, subpart B would require licensees to report the rescue of any person that occurs at hydroelectric facilities, which is in addition to existing requirements that licensees report public safety incidents that result in the death or serious injury of any person.

96. Table 1 itemizes the estimated annual burden<sup>42</sup> and direct cost<sup>43</sup> of the proposed changes due to this NOPR. Record keeping requirements are included in the burden and cost estimates for the development and collection of the data and reports.

TABLE 1—ANNUAL BURDEN AND DIRECT COST CHANGES PROPOSED BY THE NOPR IN DOCKET NO. RM20–9–000<sup>44</sup>

Type of respondent	Type of response	Number of respondents	Average number of annual responses per respondent	Average annual burden hours and cost per response	Total number of annual responses (col. C × col. D)	Total annual burden hours and cost (col. E × col. F)
A	B	C	D	E	F	G
Applicant <sup>45</sup> or Licensee <sup>46</sup> .....	Reports of Project-Related Deaths, Serious Injuries, or Rescues <sup>47</sup> .	<sup>48</sup> 65	<sup>49</sup> 2.14	2 hrs.; \$166 .....	139	278 hrs.; \$23,074.
Licensee of Simple Hydro Facility <sup>50</sup> .	Ind. Cons. Team Proposals and Reports on PIs and CAs <sup>51</sup> .	<sup>52</sup> 375	<sup>53</sup> 0.1	0 hrs.; \$0 .....	37.5	0 hrs.; \$0.
Licensee of Complex Hydro Facility.	Ind. Cons. Team Proposals and Reports on PIs and CAs <sup>54</sup> .	375	0.1	0.6 hrs.; <sup>55</sup> \$49.80.	37.5	22.5 hrs.; \$1,867.50.

<sup>41</sup> The cost data presented in the table is the change in annualized cost based on the proposed changes described in the NOPR. The annualized costs are based on the total cost, in 2020 dollars, over the typical 10-year Part 12D inspection cycle, which comprises one Comprehensive Assessment and one Periodic Inspection, and the associated activities. The scope of each inspection and associated reporting requirements are defined in the proposed rules.

<sup>42</sup> "Burden" is the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. For further explanation of what is included in the information collection burden, refer to Title 5 Code of Federal Regulations 1320.3.

<sup>43</sup> Direct costs are those costs (generally labor costs) associated with the applicant's or licensee's staff in the performance of the efforts related to the proposed rule change. These do not include the costs for professional services, although the direct costs do include the costs associated with the applicant's or licensee's administration and execution of contracts for professional services.

<sup>44</sup> The Commission staff believes that industry is similarly situated in terms of cost for wages and benefits. Therefore, we are using the FERC 2020 average cost (for wages plus benefits) for one FERC full-time equivalent (FTE) of \$172,329 (or \$83.00 per hour).

<sup>45</sup> As defined by 18 CFR 12.1(a)(2).

<sup>46</sup> As defined by 18 CFR 12.1(a)(1) and (a)(3).

<sup>47</sup> Proposed revisions of 18 CFR 12.10(b)(1), 12.10(b)(2), and 12.10(b)(4) for written reports of project-related deaths, serious injuries, or rescues at project works or involving project operations.

<sup>48</sup> Commission staff assumes the average number of respondents who will file a 12.10(b) public safety incident report documenting a rescue at a hydroelectric project will equal the average number of respondents who filed a 12.10(b) public safety incident report documenting a death or serious injury over the 10-year period from January 1, 2009 through December 31, 2018.

<sup>49</sup> Commission staff assumes the average number of 12.10(b) public safety incident reports documenting rescues at hydroelectric projects will equal the average number of 12.10(b) reports for deaths and serious injuries over the 10-year period from January 1, 2009 through December 21, 2018.

<sup>50</sup> Commission staff estimates no incremental change in direct costs due to the proposed rule change as compared to the current burden and costs.

<sup>51</sup> Includes direct costs associated with the preparation and submittal of Independent Consultant Team Proposals (proposed 18 CFR 12.34) and Reports for Periodic Inspections and Comprehensive Assessments (proposed 18 CFR 12.36 and 12.38).

<sup>52</sup> Approximately 750 project developments licensed by the Commission are subject to the reporting requirements. This table defines a single response as the consolidated filings associated with the typical ten-year cycle for Independent Consultant's Safety Inspections, which would take

effect following implementation of a final rule. A single response would include one each of the reports and other filings required under the scope of a Periodic Inspection and a Comprehensive Assessment. Thus, the total number of responses over a ten-year period will be the number of projects (750), divided equally between the "Simple" and "Complex" categories of hydroelectric facilities.

<sup>53</sup> As previously noted, this table defines a single response as the consolidated filings associated with the typical ten-year cycle for Independent Consultant's Safety Inspections. Therefore, the number of annual responses is averaged over the ten-year period, or 0.1 responses on average per year.

<sup>54</sup> See *supra* note 51.

<sup>55</sup> Burden costs include hourly wages estimated based on complexity of project, scope of inspection, experience and number of assigned staff, and were compared to industry estimates provided by fewer than nine industry representatives who were contacted by Commission staff.

<sup>56</sup> Proposed 18 CFR 12.33(a) includes a provision for licensees to submit a written request to be excluded from the requirements of 18 CFR Subpart D in extraordinary circumstances.

<sup>57</sup> Includes direct costs associated with the preparation and submittal of Owner's Dam Safety Program Document (proposed 18 CFR 12.60 and 12.63), Statements of Qualifications for External Audit or Peer Review (proposed 18 CFR 12.65(b)), and Reports of Audits or Peer Review (proposed 18 CFR 12.65(c)).

TABLE 1—ANNUAL BURDEN AND DIRECT COST CHANGES PROPOSED BY THE NOPR IN DOCKET NO. RM20–9–000<sup>44</sup>—Continued

Type of respondent	Type of response	Number of respondents	Average number of annual responses per respondent	Average annual burden hours and cost per response	Total number of annual responses (col. C × col. D)	Total annual burden hours and cost (col. E × col. F)
Licensee .....	Exemption Requests <sup>56</sup> .....	10	1	2 hrs.; \$166 .....	10	20 hrs.; \$1,660
Licensee of Dam or Other Project Feature with a High or Significant Hazard Potential.	Owner's Dam Safety Program Submittals <sup>57</sup> .	Staff estimates no incremental change in direct costs due to the proposed rule change as compared to the current burden and costs.				
Totals .....	.....	825	.....	.....	224	320.5 hrs.; \$26,601.50

97. Table 2 itemizes the estimated annual burden and annual contracting costs for professional services<sup>58</sup> of the

information collections that would be affected by this NOPR. Record keeping requirements are included in the burden

and cost estimates for the development and collection of the data and reports.

TABLE 2—ANNUAL BURDEN AND CONTRACTING COST FOR PROFESSIONAL SERVICES CHANGES PROPOSED BY THE NOPR IN DOCKET NO. RM20–9–000

Type of respondent	Type of response	Number of respondents	Average number of annual responses per respondent	Average annual burden hours and cost per response	Total number of annual responses (col. C × col. D)	Total annual burden hours and cost (col. E × col. F)
A	B	C	D	E	F	G
Applicant <sup>59</sup> or Licensee <sup>60</sup> .....	Reports of Project-Related Deaths, Serious Injuries, or Rescues <sup>61</sup> .	There are no anticipated costs for contracted professional services affected by this proposed rule change.				
Licensee of Simple Hydro Facility	Ind. Cons. Team Proposals and Reports on Pls and CAs <sup>62</sup> .	<sup>63</sup> 375	<sup>64</sup> 0.1	12 hrs.; <sup>65</sup> \$2,524.40.	37.5	450 hrs.; \$94,665.
Licensee of Complex Hydro Facility.	Ind. Cons. Team Proposals and Reports on Pls and CAs <sup>66</sup> .	375	0.1	32 hrs.; <sup>67</sup> \$6,979.90.	37.5	1,200 hrs.; \$261,746.25.
Licensee .....	Exemption Requests <sup>68</sup> .....	There are no anticipated costs for contracted professional services affected by this proposed rule change.				
Licensee of Dam or Other Project Feature with a High or Significant Hazard Potential.	Owner's Dam Safety Program Submittals <sup>69</sup> .	Commission staff estimates no incremental change in costs for contracted professional services due to the proposed rule change as compared to the current burden and costs.				
Totals .....	.....	750	.....	.....	75	1,650 hrs.; \$356,411.25

98. Table 3 itemizes the estimated annual burden and total cost (direct costs [from Table 1] and costs for

contracted professional services [from Table 2]), of the proposed changes due to this NOPR. Record keeping

requirements are included in the burden and cost estimates for the development and collection of the data and reports.

<sup>58</sup> Contracting costs include costs for professional services, including labor, travel and subsistence, and other indirect costs incurred by the contractor or consultant. Contracting costs do not include direct costs incurred by the applicant or licensee in the administration or execution of the contract for professional services; those are included in the previous table, as applicable.

<sup>59</sup> As defined by 18 CFR 12.1(a)(2).

<sup>60</sup> As defined by 18 CFR 12.1(a)(1) and (a)(3).

<sup>61</sup> Proposed revisions of 18 CFR 12.10(b)(1), (b)(2), and (b)(4) for written reports of project-related deaths, serious injuries, or rescues at project works or involving project operations.

<sup>62</sup> Includes contracting costs for professional services associated with the preparation and submittal of Independent Consultant Team Proposals (proposed 18 CFR 12.34) and Reports for Periodic Inspections and Comprehensive Assessments (proposed 18 CFR 12.36 and 12.38).

<sup>63</sup> Approximately 750 project developments licensed by the Commission are subject to the reporting requirements. This table defines a single response as the consolidated filings associated with the typical ten-year cycle for Independent Consultant's Safety Inspections, which would take effect following implementation of a final rule. A single response would include one each of the reports and other filings required under the scope of a Periodic Inspection and a Comprehensive Assessment. Thus, the total number of responses over a ten-year period will be the number of projects (750), divided equally between the "Simple" and "Complex" categories of hydroelectric facilities.

<sup>64</sup> As previously noted, this table defines a single response as the consolidated filings associated with the typical ten-year cycle for Independent Consultant's Safety Inspections. Therefore, the number of annual responses is averaged over the ten-year period, or 0.1 responses on average per year.

<sup>65</sup> Burden costs include hourly wages estimated based on complexity of project, scope of inspection, experience and number of assigned staff, and were compared to industry estimates provided by fewer than nine industry representatives.

<sup>66</sup> See *supra* note 62.

<sup>67</sup> See *supra* note 65.

<sup>68</sup> Proposed 18 CFR 12.33(a) includes a provision for licensees to request a written request to be excluded from the requirements of 18 CFR Subpart D in extraordinary circumstances.

<sup>69</sup> Includes costs for contracted professional services associated with the preparation and submittal of Owner's Dam Safety Program Document (proposed 18 CFR 12.60 and 12.63), Statements of Qualifications for External Audit or Peer Review (proposed 18 CFR 12.65(b)), and Reports of Audits or Peer Review (proposed 18 CFR 12.65(c)).

TABLE 3—TOTAL ANNUAL BURDEN AND COST CHANGES PROPOSED BY THE NOPR IN DOCKET NO. RM20–9–000

Type of respondent	Type of response	Number of respondents	Average number of annual responses per respondent	Average annual burden hours and cost per response	Total number of annual responses (col. C × col. D)	Total annual burden hours and cost (col. E × col. F)
A	B	C	D	E	F	G
Applicant <sup>70</sup> or Licensee <sup>71</sup> .....	Reports of Project-Related Deaths, Serious Injuries, or Rescues <sup>72</sup> .	65	2.14	2 hrs.; \$166 .....	139	278 hrs.; \$23,074.
Licensee of Simple Hydro Facility <sup>73</sup> .	Ind. Cons. Team Proposals and Reports on Pls and CAs <sup>74</sup> .	375	0.1	12 hrs.; \$2,524.40.	37.5	450 hrs.; \$94,665.
Licensee of Complex Hydro Facility <sup>75</sup> .	Ind. Cons. Team Proposals and Reports on Pls and CAs.	375	0.1	32.6 hrs.; \$7,029.70.	37.5	1,222.5 hrs.; \$263,613.75.
Licensee .....	Exemption Requests <sup>76</sup> .....	10	1	2 hrs.; \$166 .....	10	20 hrs.; \$1,660.
Licensee of Dam or Other Project Feature with a High or Significant Hazard Potential.	Owner's Dam Safety Program Submittals <sup>77</sup> .	Staff estimates no incremental change in direct costs due to the proposed rule change as compared to the current burden and costs.				
Total for Direct Costs and Contracting Costs due to NOPR in RM20–9–000.	.....	825	.....	.....	224	1,970.5 hrs.; \$383,012.75.

99. Title: FERC–517, Safety of Water Power Projects and Project Works.

100. *Action*: Revision to the scope of Independent Consultant's Safety Inspection Reports, Owner's Dam Safety Program, and addition of reporting requirements related to public safety incidents at hydropower projects.

101. *OMB Control No.*: 1902–TBD.

102. *Respondents*: Hydropower licensees (and applicants, as applicable), including municipalities, businesses, private citizens, and for-profit and not-for-profit institutions.

103. *Frequency of Information*: On occasion, except for reports on periodic inspections and comprehensive assessment, which must be submitted as proposed under 18 CFR 12.40:

- For any project that was inspected in accordance with 18 CFR part 12 prior to January 1, 2021, a periodic inspection or comprehensive assessment must be completed, and a report on it filed,

within five years of the due date of the most recent report. In addition, the first comprehensive assessment must be completed, and the report on it filed, by December 31, 2034.

- A licensed project development is subject to a different set of deadlines if the development was not inspected in accordance with 18 CFR part 12 prior to January 1, 2021, under the Commission's rules in effect on January 1, 2020. In these circumstances, the first comprehensive assessment and the report on it are due:

- Not later than two years after the date of issuance of the order licensing a development or amending a license to include that development, if the development meets the criteria specified in §§ 12.30(a)(1) or 12.30(a)(2), and was constructed before the date of issuance of such order.

- Not later than five years after the date of issuance of the order licensing that development, or amending a license to include that development, if the development was constructed after the date of issuance of such order.

- No later than two years after a date specified by the Regional Engineer, for other developments that were not inspected prior to January 1, 2021, under the Commission's rules in effect on January 1, 2020.

104. *Necessity of Information*: The Commission proposes the changes in this NOPR in order to enhance the ability of Commission staff to protect the safety of dams and the public; to reduce the risk to life, health, and property associated with hydropower projects; and to comply with guidance from FEMA's Interagency Committee on Dam Safety.

105. *Internal Review*: The Commission has reviewed the proposed changes and has determined that such changes are necessary. These

requirements conform to the Commission's need for efficient information collection, communication, and management within the energy industry. The Commission has specific, objective support for the burden estimates associated with the information collection requirements.<sup>78</sup>

106. Interested persons may obtain information on the reporting requirements by contacting the Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426 [Attention: Ellen Brown, Office of the Executive Director], by email to [DataClearance@ferc.gov](mailto:DataClearance@ferc.gov), or by phone (202) 502–8663.

#### B. Environmental Analysis

107. The Commission is required to prepare an environmental assessment or an environmental impact statement for any action that may have a significant effect on the human environment.<sup>79</sup> Excluded from this requirement are rules that are clarifying, corrective, or procedural, or that do not substantially change the effect of legislation or the regulations being amended.<sup>80</sup> This proposed rule proposes to revise the Commission's dam safety regulations by incorporating a two-tier structure for independent consultant safety inspections, codifying guidance requiring licensees to develop an owner's dam safety program and a public safety plan; expanding the scope of public safety incident reporting; and incorporating various minor revisions. Because this proposed rule does not

<sup>70</sup> As defined by 18 CFR 12.1(a)(2).

<sup>71</sup> As defined by 18 CFR 12.1(a)(1) and (a)(3).

<sup>72</sup> Proposed revisions of 18 CFR 12.10(b)(1), (b)(2), and (b)(4) for written reports of project-related deaths, serious injuries, or rescues at project works or involving project operations.

<sup>73</sup> Includes direct and contracting burden and cost.

<sup>74</sup> Includes direct costs associated with the preparation and submittal of Independent Consultant Team Proposals (proposed 18 CFR 12.34) and Reports for Periodic Inspections and Comprehensive Assessments (proposed 18 CFR 12.36 and 12.38).

<sup>75</sup> Includes direct and contracting burden and cost.

<sup>76</sup> Proposed 18 CFR 12.33(a) includes a provision for Licensees to request a written request to be excluded from the requirements of 18 CFR Subpart D in extraordinary circumstances.

<sup>77</sup> Includes direct costs associated with the preparation and submittal of Owner's Dam Safety Program Document (proposed 18 CFR 12.60 and 12.63), Statements of Qualifications for External Audit or Peer Review (proposed 18 CFR 12.65(b)), and Reports of Audits or Peer Review (proposed 18 CFR 12.65(c)).

<sup>78</sup> Commission staff contacted fewer than nine parties to obtain supporting information in order to benchmark burden estimates.

<sup>79</sup> *Regulations Implementing the National Environmental Policy Act of 1969*, Order No. 486, FERC Stats. & Regs. ¶ 30,783 (1987) (cross-referenced at 41 FERC ¶ 61,284).

<sup>80</sup> 18 CFR 380.4(a)(2)(ii).

substantially change the effect of the Commission's part 12 regulations, preparation of an environmental assessment or environmental impact statement is not required.

### C. Regulatory Flexibility Act

108. The Regulatory Flexibility Act of 1980 (RFA)<sup>81</sup> generally requires a description and analysis of proposed rules that will have significant economic impact on a substantial number of small entities. The RFA mandates consideration of regulatory alternatives that accomplish the stated objectives of a proposed rule and minimize any significant economic impact on a substantial number of small entities.<sup>82</sup> In lieu of preparing a regulatory flexibility analysis, an agency may certify that a proposed rule will not have a significant economic impact on a substantial number of small entities.<sup>83</sup>

109. The Small Business Administration's (SBA) Office of Size Standards develops the numerical definition of a small business.<sup>84</sup> The SBA size standard for electric utilities is based on the number of employees, including affiliates.<sup>85</sup> Under SBA's current size standards, a hydroelectric power generator (NAICS code 221111)<sup>86</sup> is small if, including its affiliates, it employs 500 or fewer people.<sup>87</sup>

110. If enacted, the proposed revisions to part 12, subpart D would directly affect all hydropower licensees that are currently required to file Independent Consultant's Safety Inspection Reports. Since the number of licensed projects per respondent varies from one to more than 50, the number of respondents does not correlate directly to the number of responses. Based on data over the preceding ten-year-period, Commission staff estimated the expected number of responses from entities that qualify as small. In total, approximately 132 entities qualify as small and would be expected to file approximately 225 responses (30%) with the Commission over the ten-year cycle. The remaining 525 responses (70%) would be filed by 106 entities that do not qualify as small.

111. The Commission notes that the projects owned by entities that qualify as small entities are typically smaller and/or less complex than those owned by large entities. Thus, the annual incremental cost to small entities would likely skew towards the "Simple Hydroelectric Facility" category presented in the burden estimates provided above in the Information Collection Statement section. In addition, the proposed rule incorporates provisions that grant Commission staff the authority, upon demonstration by the licensee and Commission review and acceptance of appropriate justification, to waive or reduce the scope of specific components of an Independent Consultant's Safety Inspection (e.g., waiving the requirement to perform a PFMA or risk analysis) or to change the type of inspection report (e.g., by allowing an inspection scheduled as a comprehensive assessment to be performed instead as a periodic inspection). The Commission has included these provisions to focus effort on those projects that present greater risk to life, health, and property; and to alleviate the potential economic impact on licensees of simple projects that present less risk. Since the burden estimates include all components of an Independent Consultant's Safety Inspection, utilization of these provisions may result in a lower incremental cost for small entities.

112. The proposed addition of part 12, subpart F, which would codify the Owner's Dam Safety Program, would only apply to entities that are responsible for one or more projects classified as having a high hazard potential. The Commission expects the Owner's Dam Safety Program to improve communication and understanding within licensee organizations as to their responsibilities for ensuring dam safety and protection of the public, and may contribute to an increased likelihood that potential dam safety issues are caught and addressed before they present an imminent danger to life safety or property.

113. Because those licensees required to prepare an Owner's Dam Safety Program due to their project's hazard potential classification have already done so,<sup>88</sup> the Commission does not anticipate that the proposed codification of subpart F will impose any additional burden or cost on licensees, regardless of their status as a small or large entity.

114. With respect to the filing of public safety incidents involving the rescue of any person at a hydroelectric

facility, the Commission estimates that most affected entities qualify as small entities. But, as reflected in the burden and cost estimates provided above, the Commission expects an additional two burden hours (and corresponding \$166, an amount that would not be considered significant) for licensees or applicants, regardless of their status as small or large.

115. While the proposed revisions to subpart D may have some increased economic impact on a limited number of small entities, these improvements to the independent consultant safety inspection process are necessary, and the associated costs justified, by the Commission's Congressionally-mandated mission to ensure the protection of life, health, and property from risks associated with licensed hydroelectric facilities. In addition, the proposed revisions to subpart D are intended to help prevent future dam safety incidents that could potentially result in significant economic impacts on small entities (e.g., financial costs associated with causing life loss or property damage, major project repairs, lost revenue due to the inability to operate the project, etc.).

116. In summary, based on the estimated costs included in Table 3 above, the estimated economic impacts on small entities as a result of the proposed rule could range from approximately \$166 (for the submittal of a one-time request for an exemption from part 12, subpart D) to over \$7,000 per year for each complex project. A representative cost for a typical small entity with one or more simple projects would be approximately \$2,500 per year per project subject to part 12, subpart D.<sup>89</sup> Currently, Commission staff estimates that over eighty percent of the small entities have two or fewer projects subject to subpart D.

117. Accordingly, pursuant to section 605(b) of the RFA, the Commission certifies that this proposed rule would not have a significant economic impact on a substantial number of small entities.

### D. Comment Procedures

118. The Commission invites interested persons to submit comments on the matters and issues proposed in this notice to be adopted, including any related matters or alternative proposals that commenters may wish to discuss. Comments are due September 22, 2020. Comments must refer to Docket No. RM20-9-000, and must include the

<sup>81</sup> 5 U.S.C. 601–612.

<sup>82</sup> *Id.* 603(c).

<sup>83</sup> *Id.* 605(b).

<sup>84</sup> 13 CFR 121.101.

<sup>85</sup> *Id.* 121.201.

<sup>86</sup> The North American Industry Classification System (NAICS) is an industry classification system that Federal statistical agencies use to categorize businesses for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. economy. United States Census Bureau, *North American Industry Classification System*, <https://www.census.gov/eos/www/naics/>.

<sup>87</sup> 13 CFR 121.201 (Sector 22—Utilities).

<sup>88</sup> See *supra* P 94.

<sup>89</sup> Commission staff estimates that more than half of the 132 small entities have one or more simple projects and no complex projects.

commenter's name, the organization they represent, if applicable, and their address.

119. The Commission encourages comments to be filed electronically via the eFiling link on the Commission's website at <http://www.ferc.gov>. The Commission accepts most standard word processing formats. Documents created electronically using word processing software should be filed in native applications or print-to-PDF format and not in a scanned format. Commenters filing electronically do not need to make a paper filing.

120. Commenters that are not able to file comments electronically must send an original of their comments to: Federal Energy Regulatory Commission, Secretary of the Commission, 888 First Street NE, Washington, DC 20426.

121. All comments will be placed in the Commission's public files and may be viewed, printed, or downloaded remotely as described in the Document Availability section below. Commenters on this proposal are not required to serve copies of their comments on other commenters.

#### E. Document Availability

122. In addition to publishing the full text of this document in the **Federal Register**, the Commission provides all interested persons an opportunity to view and print the contents of this document via the internet through the Commission's Home Page (<http://www.ferc.gov>). At this time, the Commission has suspended access to the Commission's Public Reference Room due to the President's March 13, 2020 proclamation declaring a National Emergency concerning the Novel Coronavirus Disease (COVID-19).

123. From the Commission's Home Page on the internet, this information is available on eLibrary. The full text of this document is available on eLibrary in PDF and Microsoft Word format for viewing, printing, and/or downloading. To access this document in eLibrary, type the docket number excluding the last three digits of this document in the docket number field.

124. User assistance is available for eLibrary and the Commission's website during normal business hours from the Commission's Online Support at (202) 502-6652 (toll free at 1-866-208-3676) or email at [ferconlinesupport@ferc.gov](mailto:ferconlinesupport@ferc.gov), or the Public Reference Room at (202) 502-8371, TTY (202) 502-8659. Email the Public Reference Room at [public.reference.room@ferc.gov](mailto:public.reference.room@ferc.gov).

#### List of Subjects in 18 CFR Part 12

Electric power, Reporting and recordkeeping requirements, Safety.

By direction of the Commission.

Issued: Issued July 16, 2020.

**Nathaniel J. Davis, Sr.,**

*Deputy Secretary.*

In consideration of the foregoing, the Federal Energy Regulatory Commission proposes to amend part 12, chapter I, title 18, *Code of Federal Regulations*, as follows:

### PART 12—SAFETY OF WATER POWER PROJECTS AND PROJECT WORKS

■ 1. The authority citation for part 12 is revised to read as follows:

**Authority:** 16 U.S.C. 791a–825r; 42 U.S.C. 7101–7352.

#### Subpart A—General Provisions

■ 2. Amend § 12.3 by:

- a. Revising paragraphs (b)(3), (b)(4) introductory text, and (b)(4)(ii) and (v);
- b. Redesignating paragraph (b)(4)(xiii) as (b)(4)(xix);
- c. Adding a new paragraph (b)(4)(xiii);
- d. Redesignating paragraph (b)(11) as (b)(15);
- e. Adding new paragraph (b)(11); and
- f. Adding paragraphs (b)(12 through (14).

The revisions and addition read as follows:

#### § 12.3 Definitions.

\* \* \* \* \*

(b) \* \* \*

(3) *Authorized Commission representative* means the Director of the Office of Energy Projects, the Director of the Division of Dam Safety and Inspections, the Regional Engineer, or any other member of the Commission staff whom the Commission may specifically designate.

(4) *Condition affecting the safety of a project or project works* means any condition, event, or action at the project which might compromise the safety, stability, or integrity of any project work or the ability of any project work to function safely for its intended purposes, including navigation, water power development, or other beneficial public uses, including recreation; or which might otherwise adversely affect life, health, or property. Conditions affecting the safety of a project or project works include, but are not limited to:

- (i) Failure of, misoperation of, or failure to operate when attempted any facility that controls the release or storage of impounded water, such as a gate or a valve;

\* \* \* \* \*

- (v) Internal erosion, piping, slides, or settlements of materials in any dam,

foundation, abutment, dike, or embankment;

\* \* \* \* \*

- (xiii) Overtopping of any dam, abutment, canal, or water conveyance;

\* \* \* \* \*

(11) *Water conveyance* means any canal, penstock, tunnel, flowline, flume, siphon, or other feature, constructed or natural, which facilitates the movement of water for the generation of hydropower, environmental benefit, or other purpose required by the project license.

(12) *Guidelines* means the Engineering Guidelines for the Evaluation of Hydropower Projects established, and from time to time revised, by the Director of the Division of Dam Safety and Inspections, and available on the Commission's website.

(13) *Owner's Dam Safety Program* means the written document that formalizes a licensee's dam safety program, including, but not limited to, the licensee's dam safety policies; objectives; expectations; responsibilities; training program; communication, coordination, and reporting; record keeping; succession planning; continuous improvement; and audits and assessments.

(14) *Hazard potential* for any dam, canal, or water conveyance is a classification based on the potential consequences in the event of failure or misoperation of the dam, canal, or water conveyance, and is subdivided into categories (e.g., Low, Significant, High).

(i) *High hazard potential* generally indicates that failure or misoperation of the project feature will probably cause loss of human life.

(ii) *Significant hazard potential* and *low hazard potential* generally indicate that failure or misoperation will probably not cause loss of human life but may have some amount of economic, environmental, or other consequences.

(iii) *Additional information*. Other information on hazard potential classifications is provided in the Guidelines.

\* \* \* \* \*

- 3. Amend § 12.4 by:
- a. Revising paragraphs (b)(2)(ii)(B) and (b)(2)(iii)(A) and (B);
- b. Adding paragraphs (b)(2)(iii)(C) and (D);
- c. Revising paragraph (c)(1), (c)(2) introductory text, and (c)(3); and
- d. Adding paragraph (d).

The revisions and addition read as follows:

#### § 12.4 Staff administrative responsibility and supervisory authority.

\* \* \* \* \*

- (b) \* \* \*
- (2) \* \* \*
- (ii) \* \* \*

(B) Any condition affecting the safety of a project or project works or any death, serious injuries, or rescues that occur at, or might be attributable to, the water power project;

- (iii) \* \* \*

(A) Any emergency action plan filed under subpart C of this part;

(B) Any Owner's Dam Safety Program filed under subpart F of this part;

(C) Any plan of corrective measures, including related schedules, submitted after the report of an independent consultant pursuant to § 12.36 or § 12.38 or any other inspection report; or

(D) Any public safety plan filed under § 12.52(b).

\* \* \* \* \*

- (c) \* \* \*

(1) Any order or directive issued under this part by a Regional Engineer or other authorized Commission representative may be appealed to the Commission under § 385.207 of this chapter.

(2) Any order or directive issued under this part by a Regional Engineer or other authorized Commission representative is immediately effective and remains in effect until:

\* \* \* \* \*

(3) An appeal or motion for rescission, amendment, or stay of any order or directive issued under this part must contain a full explanation of why granting the appeal or the request for rescission or amendment of the order or directive, or for stay for the period requested, will not endanger life, health, or property.

(d) *Failure to comply.* If a licensee fails to comply with any order or directive issued under this part by the Commission, a Regional Engineer, or other authorized Commission representative, the licensee may be subject to sanctions, including, but not limited to, civil penalties, orders to cease generation, or license revocation.

## Subpart B—Reports and Records

■ 4. Amend § 12.10 by revising the second sentence of paragraph (a)(1) and by revising paragraph (b) to read as follows:

### § 12.10 Reporting safety-related incidents.

- (a) \* \* \*

(1) \* \* \* The initial oral report must be made as soon as practicable after that condition is discovered, preferably within 72 hours, without unduly interfering with any necessary or appropriate emergency repair, alarm, or other emergency action procedure.

\* \* \* \* \*

(b) *Deaths, serious injuries, or rescues.*

(1) Promptly after becoming aware of any drowning or other incident resulting in death, serious injury, or rescue that occurs at the project works or involves project operation, the applicant or licensee must report that incident to the Regional Engineer in writing, including a description of the cause and location of the incident.

(2) The written report of any death, serious injury, or rescue that occurs at the project works or involves project operations, and is considered or alleged to be project related, must also describe any remedial actions taken or proposed to avoid or reduce the chance of similar occurrences in the future and be verified in accordance with § 12.13.

(3) Incidents that are not project-related may be reported by providing a copy of a clipping from a newspaper article, if available.

(4) For the purposes of this paragraph, *project related* includes any deaths, serious injuries, or rescues that:

(i) Involve a project dam, spillway, intake, outlet works, tailrace, power canal, powerhouse, powerline, other water conveyance, or other appurtenances; or

(ii) Involve changes in water levels or flows caused by generating units, project gates, or other flow regulating equipment; or

(iii) Are otherwise attributable to project works and/or project operations.

■ 5. Amend § 12.12 by revising paragraphs (a)(1)(ii) and (b)(3) and adding paragraph (d) to read as follows:

### § 12.12 Maintenance of records.

- (a) \* \* \*

- (1) \* \* \*

(ii) Instrumentation observations and data collected during construction, operation, or maintenance of the project, including continuously maintained tabular records and graphs illustrating the data collected pursuant to § 12.51; and

\* \* \* \* \*

- (b) \* \* \*

(3) In accordance with the provisions of part 125 of this chapter, the applicant or licensee may select its own storage media to maintain original records or record copies at the project site, provided that appropriate equipment is available to view the records.

\* \* \* \* \*

(d) *Provision of records.* If the project is subject to subpart D of this part, or if requested by the Regional Engineer, the applicant or licensee must provide to the Regional Engineer physical and electronic copies of the documents listed in paragraph (a)(1) of this section,

except as provided in paragraph (a)(2) of this section.

## Subpart C—Emergency Action Plans

### § 12.20 [Amended]

■ 6. Amend § 12.20 in paragraph (a) by removing the words “three copies of”.

### § 12.22 [Amended]

■ 7. Amend § 12.22 as follows:

■ a. In paragraph (a)(1) introductory text, remove “the guidelines established, and from time to time revised, by the Director of the Office of Energy Projects (available from the division of Inspections or the Regional Engineer)” and add in its place “the Guidelines”; and

■ b. In paragraph (a)(2) introductory text, remove “the guidelines established by the Director of the Office of Energy Projects” and add in its place “the Guidelines”.

### § 12.24 [Amended]

■ 8. Amend 12.24 in paragraph (c)(3) by removing the words “three copies of”.

■ 9. Revise subpart D to read as follows:

## Subpart D—Review, Inspection, and Assessment by Independent Consultant

Sec.

12.30 Applicability.

12.31 Definitions.

12.32 General inspection requirement.

12.33 Exemption.

12.34 Approval of independent consultant team.

12.35 Periodic inspection.

12.36 Report on a period inspection.

12.37 Comprehensive assessment.

12.38 Report on a comprehensive assessment.

12.39 Evaluation of spillway adequacy.

12.40 Time for inspections and reports.

12.41 Corrective measures.

## Subpart D—Review, Inspection, and Assessment by Independent Consultant

### § 12.30 Applicability.

This subpart applies to any licensed project development that:

(a) Has a dam—

(1) That is more than 32.8 feet (10 meters) in height above streambed, as defined in § 12.31(d); or

(2) With an impoundment gross storage capacity of more than 2,000 acre-feet (2.5 million cubic meters), as defined in § 12.31(e);

(b) That has a project feature (dam, canal, or water conveyance) or any portion thereof that has a high hazard potential, as defined in § 12.3(b)(14); or

(c) Is determined by the Regional Engineer or other authorized Commission representative to require inspection by an independent consultant under this subpart.



**§ 12.31 Definitions.**

For purposes of this subpart:

(a) *Independent consultant* means any person who:

(1) Is a licensed professional engineer;

(2) Has at least 10 years of experience and expertise in dam design and construction and in the evaluation and assessment of the safety of existing dams;

(3) Is not an employee of the licensee or its affiliates;

(4) 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

(6) 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, in a manner and for a time period as defined in the Guidelines.

(b) *Independent consultant team* means one or more independent consultant(s) and, as needed, additional qualified engineering and scientific professionals who also meet the requirements of paragraphs (a)(3) through (5) of this section that collectively have demonstrable experience and expertise in dam design, construction, and the evaluation and assessment of the safety of existing dams, commensurate with the scale, complexity, and relevant technical disciplines of the project and type of review, inspection, and assessment being performed (periodic inspection or comprehensive assessment, as defined in this section).

(c) *Height above streambed* means:

(1) For a dam with a spillway, the vertical distance from the lowest elevation of the natural streambed at the downstream toe of the dam to the maximum water storage elevation possible without any discharge from the spillway. The maximum water storage elevation is:

(i) For gated spillways, the elevation of the tops of the gates;

(ii) For ungated spillways, the elevation of the spillway crest or the top of any flashboards, whichever is higher;

(2) For a dam without a spillway, the vertical distance from the lowest elevation of the natural streambed at the downstream toe of the dam to the lowest point on the crest of the dam.

(d) *Gross storage capacity* means the maximum possible volume of water impounded by a dam with zero spill; that is, without the discharge of water over the dam or a spillway.

(e) *Periodic inspection* means an inspection that meets the requirements

of § 12.35 and is performed by an independent consultant team.

(f) *Comprehensive assessment* means a project review, inspection, and assessment that meets the requirements of § 12.37 and is performed by an independent consultant team.

(g) *Previous Part 12D Inspection* means the most recent inspection performed in accordance with the provisions of this subpart (a periodic inspection, comprehensive assessment, or an inspection performed in accordance with the rules established by Order 122).

(h) *Previous Part 12D Report* means the report on the Previous Part 12D Inspection.

(i) *Grant of waiver*. The Director of the Division of Dam Safety and Inspections may, for good cause shown, grant a waiver of the 10-year requirement in paragraph (a)(2) of this section. Any petition for waiver under this paragraph must be filed in accordance with § 385.207 of this chapter.

**§ 12.32 General inspection requirement.**

The project works of each development to which this subpart applies, excluding transmission and transformation facilities, must be inspected on a periodic basis by an independent consultant team to identify any actual or potential deficiencies that might endanger life, health, or property, including deficiencies that may be in the condition of those project works or in the quality or adequacy of project maintenance, safety, methods of operation, analyses, and other conditions described in the Guidelines. A report must be prepared by the independent consultant team, by or under the direction of at least one independent consultant, who may be a member of a consulting firm, to document the findings and evaluations made during their inspection. The inspection must be performed by the independent consultant team, and the report must be filed by the licensee, in accordance with the procedures in this subpart and as further described in the Guidelines.

**§ 12.33 Exemption.**

(a) Upon written request from the licensee, the Director of the Division of Dam Safety and Inspections may grant an exemption from the requirements of this subpart in extraordinary circumstances that clearly establish good cause for exemption.

(b) Good cause for exemption may include the finding that the development in question has no dam, canal, or other water conveyance except those that meet the criteria for low

hazard potential as defined in § 12.3(b)(14).

(c) An exemption from this subpart, granted prior to [EFFECTIVE DATE OF FINAL RULE], no longer constitutes an exemption from the requirements of this subpart. A licensee must submit a subsequent written request for exemption to the Director of the Division of Dam Safety and Inspections, which may be granted at the discretion of the Director.

**§ 12.34 Approval of independent consultant team.**

(a) The licensee must obtain written approval of the independent consultant team, from the Director of the Division of Dam Safety and Inspections, prior to the performance of a periodic inspection or comprehensive assessment under this subpart.

(b) At least 180 days prior to performing a periodic inspection or comprehensive assessment under this subpart, the licensee must submit to the Director of the Division of Dam Safety and Inspections, with a copy to the Regional Engineer, a detailed independent consultant team proposal.

(1) If the independent consultant team comprises one person, the detailed independent consultant team proposal must:

(i) Describe the experience of the independent consultant; and

(ii) Show that the independent consultant meets the requirements as defined in § 12.31(a) and (b)(2).

(2) If the independent consultant team comprises more than one person, the detailed independent consultant team proposal must:

(i) Designate one or more persons to serve as the independent consultant(s);

(ii) Show that each independent consultant meets the requirements as defined in § 12.31(a);

(iii) Describe the experience of each member of the independent consultant team; and

(iv) Show that the independent consultant team meets the requirements as defined in § 12.31(b)(2).

(c) Regardless of experience and qualifications, any independent consultant team member may be disapproved by the Director of the Division of Dam Safety and Inspections for good cause, such as having had one or more reports rejected by the Commission within the preceding five years.

**§ 12.35 Periodic inspection.**

A periodic inspection must include:

(a) *Review of prior reports*. The independent consultant team must review and consider all relevant reports

on the safety of the development made by or written under the direction of Federal or State agencies, submitted under Commission regulations, or made by other consultants. The independent consultant team must perform sufficient review to have, at the time of the periodic inspection, a full understanding of the design, construction, performance, condition, downstream hazard, monitoring, operation, and potential failure modes of the project works.

(b) *Physical field inspection.* The independent consultant team must perform a physical field inspection of accessible project features, including galleries, adits, vaults, conduits, earthen and concrete-lined spillway chutes, the exterior of water conveyances, and other non-submerged project features that may require specialized access to facilitate inspection. The inspection shall include review and assessment of all relevant data concerning:

- (1) Settlement;
- (2) Movement;
- (3) Erosion;
- (4) Seepage;
- (5) Leakage;
- (6) Cracking;
- (7) Deterioration;
- (8) Hydraulics;
- (9) Hydrology;
- (10) Seismicity;
- (11) Internal stress and hydrostatic pressures in project structures and their foundations and abutments;
- (12) The condition and performance of foundation drains, dam body drains, relief wells, and other pressure-relief systems;
- (13) The condition and performance of any post-tensioned anchors installed, and other major modifications completed, to improve the stability of project works;
- (14) The stability of critical slopes adjacent to a reservoir or project works; and
- (15) Regional and site geological conditions.

(c) *Review of surveillance and monitoring plan and data.* The independent consultant team must:

- (1) Review the surveillance procedures, instrumentation layout, installation details, monitoring frequency, performance history, data history and trends, and relevance to potential failure modes; and
- (2) Review the frequency and scope of other surveillance activities.

(d) *Review of dam and public safety programs—(1) Hazard potential.* Review the potential inundation area and document any significant changes in the magnitude and location of the population at risk since the previous inspection under this subpart.

(2) *Emergency Action Plan.* If the project development is subject to subpart C of this part, review the emergency action plan, including the emergency action plan document itself, the licensee's training program, and any related time-sensitivity assessment(s).

(3) *Public Safety Program.* Review the access restrictions and public safety warning signs and devices near the project works pursuant to § 12.52.

(4) *Owner's Dam Safety Program.* If the project is subject to subpart F of this part, review the implementation of the licensee's Owners Dam Safety Program with respect to the project development being inspected under this subpart.

#### **§ 12.36 Report on a periodic inspection.**

(a) *Format.* The report must include documentation of all the items listed in § 12.35 and conform to the format prescribed by the Guidelines.

(b) *Specific evaluation.* The report must include specific evaluation of:

- (1) The history of performance of the project works through visual observations, analysis of data from monitoring instruments, and previous inspections;
- (2) The quality and adequacy of maintenance, surveillance, methods of project operations, and risk reduction measures for the protection of public safety and continued project operation;
- (3) Potential failure modes, including:
  - (i) Each identified potential failure mode associated with the project works and whether any potential failure mode is active or developing; and
  - (ii) Whether any inspection observations or other conditions indicate that an unidentified potential failure mode is active, developing, or is of sufficient concern to warrant development through a supplemental potential failure modes analysis;
- (4) Whether any observed conditions warrant reconsideration of the current hazard potential classification; and
- (5) The adequacy of the project's:
  - (i) Emergency action plan;
  - (ii) Public safety program; and
  - (iii) Implementation of the Owner's Dam Safety Program with respect to the project development being inspected under this subpart.

(c) *Changes since the previous inspection.* The report must include a status update and evaluation of any changes since the Previous Part 12D Inspection concerning:

- (1) *Hydrology.* Identify any events that may affect the conclusions of the hydrologic or hydraulic analyses of record and evaluate the effect on the safety and stability of project works.
- (2) *Seismicity.* Identify any seismic events that may affect the conclusions of

the seismicity analyses of record and evaluate the effect on the safety and stability of project works.

(3) *Modifications to project works.* Identify any modifications made to project works and evaluate the performance thereof with respect to the design intent.

(4) *Methods of operation.* Describe any changes to standard operating procedures, equipment available for project operation, and evaluate the effect on the safety and stability of project works.

(5) *Results of Special Inspections.* Summarize the findings of any special inspections (dive inspection, rope-access gate inspection, toe drain inspection, etc.), if any.

(6) *Previous recommendations.* List and document the status of recommendations made by the independent consultant in the Previous Part 12D Report, and any earlier recommendations that remained incomplete at the time of the Previous Part 12D Report.

(7) *Outstanding studies and studies completed since the previous inspection.* List and document the status of any studies completed since the Previous Part 12D Inspection and those that remain outstanding at the time of the periodic inspection.

(d) *Recommendations.* Based on the independent consultant team's field observations, evaluations of the project works, and the maintenance, surveillance, and methods of operation of the development, the report must contain the independent consultant's recommendations on:

- (1) Any corrective measures, described in § 12.41, necessary for the structures, maintenance or surveillance procedures, or methods of operation of the project works;
- (2) A reasonable time to carry out each corrective measure; and
- (3) Any new or additional monitoring instruments, periodic observations, special inspections, or other methods of monitoring project works or conditions that may be required.

(e) *Dissenting views.* If the inspection and report were conducted and prepared by more than one independent consultant, the report must clearly identify and describe any dissenting views concerning the evaluations or recommendations of the report that might be held by any individual consultant.

(f) *List of participants.* The report must identify all professional personnel who have participated in the inspection of the project or in preparation of the report and the independent

consultant(s) who directed those activities.

(g) *Statement of independence.* Each independent consultant responsible for the report must declare that all conclusions and recommendations in the report are made independently of the licensee, its employees, and its representatives.

(h) *Signature.* The report must be signed and sealed by each independent consultant responsible for the report.

(i) *Other information.* The report must provide other information listed in the Guidelines.

#### **§ 12.37 Comprehensive assessment.**

A comprehensive assessment must include:

(a) *Review of prior reports and analyses of record.* The independent consultant team must review and consider all relevant reports on the safety of the development made by or written under the direction of Federal or state agencies, submitted under Commission regulations, or made by other consultants.

(1) In addition to the requirements of § 12.35(a)(1), the independent consultant team must have a full understanding of the risk, as defined in the Guidelines, associated with the project works.

(2) The independent consultant team shall perform a detailed review of the as-built drawings; monitoring data; and the methods, assumptions, calculations, results, and conclusions of the analyses of record pertaining to:

- (i) Geology and seismicity;
- (ii) Hydrology and hydraulics;
- (iii) Stability and structural integrity of project works; and
- (iv) Any other analyses relevant to the safety, stability, and operation of project works.

(b) *Physical field inspection.* The independent consultant team must perform a physical field inspection that complies with § 12.35(b).

(c) *Review of surveillance and monitoring plan and data.* The independent consultant team must perform a review of surveillance and monitoring plan and data that complies with § 12.35(c).

(d) *Review of dam and public safety programs.* The independent consultant team must perform a review of dam and public safety programs that complies with § 12.35(d).

(e) *Supporting Technical Information Document.* The comprehensive assessment shall include a review of the Supporting Technical Information Document and evaluation of its conformance with the Guidelines.

(f) *Potential failure modes analysis.* The comprehensive assessment shall

include a potential failure modes analysis, conducted in accordance with the Guidelines.

(g) *Risk analysis.* The comprehensive assessment shall include a risk analysis, conducted in accordance with the scope and procedures established in the Guidelines. The Regional Engineer may, for good cause shown, grant a waiver of the requirement to complete a risk analysis. Any petition for waiver under this paragraph must be filed in accordance with § 385.207 of this chapter.

#### **§ 12.38 Report on a comprehensive assessment.**

(a) *Format.* The comprehensive assessment report must include documentation of all the items listed § 12.37 and conform to the format prescribed by the Guidelines.

(b) *Specific evaluation.* In addition to the items listed in § 12.36(b)(1) through (5), the comprehensive assessment report must evaluate:

(1) The adequacy of spillways, including the effects of overtopping of nonoverflow structures, as described in § 12.39;

(2) The Structural adequacy and stability of structures under all credible loading conditions;

(3) The potential for internal erosion and/or piping of embankments, foundations, and abutments;

(4) The design and construction practices used during original construction and subsequent modifications, in comparison with the industry best practices in use at the time of the inspection under this subpart;

(5) The adequacy of the Supporting Technical Information Document and the attached electronic records; and

(6) The adequacy and findings of the potential failure mode analysis and risk analysis report(s).

(c) *Analyses of record.* The comprehensive assessment report must include the independent consultant team's evaluation of the assumptions, methods, calculations, results, and conclusions of the items listed in § 12.37(a)(2)(i) through (iv). The evaluation must:

(1) Address the accuracy, relevance, and consistency with the current state of the practice of dam engineering;

(2) Be accompanied by sufficient documentation of the independent consultant team's rationale, including, as needed, new calculations by the independent consultant team to verify that the assumptions, methods, calculations, results, and conclusions in the analyses of record are correct; and

(3) If the independent consultant team is unable to review the analyses of

record for any of the items listed in § 12.37(a)(2)(i) through (iv); or if the independent consultant team disagrees with the assumptions, methods, calculations, results, or conclusions therein; the independent consultant shall recommend that the licensee complete new analyses to address the identified concerns.

(d) *Changes since the previous inspection.* The requirements of this section are the same as described in § 12.36(c).

(e) *Recommendations.* The requirements of this section are the same as described in § 12.36(d).

(f) *Dissenting views.* The requirements of this section are the same as described in § 12.36(e).

(g) *List of participants.* The requirements of this section are the same as described in § 12.36(f).

(h) *Statement of independence.* The requirements of this section are the same as described in § 12.36(g).

(i) *Signature.* The requirements of this section are the same as described in § 12.36(h).

(j) *Other information.* Provide other information listed in the Guidelines.

#### **§ 12.39 Evaluation of spillway adequacy.**

The adequacy of any spillway must be evaluated, as part of a comprehensive assessment or as otherwise requested by the Regional Engineer, by considering hazard potential which would result from failure of the project works during normal and flood flows.

(a) If structural failure would present a hazard to human life or cause significant property damage, the independent consultant must evaluate:

(1) The ability of project works to withstand the loading or overtopping which may occur during floods;

(2) The capacity of spillways to prevent the reservoir from rising to an elevation that would endanger the project works; and

(3) The potential for misoperation of; failure to operate; blockage of; or debilitating damage to a spillway and its appurtenances (including but not limited to structural, mechanical, and electrical components of gates, valves, chutes, and training walls); and the effect thereof on the maximum reservoir level and potential for surcharged loading or overtopping to occur during floods.

(b) Spillway adequacy shall be evaluated for the magnitude of flooding required by the Guidelines.

(c) If structural failure would not present a hazard to human life or cause significant property damage, spillway adequacy may be evaluated by means of a design flood of lesser magnitude than

the probable maximum flood provided that the most recent comprehensive assessment report required by § 12.38 provides a detailed explanation of and rationale for the finding that structural failure would not present a hazard to human life or cause significant property damage.

#### **§ 12.40 Time for inspections and reports.**

(a) For any project that was inspected under this subpart prior to January 1, 2021, under the Commission's rules in effect on January 1, 2020:

(1) A periodic inspection or comprehensive assessment must be completed, and the report on it filed, within five years of the due date of the Previous Part 12D Report.

(2) The Regional Engineer may require that the first report due to be filed under this subpart after January 1, 2021 be a report on a comprehensive assessment.

(3) The first comprehensive assessment under this subpart must be completed, and the report on it filed, by December 31, 2034.

(b) For any project that was not inspected under this subpart prior to January 1, 2021, under the Commission's rules in effect on January 1, 2020:

(1) For any development that meets the criteria specified in § 12.30(a)(1) or (2), and was constructed before the date of issuance of the order licensing that development, or amending a license to include that development, the first comprehensive assessment under this subpart must be completed, and the report on it filed, not later than two years after the date of issuance of the order licensing that development or amending the license to include that development.

(2) For any development that was constructed after the date of issuance of the order licensing that development, or amending a license to include that development, the first comprehensive assessment under this subpart must be completed, and the report on it filed, not later than five years after the date of issuance of the order licensing that development or amending the license to include that development.

(3) For any development not set forth in either paragraph (b)(1) or (2), the first comprehensive assessment under this subpart must be completed, and the report on it filed, by a date specified by the Regional Engineer. The filing date must not be more than two years after the date of notification that a comprehensive assessment and report under this subpart are required.

(c) Timing for subsequent reports filed under this subpart:

(1) A comprehensive assessment must be completed, and the report on it filed, within ten years of the date the previous comprehensive assessment report was due to be filed.

(2) A periodic inspection must be completed, and the report on it filed, within five years of the date the previous comprehensive assessment report was due to be filed.

(d) Extension of time: For good cause shown, the Regional Engineer may extend the time for filing the report on a comprehensive assessment or periodic inspection under this subpart.

(e) The Regional Engineer may require that any report due to be filed under this subpart be a report on a comprehensive assessment or a report on a periodic inspection, notwithstanding the type of review (periodic inspection or comprehensive assessment) scheduled to be performed under paragraphs (c)(1) and (2) of this section.

(f) Prior to performing a periodic inspection or comprehensive assessment, a preliminary report prepared by the independent consultant team must be filed with the Regional Engineer to document the initial findings, understanding, and preparation of the independent consultant team.

(1) For any periodic inspection, the preliminary report must be filed in advance of the physical field inspection, in accordance with the timing and procedures established in the Guidelines.

(2) For any comprehensive assessment, the preliminary report must be filed in advance of the physical field inspection, potential failure modes analysis, or risk analysis, whichever occurs first, in accordance with the timing and procedures established in the Guidelines.

(3) If the Regional Engineer determines that the preliminary report does not clearly demonstrate that the independent consultant team is adequately prepared for the inspection, the Regional Engineer may require the inspection to be postponed. Any such postponement shall not constitute good cause for an extension of time under paragraph (d) of this section.

#### **§ 12.41 Corrective measures.**

(a) *Corrective measures.* For items that are identified, during a periodic inspection or comprehensive assessment under this subpart, as requiring corrective action, the following conditions apply:

(1) *Corrective plan and schedule.* (i) Not later than 60 days after a report on a periodic inspection or comprehensive assessment is filed with the Regional

Engineer, the licensee must submit to the Regional Engineer a plan and schedule addressing the recommendations of the independent consultant and for investigating, designing, and carrying out any corrective measures that the licensee proposes to implement.

(ii) The plan and schedule may include any proposal, including taking no action, that the licensee considers a preferable alternative to any corrective measure recommended in the report of the independent consultant. Any proposed alternative must be accompanied by the licensee's complete justification and detailed analysis and evaluation in support of that alternative.

(2) *Carrying out the plan.* The licensee must complete all corrective measures in accordance with the plan and schedule submitted to, and approved or modified by, the Regional Engineer, and on an annual basis must submit a status report on the corrective measures until all have been completed.

(3) *Extension of time.* For good cause shown, the Regional Engineer may extend the time for filing the plan and schedule required by this section.

(b) *Emergency corrective measures.* If, in the course of a periodic inspection or comprehensive assessment conducted under this subpart, an independent consultant discovers any condition for which emergency corrective measures are advisable, the independent consultant must immediately notify the licensee and the licensee must report that condition to the Regional Engineer pursuant to § 12.10(a) of this part. Emergency corrective measures must be included in the corrective plan and schedule required by paragraph (a)(1) of this section, and are also subject to paragraphs (a)(2) and (3) of this section.

#### **Subpart E—Other Responsibilities of Applicant or Licensee**

##### **§§ 12.40 through 12.44 [Redesignated as §§ 12.50 through 12.54]**

■ 10. Redesignate §§ 12.40 through 12.44 as §§ 12.50 through 12.54, respectively.

##### **§§ 12.55 through 12.59 [Reserved]**

■ 11. Add reserved § § 12.55 through 12.59.

■ 12. Revise newly redesignated § 12.52 to read as follows:

##### **§ 12.52 Warning and safety devices.**

(a) To the satisfaction of, and within a time specified by the Regional Engineer, an applicant or licensee must install, operate, and maintain any signs, lights, sirens, barriers, or other safety devices that may reasonably be necessary or desirable to warn the

public of fluctuations in flow from the project or otherwise to protect the public in the use of project lands and waters.

(b) The Regional Engineer may require the applicant or licensee to prepare, periodically update, and file with the Commission a public safety plan that formalizes the installation, operation, and maintenance of all necessary public safety devices. Public safety plans must be developed in accordance with the Guidelines for Public Safety at Hydropower Projects established, and from time to time revised, by the Director of the Division of Dam Safety and Inspections.

#### § 12.54 [Amended]

■ 13. Amend newly redesignated § 12.54 as follows:

- a. In paragraph (b)(2), remove “the periodic” and add in its place “an” and add “gate” directly following the second appearance of the word “spillway”; and
- b. In paragraph (c)(2), remove “the periodic” and add in its place “an”.
- 14. Add subpart F, consisting of §§ 12.60 through 12.65, to read as follows:

#### Subpart F—Owner’s Dam Safety Program

##### Sec.

- 12.60 Applicability.
- 12.61 Definitions.
- 12.62 General requirements.
- 12.63 Contents of Owner’s Dam Safety Program.
- 12.64 Annual review and update of Owner’s Dam Safety Program.
- 12.65 Independent external audit and peer review.

#### § 12.60 Applicability.

The licensee of any dam or other project feature classified as having a high or significant hazard potential, as defined in § 12.3(b)(14), is required to submit an Owner’s Dam Safety Program to the Regional Engineer.

#### § 12.61 Definitions.

For purposes of this subpart:

(a) *Chief Dam Safety Engineer* means the designated individual, who is a licensed engineer, who oversees the implementation of the Owner’s Dam Safety Program and has primary responsibility for ensuring the safety of

the licensee’s dam(s) and other project features.

(b) *Chief Dam Safety Coordinator* means the designated individual, who is not required to be a licensed engineer, who oversees the implementation of the Owner’s Dam Safety Program and has primary responsibility for ensuring the safety of the licensee’s dam(s) and other project features.

#### § 12.62 General requirements.

(a) The Owner’s Dam Safety Program shall designate either a Chief Dam Safety Engineer or Chief Dam Safety Coordinator, as defined in § 12.61. Any Owner’s Dam Safety Program that includes one or more dams or other project features classified as having a high hazard potential, as defined in § 12.3(b)(14), shall designate a Chief Dam Safety Engineer.

(b) The Owner’s Dam Safety Program must be signed by the Owner and, as applicable, the Chief Dam Safety Engineer or the Chief Dam Safety Coordinator.

(c) The Owner’s Dam Safety Program must be reviewed and updated on a periodic basis as described in § 12.64 and, if applicable, must undergo an independent external audit or peer review as described in § 12.65.

(d) The Owner may delegate to others, such as consultants, the work of establishing and executing the Owner’s Dam Safety Program and role of Chief Dam Safety Engineer or Chief Dam Safety Coordinator, as applicable.

(1) If the role of Chief Dam Safety Engineer or Chief Dam Safety Coordinator is delegated to an outside party who does not oversee the day-to-day implementation of the Owner’s Dam Safety Program, the Owner must designate an individual responsible for overseeing the day-to-day implementation.

(2) The Owner shall retain ultimate responsibility for the safety of the dams and other project features covered by the Owner’s Dam Safety Program.

#### § 12.63 Contents of Owner’s Dam Safety Program.

The Owner’s Dam Safety Program shall contain, at a minimum, the following sections:

- (a) Dam safety policy, objectives, and expectations;
- (b) Responsibilities for dam safety;

- (c) Dam safety training program;
- (d) Communication, coordination, reporting, and reports;
- (e) Record keeping and databases;
- (f) Continuous improvement; and
- (g) Other information as further described by the Guidelines.

#### § 12.64 Annual review and update of Owner’s Dam Safety Program.

The Owner’s Dam Safety Program, and the implementation thereof, shall be reviewed at least once annually by the licensee’s dam safety staff and discussed with senior management of the Owner’s organization. The licensee shall submit the results of the annual review, including findings, analysis, corrective measures, and/or revisions to the Owner’s Dam Safety Program, to the Regional Engineer.

#### § 12.65 Independent external audit and peer review.

(a) *Applicability.* For licensees of one or more dams or other project features classified as having a high hazard potential, as defined in § 12.3(b)(14), an independent external audit or peer review of the Owner’s Dam Safety Program, and the implementation thereof, shall be performed at an interval not to exceed five years.

(b) *Qualifications.* A statement of qualifications of the proposed auditor(s) or peer review team shall be submitted to the Regional Engineer for review, and written acceptance thereof must be obtained from the Regional Engineer prior to performing the audit or peer review.

(c) *Reporting.* (1) The auditor(s) or peer review team shall document their findings in a report.

(2) The report on the audit or peer review shall be reviewed by the Owner, Chief Dam Safety Engineer or Chief Dam Safety Coordinator, and management having responsibility in the area(s) audited or reviewed.

(3) The report on the audit or peer review shall be submitted to the Regional Engineer.

(d) *Additional guidance.* Additional guidance for performing external audits and peer reviews shall be provided in the Guidelines.

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