OFFICE OF INSPECTOR GENERAL

U.S. Department of Energy

AUDIT REPORT

DOE-OIG-23-27 July 2023

THE FEDERAL ENERGY REGULATORY COMMISSION'S DAM SAFETY PROGRAM

Department of Energy
Washington, DC 20585

July 25, 2023

MEMORANDUM FOR THE ACTING CHAIRMAN, FEDERAL ENERGY REGULATORY COMMISSON

SUBJECT: Audit Report on The Federal Energy Regulatory Commission's Dam Safety Program

The attached report discusses our review of the Federal Energy Regulatory Commission's dam safety program. This report contains five recommendations that, if fully implemented, should help ensure that the dam safety program is meeting its goals and is being managed, as required. Management fully concurred with our recommendations.

We conducted this audit from May 2022 through April 2023 in accordance with generally accepted government auditing standards. We appreciated the cooperation of your staff during the audit.

Jennifer L. Quinones
Deputy Inspector General
Office of Inspector General

cc: Deputy Secretary
Chief of Staff
Executive Director, Federal Energy Regulatory Commission

Department of Energy
Office of Inspector General

The Federal Energy Regulatory Commission's Dam Safety Program
(DOE-OIG-23-27)

WHY THE OIG PERFORMED THIS AUDIT

The Federal Energy Regulatory Commission (FERC) is responsible for overseeing dam safety, public safety, and security over approximately 2,700 non-Federal hydropower dams. FERC's dam safety efforts work to reduce risks associated with the failure or mis-operation of a project during both normal-flow and flood conditions, including the potential for loss of life, or damage to property or environment upstream and downstream of a dam. Given the significance associated with these risks, we conducted this audit to determine whether the FERC's dam safety program is meeting its goals and is being managed, as required.

What Did the OIG Find?

We found that FERC had generally managed its dam safety program, as required. However, we found that FERC's Division of Dam Safety and Inspections (D2SI) had not always inspected dams under its jurisdiction within its own prescribed timing requirements. In addition, we found that D2SI did not utilize dam safety authority on specific exempted dams where updated regulations may have allowed additional oversight responsibilities. Finally, we found instances where FERC continued to oversee projects that may no longer meet the definition of operable or the intent of Federal requirements.

We attributed these issues to current oversight and management practices by D2SI. Specifically, D2SI's internal dam safety inspection requirements were ambiguous and unclear, which led to an inconsistent application of inspection timing metrics. D2SI also experienced challenges with staffing and workload, as well as COVID-19 response measures, that may have negatively impacted its ability to complete required dam safety inspections timely. Further, D2SI did not proactively initiate available actions that could have reduced risks to its portfolio of dams.

What Is the Impact?

Without implementing additional oversight and management practices to ensure goals of the dam safety program are met, there may be an increased risk to life, property, and environment surrounding dams under FERC's jurisdiction.

What Is the Path Forward?

To address the issues identified in this report, we have made five recommendations that, if fully implemented, should help ensure that FERC oversees and manages its dam safety program, as required.

BACKGROUND

The Federal Energy Regulatory Commission (FERC) is an independent agency that regulates the interstate transmission of electricity through the administration of natural gas and hydropower projects. One of FERC's responsibilities for overseeing its hydropower division focuses on issuing preliminary permits, licenses for the construction and operation of new projects, and relicenses for existing projects. Specifically, before a project can build hydropower capabilities or generate and transmit power, a potential developer must first file an application for a license or exemption from licensing with FERC for review. After issuing a license or exemption, FERC is then responsible for oversight activities of all ongoing project operations, including dam safety and security inspections, public safety, and environmental monitoring. One FERC hydropower project[1] may include multiple dams[2] under its license or exemption. Dam safety is a critical part of the hydropower program, and it receives top priority from FERC. As such, before projects are constructed, FERC staff review and approve the designs, plans, and specifications of dams, powerhouses, and other structures. During construction, FERC staff engineers frequently inspect a project. Once construction is complete, the engineers continue to inspect it on a reoccurring basis.

Within FERC's Office of Energy Projects, the Division of Dam Safety and Inspections (D2SI) is tasked with overseeing dam safety, public safety, and security for approximately 2,700 non-Federal hydropower dams by ensuring that these projects are properly constructed, operated, and maintained. To complete its mission, D2SI utilizes Federal engineers from its five regional offices to conduct dam safety inspections of these projects and provide recommendations to FERC licensees and exemptees to address identified weaknesses, vulnerabilities, and issues. FERC does not aid in the funding or upkeep of these projects. Instead, licensees and exemptees are responsible for maintaining their projects to ensure efficient operation and providing funding to implement remedial actions necessary to address D2SI report recommendations.

Ultimately, D2SI's dam safety efforts work to reduce risks and consequences associated with the failure[3] or mis-operation of a project during both normal-flow and flood conditions. These risks include the potential for the loss of life, or damage to property or the environment upstream and downstream of a dam. Given the significant impacts associated with these risks, we conducted this audit to determine whether the FERC's dam safety program is meeting its goals and is being managed, as required.

INTERNAL AND EXTERNAL REQUIREMENTS

The Federal Power Act of 1920 (Power Act) is the primary Federal statute governing the wholesale transmission and sale of electric power as well as the regulation of hydroelectric power. Part I of the Power Act gives FERC authority to regulate the construction, operation, and maintenance of non-Federal hydroelectric power generation. The Power Act further gives FERC

[1] The Federal Power Act of 1920 defines a "project" as the complete unit of improvement or development, consisting of a power house, all water conduits, or all dams, appurtenant works, and structures.
[2] Title 18, Code of Federal Regulations, Part 12, *Safety of Water Power Projects and Project Works*, defines a "dam" as any structure for impounding or diverting water.
[3] FERC defines a "failure" as any uncontrolled release of water.

authority to issue licenses to U.S. citizens, or to any corporation or municipality, for the purpose of constructing, operating, and maintaining dams, water conduits, reservoirs, power houses, transmission lines, or other project works necessary for the development, transmission, and utilization of power. Also, Section 10 of the Power Act establishes several conditions applicable to all issued hydropower licenses. Of those applicable conditions, Section 10 requires licensees to maintain and repair their facilities, as necessary. Further, Section 31(a) of the Power Act provides FERC with investigation and enforcement authority over hydropower facilities. Therefore, this section empowers FERC to investigate and monitor hydropower facilities through compliance with license terms and conditions.

In addition, Title 18 of the Code of Federal Regulations (CFR), Part 12, *Safety of Water Power Projects and Project Works*, authorizes FERC to test or inspect any water power project or require that the applicant or licensee perform such inspections. The language in 18 CFR Part 12 also permits FERC the authority to require an applicant or a licensee to submit reports or information regarding the design, construction, operation, maintenance, use, repair, or modification of a water power project. Provisions regarding dam safety are included in 18 CFR Part 12, such as maintenance of records, reporting, periodic inspection, and comprehensive assessment requirements, as well as establishing Owner's Dam Safety Programs and developing and maintaining current Emergency Action Plans.

Following the provisions set out in the Power Act and 18 CFR Part 12, FERC developed its own guidelines and oversight procedures through its internal Operating Manual for the Inspection of Projects and Supervision of Licenses for Water Power Projects (Operating Manual) and Engineering Guidelines for the Evaluation of Hydropower Projects (Engineering Guidelines). D2SI engineers follow the procedures and expectations for dam safety inspections set in each of these documents to carry out their hydropower responsibilities. Specifically, for dam safety, the Operating Manual provides requirements and general guidance concerning the contents, disposition, and evaluation of applications for licenses or exemptions, as well as the supervision of existing licenses and exemptions. For example, the Operating Manual stipulates that the frequency of inspections is based on the dam's hazard classification, which determines the level of engineering review and the applicable criteria. The hazard classification of a dam describes the potential for loss of human life or property damage in the area downstream or upstream of the dam in the event of failure or incorrect operation during both normal-flow and flood conditions. Specifically:

- High-hazard dams are those located where failure may cause serious damage to homes, agriculture, industrial and commercial facilities, important public utilities, main highways, or railroads; and are a danger to human life. These dams are to be inspected annually.

- Significant-hazard dams are usually located in predominately rural or agricultural areas where failure may damage isolated homes, secondary highways, or minor railroads; cause interruptions of use or service of relatively important public utilities; or cause some incremental flooding of structures; and are a possible danger to human life. These dams are to be inspected annually.

- Low-hazard dams have a small storage capacity, the release of which would be confined to the river channel in the event of a failure, and would therefore represent no danger to human life. These dams are to be inspected triennially.[4]

The Operating Manual further stipulates that the inspection frequency can vary within the fiscal year (FY), as necessary, due to travel, weather, and seasonal considerations. Because of these conditions, FY dam safety inspection seasons are typically limited to April through September depending on each regional office's geographic location.

DAMS NOT ALWAYS INSPECTED WITHIN PRESCRIBED REQUIREMENTS

Our audit found that FERC generally managed its dam safety program, as required. However, we found instances where FERC had not always met the goals of its program. Specifically, we found that FERC's D2SI had not always inspected dams under its jurisdiction within prescribed timing requirements outlined by its own internal procedures. As already stated, D2SI's Operating Manual and Engineering Guidelines create procedures and expectations for performing dam safety inspections at a frequency based on high-, significant-, or low-hazard classification. Each regional office's dam safety inspection schedule is to be developed by FY. These dam safety inspection schedules include all required annual high-, significant-hazard, and select low-hazard dam inspections. However, our review found that 23 of 849 high- and 12 of 212 significant-hazard dams were not inspected within FY 2022, as scheduled. Of these 35 dams that were not inspected in FY 2022, we identified that 25 had been inspected in October 2022 in FY 2023. We found that the remaining 10 dams had been approved to alter from the prescribed requirements of the Operating Manual and Engineering Guidelines, and instead be inspected on a 2-year cycle based on their unique structure and location. D2SI officials stated that these projects are scheduled to be inspected in FY 2023.

Ambiguous or Unclear Requirements

High- and significant-hazard dams under FERC's jurisdiction were not always inspected as scheduled within FY 2022 because D2SI's internally developed oversight procedures were ambiguous and failed to establish clear expectations or hard-timing metrics for dam safety inspections. Specifically, in addition to the requirements established in the Power Act and 18 CFR, D2SI issued its own set of dam safety inspection procedures through its Operating Manual and Engineering Guidelines. However, we found that these independent documents provided contradictory statements and lacked a clear definition to establish consistent timing metrics for its annual dam safety inspections. For example, we found that the Operating Manual states that high- and significant-hazard dams are required to be inspected annually. However, the Engineering Guidelines were less prescriptive and only indicate that dam safety inspections are typically performed annually for high- and significant-hazard dams. Additionally, neither document provides a clear definition for whether annually is meant to be completed by the end of the FY or calendar year, even though the Operating Manual does stipulate that other D2SI activities, such as developing its inspection schedule, are to be completed by FY.

[4] In January 2017, the inspection frequency for low-hazard dams less than a height of 10 feet was changed from every 3 years to at least every 5 years. This revision was directed via email from the D2SI Acting Director and has not been incorporated into the Operating Manual or Engineering Guidelines as of December 2022.

Without a clear expectation or definitive timing metrics, we found that D2SI was not holding its regional engineers to a firm timeline for performing its annual dam safety inspections. Of the 35 high- and significant-hazard dams that were not inspected during FY 2022, 25 were inspected at the beginning of a new FY in October 2022. When we discussed these findings with D2SI, officials indicated that the intent of the inspection requirement was to ensure the safe operation of dams through regularly scheduled inspections and that the focus surrounding the FY metric was solely budgetary. While we understand FERC's intentions, without clear and consistent procedures and requirements, D2SI does not have a distinct timing metric to impose on its regional engineers to ensure potential dam safety issues are identified promptly.

COVID-19 Response Measures

Further, we noted that COVID-19 pandemic response measures, such as voluntary travel and low-hazard waivers, presented complications to conducting required dam safety inspections. Specifically, D2SI officials stated that during FY 2022, as with the prior FYs affected by COVID-19, travel for its regional engineers was on an entirely voluntary basis. During this time, for projects where in-person inspections were not conducted, D2SI implemented a new virtual inspection process to ensure that dams still received required inspections. This process included D2SI requesting that the licensee or exemptee complete an Owners Inspection Form that was submitted to D2SI for review and follow-up, if necessary. In addition to the implemented virtual inspection process, D2SI also issued a waiver for the requirement to inspect low-hazard dams until further notice. As such, regional engineers could forego inspections of low-hazard dams, even if they were nearing or had exceeded the passage of time requiring an inspection, and focus on inspecting dams with a high- or significant-hazard classification. Despite these additional COVID-19 response measures, we found that D2SI was still unable to inspect all high- and significant-hazard dams in FY 2022, as required. This is concerning because once the COVID-19 measures are lifted, D2SI will need to perform required inspections on hundreds of low-hazard dams in addition to the required high- and significant-hazard inspections to keep its backlog of inspections from growing ever larger and longer in duration.

Staffing Resources and Workloads

Additionally, high- and significant-hazard dams were not always inspected in FY 2022 because of D2SI staffing and workload challenges. Of the 35 dams not inspected in FY 2022, D2SI explained that 18 of these dams were not inspected because of staffing. Specifically, one regional office indicated that staff needed to be reassigned due to various human capital actions, causing some inspections to take place shortly after the beginning of FY 2023. A second regional office had a similar situation and attributed that some inspections had been performed after the end of FY 2022 due to current staff resource constraints. A contributing factor to staffing resources at one regional office included hiring challenges, such as obtaining qualified applicants to job announcements, competing with private-sector salaries, and the high cost of living in the geographic region. The second regional office noted that the technical complexity of work performed increases as aging dams experience more problems, which in turn elevates the level of effort needed by already-limited staffing levels.

Additionally, wide variations of individual engineer workloads exist throughout the regional offices that may contribute to future challenges to complete timely dam safety inspections. D2SI officials indicated that there is no Federal benchmark or requirement of a dam-to-engineer ratio. Instead, because no two dams have the same level of workload, regional offices assign the dam's oversight based on the experience of the engineer, complexity of the project, and other factors, including ongoing construction or dam hazard classification. We identified one regional office in which workload assignments significantly varied in range. Specifically, this regional office indicated that one engineer there was dedicated to a single high-hazard dam undergoing major rehabilitation. In contrast, this same regional office had an engineer who oversaw 66 dams, the majority of which are low-hazard and did not require annual inspections. Although the dam-to-engineer ratio was never directly attributed to inspections not being completed, such wide variances in workload assignments could challenge D2SI's ability to complete all scheduled inspections within the FY.

To its credit, D2SI has been creative in addressing staffing shortages and workload challenges. For example, to complete scheduled inspections, D2SI shared staffing resources among its regional offices. Additionally, over the last several years, D2SI officials indicated that they had hired interns to increase its staffing. While these efforts are commendable, staffing resources and workload concerns will be further complicated once COVID-19 response measures are lifted. D2SI indicated it would incorporate low-hazard dam inspections back into the FY schedule. Due to the increased number of inspections that will need to be included in the FY inspection schedule, D2SI officials indicated that they plan to conduct a risk-based approach in developing future schedules. Without adequate staffing resources, D2SI cannot ensure that all dams under its jurisdiction are inspected, as required.

OTHER MATTERS

Enforcement of Dam Safety Authority

Our review found that D2SI was not always using its authority to enforce potential dam safety with certain exemptees to ensure that they met applicable requirements. Specifically, in November 1980, FERC adopted procedures pursuant to Congressional authorization that allowed dam applicants an exemption from all or some of the requirements of Part I of the Power Act, including licensing small hydropower projects with a proposed installed capacity of 5 megawatts or less. To encourage the development of these projects, this exemption was designed to provide a method of relieving the projects from certain regulatory requirements. If an exemption to licensing was granted, the project became exempt from Part I of the Power Act, unless otherwise specified, but remained subject to the standard terms and conditions set forth in 18 CFR 4.106. However, over time, updates and additions to 18 CFR 4.106 were issued that might have permitted the application of certain dam safety authority for high- and significant-hazard projects previously exempt from licensing.

In March 1985, additional articles were added to 18 CFR 4.106 that specified dam safety oversight requirements based on projects meeting certain criteria. For example, one of the

articles stated that any exempted small hydroelectric power project that met specific criteria[5] was subject to certain provisions of 18 CFR Part 12. These provisions include licensee requirements, such as creating and modifying Emergency Action Plans, as necessary, obtaining an inspection by an independent consultant, and using sound and prudent engineering practices in operation and maintenance of a project. Additionally, in February 2012, that same article was updated to include all of 18 CFR Part 12, which adds significant dam safety oversight responsibilities for the licensee surrounding reporting, quality control, and other various testing.

We found that D2SI had not always applied the 18 CFR 4.106 updates to certain projects exempt from licensing. Specifically, D2SI had been treating projects that had received the exemption from licensing prior to the June 1985 updates to 18 CFR 4.106 as if no dam safety authority existed. D2SI officials indicated that despite enforcement authority limitation concerns, these exempt projects were still being inspected at their respective frequency based on hazard classification and recommendations from these inspections and were typically addressed by the exemptee. However, despite issuing inspection recommendations, D2SI noted that some exemptees were not as responsive and let recommendations go unaddressed. For example, we found one project where the exemptee had been unresponsive to numerous D2SI report recommendations for over 10 years. D2SI officials stated that they could not enact enforcement authority over the exemptee because its initial exemption from licensing had been granted in 1981, which was prior to the June 1985 update to 18 CFR 4.106(h). When asked, FERC officials indicated that the applicability of the updates of 18 CFR 4.106 to exemptees had not been fully addressed at the time of our review. Without fully addressing the applicability, the updates may have provided D2SI dam safety and enforcement authority, giving FERC the ability to ensure reported recommendations were adequately addressed.

Maintaining Oversight of Inoperable Projects

Our review found instances where FERC continued to maintain oversight responsibilities over projects that might no longer meet the definition of operable[6] or the requirements of the Power Act and 18 CFR. Specifically, Section 10(c) of the Power Act requires that a licensee must maintain its hydropower project in a good state of repair to ensure efficient operation of electric generation. For exempt small hydroelectric power projects, 18 CFR 4.106(f), Standard Article 6 directed that to best develop, conserve, and utilize in the public interest the water resources of the region, FERC may require that the exempt facilities be modified in structure or operation, or they may revoke an exemption. Projects that are not maintained and operated for an extended period of time are considered to be non-operating and may be subject for grounds of a license or exemption surrender,[7] or may be pursued for noncompliance. Through its regional offices, D2SI

[5] 18 CFR 4.106(h) states that any exempted small hydroelectric power project that utilizes a dam more than 33 feet in height above streambed, impounds more than 2,000 acre-feet of water, or has a high- or significant-hazard potential is subject to certain provisions of 18 CFR Part 12.
[6] D2SI defines an inoperable project as one that is 100 percent not generating electricity.
[7] According to the Division of Hydropower Administration and Compliance Handbook, Section 2.9.1, *Surrender*, "A licensee or exemptee may decide that it no longer wishes to hold the Commission issued license or exemption for a hydroelectric project because it is no longer economical, or because natural catastrophes have damaged or destroyed project facilities, or for a variety of other reasons. In such instances, the licensee or exemptee needs to apply to the Commission to surrender its hydroelectric project. Hydroelectric projects under the Commission's

will make multiple attempts to get project operation restored. However, if the licensee or exemptee either refuses or is unresponsive, D2SI will refer these projects to the Office of Energy Projects' Division of Hydropower Administration and Compliance (DHAC) for possible noncompliance. At that point, DHAC will work with the licensee or exemptee to ensure that the project returns to full operation or moves forward with potential civil penalties, such as the surrender of the license or exemption. Officials indicated that DHAC's goal is to bring inoperable projects back to an operable status and into compliance.

We found that D2SI was tracking 53 licensee and exemptee projects classified as inoperable as of December 2022. However, of these 53 projects, only 14 (26 percent) were classified as actively enacting restoration efforts. Further, we found that seven projects (13 percent) had been inoperable for over 20 years, including one that has been inoperable for over 30 years. Table 1 provides additional information regarding the inoperable projects.

Table 1: Inoperable Projects by Hazard Classification and Restoration Status

Hazard	Status	< 5 years	5–10 years	10–20 years	20+ years	Total
Low	Active	0	2	5	1	8
	Inactive	2	3	1	1	7
	Referred	2	6	14	4	26
Significant	Active	1	2	1	0	4
	Inactive	1	1	1	0	3
	Referred	1	0	0	0	1
High	Active	1	1	0	0	2
	Inactive	0	1	0	0	1
	Referred	0	0	0	1	1
Totals		**8**	**16**	**22**	**7**	**53**

D2SI tracks a project as inoperable until the project initiates restoration efforts or it is referred to DHAC for potential revocation of the license or exemption. Officials stated that licensees will typically provide some type of correspondence to inform D2SI on the active efforts being implemented to return their project to operational status. Officials also stated that the inactive status is reserved for projects where inoperative equipment is not replaced or repaired, the project is abandoned, or good-faith operation has been purposefully discontinued.

We found that a project might remain inoperable for numerous reasons, including the licensee or exemptee experiencing difficulty in obtaining funding for necessary repairs, other wetland or wildlife agency requirements that must be addressed before implementing efforts to respond to D2SI recommendations, or construction setbacks that delayed completion milestones. Of the 53 projects tracked by D2SI as inoperable for possible noncompliance, we found that 12 were working through the surrender process, and DHAC had issued notices of possible termination by surrender to another 2 licensees in 2021. Officials indicated that when a surrender of a license or

jurisdiction cannot be simply abandoned; surrenders must be approved by the Commission in order to ensure public safety and any needed environmental protection. The complexity of the surrender process is determined by the site-specific conditions and the implications of ending Commission jurisdiction."

exemption occurs, D2SI coordinates with appropriate agencies to ensure oversight is continued. However, until the surrender or revocation of a license or exemption, FERC maintains oversight responsibilities over these projects. Despite any dam safety or inspection effort, a dam continues to carry a certain level of residual risks[8] associated with failure or mis-operation as either can occur during normal-flow or flood conditions. While a project remains under its jurisdiction, FERC takes on and accepts those risks for its universe of dams while maintaining responsibility for dam safety oversight. However, FERC may be taking on unnecessary risk by continuing to oversee projects that do not meet the requirements of the Power Act or CFR and, therefore, may no longer meet the intent of FERC's hydropower function. When a project remains inoperable for a substantial period of time without initiating any effort to return to operation, transferring jurisdiction to an applicable authoritative agency could be a proactive risk management tool for FERC to utilize to ensure oversight is maintained.

SIGNIFICANCE OF MEETING PROGRAM GOALS

Without implementing additional oversight and management practices to ensure D2SI consistently meets the goals of the dam safety program, there may be an increased risk to life, property, and environment upstream or downstream of dams under FERC's jurisdiction. Specifically, failure or mis-operation of a dam can occur quickly and without much warning during both normal-flow or flood conditions. The potential for flash-flooding in the area surrounding a high- or significant-hazard dam that would result from a sudden or rapid uncontrolled release of water could severely impact life, property, and other infrastructure systems, such as roads, bridges, or waterways. While these risks cannot be fully eliminated, mitigations such as sufficient staffing and performance of inspections, as required, can increase the likelihood that adverse conditions are detected timely. With over 1,050 high- and significant-hazard dams within FERC's portfolio that pose the highest risk to life, property, and environment in the event of a failure, timely inspection and detection of potential issues is crucial to an effective dam safety program.

RECOMMENDATIONS

We recommend that the Director, Office of Energy Projects, direct the Director, D2SI, to:

1. Evaluate and revise, where deemed appropriate, internal oversight guidelines and procedures to ensure that inspection requirements are clear and consistent in defining expectations and that deviations are clearly documented.

2. Ensure an annual plan is in place to provide required inspections to all dams under FERC's jurisdiction, including those low-hazard dams waived as part of the COVID-19 response measures.

[8] Residual risks are those that remain even after the implementation of controls and procedures have been applied. Examples of residual risks include dam failure during normal-operating conditions due to unforeseen phenomena, such as earthquakes, hurricanes/typhoons, landslides, fire, extreme accumulation of snow, or civil disturbances.

We recommend that the Acting Chairman, FERC, direct the appropriate officials to:

3. Develop D2SI-specific staffing and succession plans to ensure future dam safety inspections are conducted at the required frequency.

4. Evaluate and determine applicability of updates to 18 CFR 4.106 for all exemptions from licensing under its jurisdiction.

5. Implement steps, where appropriate, to enhance proactive measures, such as the surrender process, to ensure timely management of inoperable projects.

MANAGEMENT RESPONSE

Management concurred with our recommendations and identified responsive corrective actions to address the reported issues. Specifically for Recommendation 1, internal inspection guidelines and procedures will be updated for implementation in FY 2024. Regarding Recommendation 2, an annual inspection plan for FERC-jurisdictional dams will be implemented for FY 2024. For Recommendation 3, dam safety and succession plans will be evaluated, and recommendations will be provided to the Acting Chairman of FERC. Finally, for Recommendations 4 and 5, the existing exemption and surrenders program, respectively, will be studied and recommendations will be provided to the Acting Chairman of FERC for consideration by the Commission.

Management Comments are included in Appendix 3.

AUDITOR COMMENTS

Management's comments were responsive to our recommendations, and we agree with the steps that have already been implemented and planned actions to be taken.

OBJECTIVE

We conducted this audit to determine whether the Federal Energy Regulatory Commission's (FERC) dam safety program is meeting its goals and is being managed, as required.

SCOPE

The audit was remotely performed from May 2022 through April 2023 with officials working at FERC Headquarters in Washington, DC; the Atlanta Regional Office in Duluth, GA; Chicago Regional Office in Chicago, IL; the New York Regional Office in New York, NY; the Portland Regional Office in Portland, OR; and the San Francisco Regional Office in San Francisco, CA. The audit also included a physical site visit to a dam under the New York Regional Office's jurisdiction. The audit scope was limited to hydroelectric dams under FERC's purview. Most of the information was obtained via remote access techniques. The audit was conducted under Office of Inspector General project number A22PT001.

METHODOLOGY

To accomplish our audit objective, we:

- Reviewed applicable policies, procedures, laws, and regulations to identify those relevant to the audit objective.

- Reviewed relevant audit reports issued by the Office of Inspector General and the U.S. Government Accountability Office.

- Interviewed Federal officials from FERC's Office of Energy Projects to include officials within the Division of Dam Safety and Inspections and the Division of Hydropower Administration and Compliance.

- Selected the New York Regional Office for additional test work using a judgmental sample methodology including factors such as the total number of dams, number of high- and significant-hazard dams, age of dams, and geographic location. We then selected five dams from the New York Regional Office for detailed test work using a judgmental sample methodology. Factors for judgmental sample selection included dam hazard classification, age of dam, dam structure type, location, fiscal year 2022 scheduled inspection date, and/or the Division of Dam Safety and Inspections engineer assigned. For each dam, we reviewed supporting documentation including dam safety inspection reports, Part 12 D inspection reports, and Data and Management System open-work items, if available. Because selection was based on a judgmental or non-statistical sample, results and overall conclusions are limited to the items tested and cannot be projected to the entire population.

- Performed a site visit to observe an annual dam safety inspection of a high-hazard dam. Held meetings and interviews with regional engineers and the selected dam's licensee.

- Distributed questionnaires to the five regional offices and reviewed responses to gain a better understanding of staffing resources, dam safety processes, and challenges unique to each office.

- Obtained and reviewed the universe of dams under FERC's jurisdiction from the Data and Management System as of October 2022. Performed an analysis on the entire universe of dams, which included identifying the number of high-, significant-, and low-hazard dams not inspected in fiscal year 2022. Conducted followup meetings and distributed questionnaires to identify why high- and significant- hazard dam safety inspections were outstanding in fiscal year 2022.

- Obtained and analyzed the entire universe of inoperable projects under FERC's jurisdiction as of December 2022.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. We assessed internal controls and compliance with laws and regulations necessary to satisfy the audit objective. In particular, we assessed the control environment, monitoring, and risk assessment control components and the following underlying principles: establish structure, responsibility, and authority; perform monitoring activities; remediate deficiencies; exercise oversight responsibility; and define objectives and risk tolerances. However, because our review was limited to these internal control components and underlying principles, it may not have disclosed all internal control deficiencies that may have existed at the time of this audit. We assessed the reliability of data contained in the Data and Management System by: (1) interviewing responsible officials overseeing the system, and (2) performing verification steps in our sample test work to confirm the accuracy of the information within the system to source documentation. We determined that the data was sufficiently reliable for the purposes of this report.

We held an exit conference with management officials on July 10, 2023.

Office of Inspector General

- Audit Report on *The Federal Energy Regulatory Commission's Program to Oversee Hydroelectric Dams* (DOE/IG-0750, December 2006). This audit found that there were weaknesses in the Federal Energy Regulatory Commission's (FERC) Dam Safety Program related to dam security inspection, analysis, and review activities. Specifically, it was noted that FERC had not: (1) captured or tracked to resolution needed dam security improvements; (2) ensured that FERC reviews of the adequacy of dam vulnerability and security assessments were documented and subjected to management or quality assurance reviews; and (3) adequately documented FERC performance of security reviews. These conditions occurred because FERC had not placed sufficient emphasis on establishing or enforcing internal controls for its dam security and inspection and assessments. Additionally, FERC had not always required that these activities be documented and the results retained and subjected to management and quality assurance reviews.

- Audit Report on *Federal Energy Regulatory Commission's Dam Safety Program* (DOE/IG-0486, October 2000). This audit found FERC was appropriately tracking needed actions for its inspections for over 900 high- and significant-hazard dams in fiscal year 1999; however, there was a need for improvement for the review of independent consultant reports and the processing of internal reports. Specifically, FERC had not reviewed over 70 independent consultant reports and had not prepared final reports of more than 300 inspections. This condition occurred because management had not fully monitored regional office performance related to review and reporting or established report issuance as a priority.

U.S. Government Accountability Office

- *Dam Safety: FERC Should Analyze Portfolio-Wide Risks* (GAO-19-19, October 2018). The U.S. Government Accountability Office performed an audit to determine how FERC collects information from its dam safety inspections and the extent of its analysis, how FERC evaluates engineering studies of dam performance to analyze safety, as well as other objectives. The U.S. Government Accountability Office found that FERC staff generally followed established guidelines in collecting safety information from dam inspections; however, this information was not used to analyze dam safety portfolio-wide. Specifically, FERC lacked standard procedures that specify how and where staff should record safety deficiencies identified.

FEDERAL ENERGY REGULATORY COMMISSION
Office of the Chairman

June 22, 2023

Earl Omer
Assistant Inspector General for Audits
Office of Inspector General
Department of Energy
1000 Independence Avenue, SW
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Dear Mr. Omer

Thank you for the opportunity to provide comments on behalf of the Federal Energy Regulatory Commission with respect to the Department of Energy's Office of Inspector General's draft reported entitled, "The Federal Energy Regulatory Commission's Dam Safety Program (A22PT001)." This is a timely contribution to this area of the Commission's work. Overall, I agree with recommendations and am committed to further exploring these areas within the Commission's dam safety and hydropower programs.

The Inspector General made the following five recommendations:

For the Director, Office of Energy Projects, to direct the Director, Division of Dam Safety and Inspections, to:

1. Evaluate and revise, where deemed appropriate, internal oversight guidelines and procedures to ensure that inspection requirements are clear and consistent in defining expectations and that deviations are clearly documented.

2. Ensure an annual plan is in place to provide required inspections to all dams under FERC's jurisdiction, including those low-hazard dams waived as part of the COVID-19 response measures.

For the Acting Chairman, FERC, to direct the appropriate officials to:

3. Develop D2SI-specific staffing and succession plans to ensure future dam safety inspections are conducted at the required frequency.

4. Evaluate and determine applicability of updates to 18 CFR 4.106 for all exemptions from licensing under its jurisdiction.

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5. Implement steps, where appropriate, to enhance proactive measures, such as the surrender process, to ensure timely management of inoperable projects.

In response to the Inspector General's examination of these issues, the Commission has already implemented the following steps:

For Recommendation 1, the Director of the Office of Energy Projects is working with the Director of the Division of Dam Safety and Inspections to update internal inspections guidelines and procedures for roll out in FY 2024. Similarly, for Recommendation 2, the two Directors are working to implement an annual inspection plan of FERC-jurisdictional dams for FY 2024.

For Recommendation 3, I have directed the Directors of the Office of Executive Director and Energy Projects to evaluate current dam safety specific staffing and succession plans and provide recommendations to me. For Recommendation 4, I have directed the Directors of the Offices of Energy Projects and the General Counsel to study the existing exemptions program and provide recommendations to me for consideration by the Commission.

Finally, for Recommendation 5, I have directed the Directors of Office of Energy Projects and the General Counsel to study the existing surrenders program and provide recommendations to me for full consideration by the Commission.

Thank you again for the opportunity to review this report. I look forward to working on these initiatives.

Sincerely,

Willie Phillips
Chairman

FEEDBACK

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