

FEDERAL ENERGY REGULATORY COMMISSION
Office of Energy Projects
Division of Dam Safety and Inspections – Chicago Regional Office
230 South Dearborn Street, Room 3130
Chicago, Illinois 60604
312-596-4430

June 28, 2023

In reply refer to: P-2056

VIA Electronic Mail

Mr. Scott Crotty
Senior Hydro Operations Manager
Xcel Energy
Scott.a.Crotty@xcelenergy.com

Subject: The Ninth Part 12D Report, for a Periodic Inspection of the St. Anthony Falls Project P-2056, is due by December 20, 2024

Dear Mr. Crotty:

This letter is to inform you that the Ninth Part 12D Independent Consultant's Safety Inspection Report (Part 12D Report) for St. Anthony Falls Project, Hennepin Development, FERC No. 2056, is due to be submitted to this office by December 20, 2024.

This letter contains important information about the required scope and contents of the Part 12D Report and reflects changes to the Commission's regulations that were implemented by Order 880 and went into effect on April 11, 2022. We encourage you to read this letter in its entirety, as well as the regulations and associated Guidelines.

General Requirements

Code of Federal Regulations (CFR) Title 18, Part 12, Subpart D establishes the Commission's Independent Consultant (IC) Inspection Program, also referred to as the Part 12D Program, and prescribes the scope of inspections, reports, qualifications of Independent Consultant Team (IC Team) personnel, and related procedures.¹ The Part 12D Program is implemented by the Commission's Office of Energy Projects, Division of Dam Safety and Inspections (D2SI). Chapter 16 of the Commission's Engineering

¹ <https://www.ecfr.gov/on/2022-04-11/title-18/chapter-I/subchapter-B/part-12/subpart-D>

Guidelines for the Evaluation of Hydropower Projects (Engineering Guidelines) provides additional information related to the Part 12D Program.²

The list below shows several key components and deliverables that are required for this inspection:

- For the Ninth Part 12D Inspection, the IC Team must perform a **Periodic Inspection** (PI) as defined in 18 CFR § 12.31(e) and described in 18 CFR § 12.35.
- You must provide a **Part 12D Inspection Plan** in advance, including an **IC Team Proposal**, and obtain written approval from the Director, D2SI in advance of the Part 12D Inspection, as described in 18 CFR § 12.34.
- The IC Team must prepare a preliminary report, referred to as a **PI-Pre-Inspection Preparation Report** (PI-PIPR). The PI-PIPR must be submitted at least 30 days in advance of the field inspection, as described in 18 CFR § 12.42. Appendix 16-C of the Engineering Guidelines provides an outline for the PI-PIPR.
- The IC Team must document their findings in a final Part 12D Report, specifically a **Periodic Inspection Report** (PIR), which is described in 18 CFR § 12.36. The PIR must be submitted by December 20, 2024. Appendix 16-B of the Engineering Guidelines provides an outline for the PIR.
- You must provide a **plan and schedule for corrective measures** to address the IC Team’s recommendations, as required by 18 CFR § 12.41 and further described in Section 16-7 of the Engineering Guidelines.

Project Development(s) Requiring Inspection

The applicability of 18 CFR Part 12, Subpart D is based on project developments as defined in 18 CFR 12.3(b)(7). A project development comprises “an impoundment and its associated dams, forebays, water conveyance facilities, power plants, and other appurtenant facilities.” For this PI, the following project development requires inspection:

- Hennepin Development P-02056-02

Timeline of Activities

The table below shows the timing of some major milestones in the PI process. Shortly after issuance of this letter, Commission staff will contact you to schedule the initial coordination call; Enclosure 1 provides an agenda for that call.

² https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20211216-3085

Milestone	Timing
Initial Coordination Call (<i>Licensee and FERC</i>)	Within approximately 30 days of the date of this letter
Submit the Part 12D Inspection Plan to the FERC	180 days in advance of the field inspection
Second Coordination Call (<i>Licensee, IC Team, and FERC</i>)	Within approximately 6 weeks after approval or conditional approval of the IC Team
Submit the PI-PIPR to FERC	At least 30 days before the field inspection
Field inspection (<i>Licensee, IC Team, and FERC</i>)	<i>Dates as scheduled in the Part 12D Inspection Plan</i>
Submit the PIR to FERC	December 20, 2024
Submit the plan and schedule to address the IC Team's recommendations	Within 60 days after the PIR is submitted

Approval of the Independent Consultant Team and the Part 12D Inspection Plan

You are required to submit a Part 12D Inspection Plan at least 180 days in advance of the first IC Team activity; since you are to perform a Periodic Inspection, the first activity is the site inspection.³ The Part 12D Inspection Plan must describe the scope and schedule of the inspection activities and include an IC Team Proposal, which must:

- Identify the required technical disciplines for IC(s) and supporting team members;
- Identify the proposed IC(s) and demonstrate that they meet the requirements of 18 CFR § 12.31(a);
- Demonstrate that the IC Team collectively has the required “experience and expertise with dam design, construction, and in 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;”⁴ and
- Address any potential conflicts of interest that may exist, specifically in regard to the requirement in 18 CFR § 12.34(b)(3), which prohibits any member of the IC Team from reviewing their own previous work.

You are required to obtain written approval of the proposed IC Team from the Director, D2SI prior to the performance of the Part 12D Inspection.⁵ File the Part 12D

³ 18 CFR § 12.34(b)

⁴ 18 CFR § 12.31(b)

⁵ 18 CFR § 12.34(a)

Inspection Plan, including the IC Team Proposal, using the Commission's eFiling system with the following address block on your transmittal letter:

Mr. David Capka, P.E., Director
Division of Dam Safety and Inspections
Federal Energy Regulatory Commission
Office of Energy Projects

You can access the Commission's eFiling system at <https://www.ferc.gov/ferc-online/overview>. During eFiling make the following menu selections: Hydro: Dam Safety; Washington, DC; and Independent Consultant Approval Request. The cover page of the filing must indicate that the material was eFiled. For assistance with eFiling, contact FERC Online Support at FERCOnlineSupport@ferc.gov, (866) 208-3676 (toll free), or (202) 502-8659 (TTY).

Section 16-3.3 of the Engineering Guidelines provides additional information related to the Part 12D Inspection Plan and IC Team Proposal. Please note that you may provide the name(s) and resume(s) of any supporting members of the IC Team in the Pre-Inspection Preparation Report (discussed below) instead of the IC Team Proposal, which provides flexibility for assigning subject matter experts closer to the inspection.⁶

Review of Prior Reports

The IC 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,” and “must perform sufficient review to have, at the time of the [inspection], a full understanding of the design, construction, performance, condition, downstream hazard, monitoring, operation, and potential failure modes of the project works.” As the licensee, you are responsible for “[providing] to the independent consultant team all information and reports necessary” to fulfill these requirements.

Pre-Inspection Preparation Report

At least 30 days prior to the first in-person IC Team activity (field inspection), you are required to submit a preliminary report (the PI-PIPR) documenting the initial findings from the IC Team's review of project documentation, instrumentation data, and other information.⁷ We will review the PI-PIPR to evaluate whether the IC Team has an adequate understanding of project features and determine whether the inspection activities can proceed as scheduled. If the name(s) and resume(s) of any supporting

⁶ 18 CFR § 12.34(b)(4)

⁷ 18 CFR § 12.40(f)

members of the IC Team were not provided in the Part 12D Inspection Plan, they must be provided in the letter transmitting the PI-PIPR. Section 16-4 of the Engineering Guidelines contains additional information regarding PIPRs.

If you do not submit the PI-PIPR in a timely manner, or if the PI-PIPR does not clearly demonstrate that the IC Team has performed the necessary level of preparation, we may require postponement of the in-person IC Team inspection activities. Regional Office staff will review the PI-PIPR and determine whether it is acceptable, generally acceptable, or unacceptable, as described in Section 16-4.1 of the Engineering Guidelines. If the PI-PIPR is acceptable or generally acceptable, the Part 12D Inspection may proceed as scheduled, though we may request follow-up action(s) to be completed prior to the first activity. If the PI-PIPR is unacceptable, the Part 12D Inspection will be postponed, and that postponement will not constitute good cause for an extension to submit the PIR. If the Regional Engineer does not issue a letter within two weeks after the PI-PIPR is submitted, the PI-PIPR will be deemed acceptable by default.

Field Inspection

The scope of any Part 12D Inspection includes “a physical field inspection of accessible project works, 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.” Section 16-5.3.1 of the Engineering Guidelines contains additional details regarding inspection of the reservoir rim and spillway chutes; observation of gate operations; and the review of special inspection reports.

You must provide a schedule for the field inspection to the Regional Office in advance of the inspection. If the IC Team intends to split into smaller groups to inspect multiple project features simultaneously, you must inform us well in advance. Typically, Regional Office staff will accompany the IC Team during the field inspection, and we will need to ensure that we send sufficient personnel to observe the project features with the IC Team. Any special access procedures and safety equipment should be identified ahead of time so that everyone attending the field inspection can prepare accordingly.

Potential Failure Modes Analysis and Risk Analysis Not Required

The scope of a PI **does not** include a Potential Failure Modes Analysis (PFMA) or Level 2 Risk Analysis (L2RA). The IC Team is still responsible for reviewing the most recent PFMA so they understand each identified PFM prior to the inspection and evaluate “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 mode analysis.”⁸

Periodic Inspection Report

By the due date shown above, you are to submit the IC Team’s PIR to this office. Section 16-5 of the Engineering Guidelines contains additional information about the documentation required in each section of the PIR. Please note the following specific requirements that are important for you and the IC Team to fully understand:

- **Incorporation by Reference.** The regulations implemented by Order 122 (January 28, 1981) permitted the incorporation by specific reference to a previous Part 12D Report if the conditions, assumptions, and available information had not changed. **This is not permitted under the regulations that were implemented by Order 880 and which went into effect on April 11, 2022.** The IC Team must document their own interpretation and evaluation in each section of the PIR, where required.
- **Evaluation of Performance.** The evaluation of the performance of project works must be an independent interpretation based on the IC Team’s visual observations and review of instrumentation data and surveillance reports. The IC Team may not rely entirely on previous interpretations or state that a particular condition or instrumentation data does not indicate a potential issue simply because it is not changing over time. The evaluation must clearly address the identified PFMs as well as whether any previously unidentified PFMs may be active or developing.
- **Recommendations.** For each corrective measure the IC Team provides in the PIR, they are also required to provide their recommendation of a reasonable time for the Licensee to carry out the corrective measure.

Corrective Measures – IC Team Recommendations and Licensee Plan and Schedule

Within 60 days of submitting the Part 12D Report, you must submit your plan and schedule for addressing any recommendations provided by the IC Team.⁹ Your plan may include any proposal, including taking no action, that you consider a preferred alternative to any corrective measures recommended by the IC Team, and you may not concur with the IC Team’s recommended time to complete each corrective measure. However, it is your responsibility to provide complete justification in support of your preferred alternative, and the Regional Engineer may require modifications to your proposed plan

⁸ 18 CFR § 12.36(b)(3)

⁹ 18 CFR § 12.41(a)(1)(i)

and schedule.¹⁰ You must submit an annual report documenting the status of the corrective measures until all have been completed.¹¹

If during the course of their inspection, the IC Team discovers any condition for which emergency corrective measures are advisable, the IC Team must notify you immediately and you must notify the Regional Engineer pursuant to 18 CFR § 12.10(a).¹²

Closing

The Commission's dam safety program is a cooperative process that includes the Licensee, the IC Team, and the FERC. The most important of the three elements is the Licensee, as you operate the project, see the project on a regular basis, and are responsible for the performance monitoring program used to determine if any potential failure modes are developing. It is your responsibility as the Licensee to submit the Part 12D Report to the FERC and ensure that the Part 12D Report meets the requirements of the Commission's Regulations and the Engineering Guidelines before it is submitted. The Part 12D Report is a FERC requirement but is also a valuable resource for you as the dam owner.

Except for the Part 12D Inspection Plan, which is discussed above, file the Part 12D Report and other related submittals using the Commission's eFiling system at <https://www.ferc.gov/ferc-online/overview>. When eFiling, select Hydro: Dam Safety and Chicago Regional Office. If you are also filing an STID and Digital Project Archive (DPA), both the STID and DPA must be eFiled by selecting Hydro: Dam Safety and Chicago Regional Office. You must also submit one hard copy of the STID to this office. Both the electronic and hard copy must be entire copies of the STID, do not send individual pages or sections. If the DPA cannot be eFiled, contact the project engineer to discuss options for transmitting the DPA to the Commission. For more information on transmitting the DPA, see Chapter 15 of the Engineering Guidelines here: <https://www.ferc.gov/industries-data/hydropower/dam-safety-and-inspections/eng-guidelines>. The cover page of the filing must indicate that the material was eFiled. For assistance with eFiling, contact FERC Online Support at FERCOnlineSupport@ferc.gov, (866) 208-3676 (toll free), or (202) 502-8659 (TTY).

¹⁰ 18 CFR § 12.4(b)(2)(iii)(C)

¹¹ 18 CFR § 12.41(a)(2)

¹² 18 CFR § 12.41(b)

If you have any questions regarding this letter or Enclosures, please do not hesitate to call me at (312) 596-4430. Your support is critical for ensuring the safety of your project and I am available to discuss any concerns or comments that you may have.

Sincerely,

**KEVIN
GRIEBENOW**

Digitally signed by
KEVIN GRIEBENOW
Date: 2023.06.28
13:21:52 -05'00'

Kevin Griebenow, P.E.,
Regional Engineer

Enclosures:

1. Initial Coordination Call Agenda
2. Second Coordination Call Agenda
3. Outline for the PIR and PI-PIPR

Initial Coordination Call Agenda

1. General Requirements
 - a. Regulations
 - b. Guidelines
 - c. Scope of inspection

2. Overview of Changes to Part 12D Inspections
 - a. Detailed review of prior information
 - b. Incorporation by reference – **not permitted**

3. Licensee's Role
 - a. Internal processes to scope the Part 12D Inspection
 - b. Prepare and submit Part 12D Inspection Plan and IC Team Proposal
 - c. Provide required information/documentation to IC Team
 - d. Coordinate logistics (to be discussed in detail during Second Coordination Call)
 - e. Submit IC Team's PI-PIPR to FERC
 - f. Attend inspection
 - g. Submit IC Team's PIR to FERC
 - h. Review IC Team's recommendations; develop plan and schedule to address the recommendations and submit to FERC

4. Project-Specific Discussion
 - a. Outstanding issues/concerns
 - b. Initial thoughts – potential technical disciplines required
 - c. Estimated timeframe for inspection

Second Coordination Call Agenda

1. **General Requirements**

- a. Regulations
- b. Guidelines
- c. Scope of inspection

2. **IC Team's Responsibilities**

- a. Detailed review of prior information
- b. Prepare PI-PIPR and provide to the Licensee
- c. Perform inspection
- d. Prepare PIR and provide to the Licensee
 - i. Include recommendations and reasonable timeframe for the Licensee to complete each
- e. Incorporation by reference – **not permitted**

3. **Preliminary Logistics**

- a. Field inspection

Enclosure 3: Outline for the PIR and PI-PIPR

The outline on the following pages can be used for both the PIR and PI-PIPR. For sections that do not require content in the PI-PIPR, the IC Team can leave the heading in place and add a note that the section is retained as a placeholder for use in the PIR. Refer to Appendices 16-B and 16-C of the Engineering Guidelines for additional details regarding the required contents of each section for a PIR and a PI-PIPR, respectively.

SECTION 1: FINDINGS AND RECOMMENDATIONS

- 1.1 General Conditions and Evaluation of Performance**
- 1.2 Potential Failure Modes and Risk**
- 1.3 Review and Evaluation of Dam and Public Safety Programs**
 - 1.3.1 Owner's Dam Safety Program**
 - 1.3.2 Dam Safety Surveillance and Monitoring Program**
 - 1.3.3 Hazard Potential Classification**
 - 1.3.4 Emergency Action Plan**
 - 1.3.5 Public Safety Plan**
 - 1.3.6 Operations and Maintenance**
- 1.4 Recommendations**

SECTION 2: DESCRIPTION OF PROJECT FEATURES AND OPERATIONS

2.1 Location and Purpose

2.2 Description of Project Features

2.3 Summary of Operations

SECTION 3: PROJECT STATUS

- 3.1 Modifications to Project Works**
- 3.2 Modifications to Project Operations**
- 3.3 Recommendations of Previous Independent Consultants**
- 3.4 Outstanding/Ongoing Studies**
- 3.5 Completed Studies**
- 3.6 Summary of Operations and Maintenance Programs**
- 3.7 Previously Identified PFMs**

SECTION 4: FIELD INSPECTION OBSERVATIONS AND INTERPRETATION OF MONITORING DATA

4.1 General

4.2 [Name of Project Feature 1]

4.2.1 Field Inspection Observations

4.2.2 Review and Evaluation of Instrumentation Data and Surveillance

4.2.3 Evaluation with Respect to Potential Failure Modes

4.2.4 Conclusion

4.3 [Name of Project Feature 2]

4.3.1 Field Inspection Observations

4.3.2 Review and Evaluation of Instrumentation Data and Surveillance

4.3.3 Evaluation with Respect to Potential Failure Modes

4.3.4 Conclusion

4.4 [Name of Project Feature 3, 4, etc.]

4.5 Overall Interpretation of Instrumentation Data

SECTION 5: REVIEW AND EVALUATION OF DAM AND PUBLIC SAFETY PROGRAMS

5.1 Owner's Dam Safety Program

5.2 Dam Safety Surveillance and Monitoring Program

5.3 Hazard Potential Classification

5.4 Emergency Action Plan

5.5 Public Safety Plan

5.6 Operations and Maintenance

APPENDICES FOR THE PERIODIC INSPECTION REPORT

Appendix A: FERC Letter Requiring Part 12D Inspection

Appendix B: FERC Letter Approving Part 12D Inspection Plan and IC Team

Appendix C: Project Figures

Appendix D: Instrumented Monitoring Data Plots

Appendix E: Inspection Photographs

Appendix F: Inspection Checklists and/or Field Notes

Appendix G: Operation and Maintenance Documentation