

FEDERAL ENERGY REGULATORY COMMISSION  
WASHINGTON, D.C. 20426  
August 29, 2024

OFFICE OF ENERGY PROJECTS

Project No. 2548-056 – New York  
Lyons Falls Hydroelectric Project  
Northbrook Lyons Falls, LLC

VIA FERC SERVICE

Lewis Loon  
Manager, O&M – USA  
Northbrook Lyons Falls, LLC  
423 Brunswick Avenue  
Gardiner, Maine 04345

**Reference: Deficiency of License Application and Additional Information Requests**

Dear Mr. Loon:

Northbrook Lyons Falls, LLC's (Northbrook) relicense application for the Lyons Falls Hydroelectric Project No. 2548 that was filed on May 31, 2024, does not conform to the requirements of the Commission's regulations. A list of deficiencies is attached in Schedule A. Under section 4.32(e)(1)(i) of the Commission's regulations, the applicant has 90 days from the date of this letter to correct the deficiencies in the application.

In addition, requests for additional information made pursuant to section 4.32(g) of the Commission's regulations are attached in Schedule B. Please provide the information requested in Schedule B within 90 days from the date of this letter.

If the correction of any deficiency or requested information causes another part of the application to be inaccurate, that part must be revised and refiled by the due date. Also, please be aware that further requests for additional information may be sent to the applicant at any time before the Commission takes final action on the application.

Within 5 days of receipt, please provide a copy of this letter to all agencies and Indian Tribes that the applicant will consult in preparing the response to this deficiency and additional information request. Then, when the applicant files the requested information with the Commission, please provide a complete copy of the information to each agency and Indian Tribe consulted under section 16.8 of the Commission's regulations.

The Commission strongly encourages electronic filing. Please file the requested information using the Commission's eFiling system at <https://ferconline.ferc.gov/eFiling.aspx>. For assistance, please contact FERC Online Support at [FERCOnlinesupport@ferc.gov](mailto:FERCOnlinesupport@ferc.gov); call toll-free at (866) 208-3676; or, for TTY, contact (202) 502-8659. In lieu of electronic filing, you may submit a paper copy. Submissions sent via the U.S. Postal Service must be addressed to: Debbie-Anne A. Reese, Acting Secretary, Federal Energy Regulatory Commission, 888 First Street NE, Room 1A, Washington, DC 20426. Submissions sent via any other carrier must be addressed to: Debbie-Anne A. Reese, Acting Secretary, Federal Energy Regulatory Commission, 12225 Wilkins Avenue, Rockville, Maryland 20852. The first page of any filing should include docket number P-2548-056.

If you have any questions, please contact Nicholas Tackett at (202) 502-6783, or [nicholas.tackett@ferc.gov](mailto:nicholas.tackett@ferc.gov).

Sincerely,

Nicholas Tackett  
Great Lakes Branch Chief  
Division of Hydropower Licensing

Attachments: Schedule A – Deficiencies

Schedule B – Additional Information on License Application

## DEFICIENCIES

### General

1. The Initial Statement states that the license application is for a new license for a major waterpower project with a total installed capacity of 10 megawatts (MW) or less, pursuant to 18 CFR § 4.61. However, on March 30, 2016, Commission staff approved Northbrook Lyons Falls, LLC's (Northbrook) proposal to amend the current license by increasing the authorized installed capacity of the project from 8.64 MW to 14.25 MW through the redevelopment of the powerhouse at the Lyons Falls Development.<sup>1</sup> The Initial Statement of the license application states that Northbrook is continuing with the redevelopment of the powerhouse at the Lyons Falls Development, and construction of the new powerhouse will be initiated in November 2025, and completed in March 2027.

Because the installed capacity of the project will be 14.25 MW following the powerhouse's redevelopment, section 4.61 of the Commission's regulations is not applicable. Instead, 18 CFR Part 4, Subpart F applies to the relicensing, including sections 4.50 and 4.51.<sup>2</sup> The relicense application must be revised to include the information required by section 4.51 of the Commission's regulations, including but not limited to an Initial Statement that references an Application for License for Major Project—Existing Dam (section 4.51(a)); an Exhibit B that includes a statement of project operation and resource utilization, including existing and new facilities (section 4.51(c)); an Exhibit C that includes a construction history and proposed construction schedule for the project, including existing and new facilities (section 4.51(d)); an Exhibit D that includes a statement of costs and financing for existing and new facilities (section 4.51(e)); and an Exhibit E that includes all of the information required by section 4.51(f).<sup>3</sup>

2. Section 16.10(a)(10) of the Commission's regulations requires that any applicant proposing to expand the project to encompass additional lands, include in its application a statement that the applicant has notified, by certified mail, property owners on the

---

<sup>1</sup> See *Northbrook Lyons Falls, LLC*, 154 FERC ¶ 62,210, at ordering paragraph A (2016) (2016 amendment order).

<sup>2</sup> Section 4.50(a)(1) of the Commission's regulations states that the provisions of this subpart apply to any application for either an initial license or new license for a major project—existing dam that is proposed to have a total installed capacity of more than 10 MW. 18 CFR § 4.50(a)(1) (2023).

<sup>3</sup> Additional deficiencies are identified below for information required by section 4.51 for Exhibits A, F, and G, including information on the facilities authorized in the 2016 amendment order.

additional lands to be encompassed by the project and governmental agencies and subdivisions likely to be interested in or affected by the proposed expansion. The Exhibit G maps indicate that Northbrook proposes to revise the project boundary to add land that is occupied by or adjacent to project facilities. Please file a statement that Northbrook has notified, by certified mail, property owners on the additional lands to be encompassed by the project and governmental agencies and subdivisions likely to be interested in or affected by the proposed expansion.

### **Exhibit A**

3. Section 4.51(b)(1) of the Commission's regulations requires that Exhibit A include the physical composition, dimensions, and general configuration of project facilities. Please revise Exhibit A of the relicense application to include the following information:

- a. for the Kosterville Development: (1) dimensions of the non-overflow section of the dam on the south side of the spillway; (2) dimensions of the section of the dam with three stoplog gates; (3) heights of the three stoplog gates; (4) dimensions of the intake structure; (5) dimensions of the sluice gates at the intake structure; (6) dimensions of the trashrack; (7) dimensions and construction materials of the north retaining wall of the forebay; (8) dimensions of the bay<sup>4</sup> that houses the turbines; and (9) dimensions of the excavated tailrace;
- b. for the Gouldtown Development: (1) dimensions and construction materials of the retaining wall adjacent to the intake structure; (2) height of the intake structure; (3) dimensions, construction materials, and type of the intake structure gate; (4) the following information for the south section of the dam: (a) dimensions of the section with a low-level outlet gate and sluice gate; (b) dimensions, construction materials, and type of gates adjacent to the intake structure; (e.g., stoplog gate, sluice gate); (c) width and type of the steel gates at the spillway; and (d) dimensions and construction materials of the retaining wall adjacent to the north section of the dam; (5) the following information for the north section of the dam: (a) length of the non-overflow section that includes a sluice gate; (b) dimensions, construction materials, and type of sluice gate; and (c) dimensions of the north abutment; (6) dimensions of the surge pipe; (7) dimensions of the bay<sup>5</sup> that houses the turbine; and (8) number and length of the generator lead lines; and

---

<sup>4</sup> In the relicense application, Northbrook refers to this structure as a water box.

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

- c. for the Lyons Falls Development, the following information for the existing project facilities: (1) dimensions of the south abutment; (2) dimensions of the intake structure; (3) dimensions, construction materials, and type of intake gates; (4) construction materials of the debris sluice gate; (5) construction materials of the 30-foot-long, 30-foot-wide powerhouse; and (6) length of the generator lead lines.

4. Section 4.51(b)(1) of the Commission's regulations requires that Exhibit A include a description of the proposed project. The Initial Statement and section A.4.2 of Exhibit A of the license application state that Northbrook is continuing with the authorized redevelopment of the powerhouse at the Lyons Falls Development, as approved in the 2016 amendment order. The Initial Statement states that Northbrook anticipates initiating construction of the new powerhouse in November 2025, and completing construction in March 2027. However, Exhibit A does not include a description of the new facilities associated with the redevelopment of the powerhouse at the Lyons Falls Development. Please revise Exhibit A to include the information required by section 4.51(b)(1) of the Commission's regulations, including but not limited to: (1) the physical composition, dimensions, and general configuration of the structures to be included as part of the project; (2) the number, type and rated capacity of the turbines and generators to be included as part of the project; (3) the number, length, voltage, and interconnections of the primary transmission lines to be included as part of the project; and (4) specifications of any additional mechanical, electrical, and transmission equipment appurtenant to the project.

### **Exhibit E**

5. Section E.8.9 states that Northbrook proposes to update the project's current Recreation Plan in consultation with stakeholders. However, Northbrook does not specify the measures that would be included in the revised plan, including whether Northbrook proposes to continue to maintain the project recreation facilities required under the current license. In accordance with sections 4.51(f)(5)(iv) and (v) of the Commission's regulations, please revise Exhibit E to provide the following information:

- a. a statement of the existing measures or facilities to be continued or maintained and the new measures or facilities proposed by the applicant for the purpose of creating, preserving, or enhancing recreational opportunities at the project and in its vicinity, and for the purpose of ensuring the safety of the public in its use of project lands and waters, including an explanation of why the applicant has rejected any measures or facilities recommended by an agency;
- b. the entities responsible for implementing, constructing, operating, or maintaining any existing or proposed measures or facilities;

- c. a schedule showing the intervals following issuance of a license at which implementation of the measures or construction of the facilities would be commenced and completed;
- d. an estimate of the costs of construction, operation, and maintenance of any proposed facilities, including a statement of the sources and extent of financing; and
- e. a map or drawing that conforms to the size, scale, and legibility requirements of section 4.39 of the Commission's regulations, showing by the use of shading, cross-hatching, or other symbols the identity and location of any facilities, and indicating whether each facility is existing or proposed (the maps or drawings in this exhibit may be consolidated).

### **Exhibit F**

6. Section 4.39(b)(1) of the Commission's regulations requires that maps include true and magnetic meridians. The plan views shown on sheets 1 to 5, 7, and 9 of Exhibit F do not include a magnetic meridian or specified magnetic declination. Please revise sheets 1 to 5, 7, and 9 to meet the requirements of section 4.39(b)(1). Please file all Exhibit F information as Critical Energy Infrastructure Information pursuant to section 388.113 of the Commission's regulations.

7. Section 4.41(g)(1) of the Commission's regulations requires that an application include an Exhibit F that contains drawings showing all major project structures in sufficient detail to provide a full understanding of the project, including plans (overhead view), elevations (front view), profiles (side view), and sections. The Exhibit F drawings do not show: (1) a section drawing of the Lyons Falls Development dam that includes the debris sluice gate; (2) the intake gates in the side view drawing of the Lyons Falls Development intake structure shown on sheet 4; (3) a section drawing of the Gouldtown Development south dam that includes the sluice gate and low-level outlet gate; and (4) a section drawing of the non-overflow section of the Kosterville Development dam located on the east side of the spillway.

8. Section 4.41(g) of the Commission's regulations requires that an application include an Exhibit F that contains design drawings of the principal project works described in Exhibit A of the application, and supporting information used as the basis of design. As discussed above, the Initial Statement and Exhibit A of the license application state that Northbrook is continuing with the authorized redevelopment of the powerhouse at the Lyons Falls Development, as approved in the 2016 amendment order. Therefore, as discussed above, Exhibit A must be revised to include a description of the new facilities at the Lyons Falls Development that Northbrook proposes to include in any new license. In turn, to comply with section 4.41(g) of the Commission's regulations, Exhibit F must be revised to include: (1) design drawings of the principal project works

described in the revised Exhibit A, including the new facilities authorized in the 2016 amendment order; and (2) supporting information used as the basis of the design (i.e., a revised Supporting Design Report).

### **Exhibit G**

9. Section 4.41(h) of the Commission's regulations requires an Exhibit G map that shows a project boundary enclosing the principal project features described in Exhibit A of the application, and the locations of the principal project features described in Exhibit A of the application. The boundary must enclose only those lands necessary for operation and maintenance of the project and for other project purposes, such as recreation, shoreline control, or protection of environmental resources. As discussed above, the Initial Statement and Exhibit A of the license application state that Northbrook is continuing with the authorized redevelopment of the powerhouse at the Lyons Falls Development, as approved in the 2016 amendment order. Therefore, as discussed above, Exhibit A must be revised to include a description of the new facilities at the Lyons Falls Development that Northbrook proposes to include in any new license. In turn, to comply with section 4.41(h) of the Commission's regulations, the Exhibit G maps must be revised to include a map that shows a project boundary that encloses the principal project features described in the revised Exhibit A and the locations of the principal project features described in Exhibit A of the application, including the new facilities authorized in the 2016 amendment order.

### **Required Studies**

10. Section 16.8(b)(6)(vi) of the Commission's regulations states that, if an applicant fails to obtain information or conduct a study as required by the Director of the Office of Energy Projects (OEP) pursuant to section 16.8(b)(6)(iv), its application will be considered deficient.

In response to a study dispute filed by the New York State Department of Environmental Conservation (New York DEC), the OEP Director issued a study dispute resolution letter on November 29, 2022, pursuant to section 16.8(b)(6)(iv), that required Northbrook to conduct a Bypassed Reach Flow Evaluation Study (Bypassed Reach Study) at the Gouldtown Development to evaluate the adequacy of the current minimum flow of 5 cubic feet per second (cfs) relative to alternative flows that could be released at the project. Commission staff explained that without information on how aquatic habitat varies as a function of flow into the bypassed reach, staff is unable to weigh the costs and benefits of alternative bypassed reach flows for the project. The Director's letter required a bypassed reach flow demonstration study, including: (1) maps delineating the mesohabitats in the Gouldtown bypassed reach; (2) flow ratings provided by Delphi study participants; and (3) a summary of the consensus flows that were decided upon for the bypassed reach, including a discussion of how such flow values were collaboratively determined among the study participants.

In its comments on the draft license application, New York DEC states that the Bypassed Reach Study is incomplete and requests that Northbrook conduct the study. Section E.1.1 of the final license application states that the “desktop portion of the Bypassed Reach Study was initiated in 2023, as well as the initial mesohabitat mapping effort.” Section E.1.1 states that the remaining portion of the Bypassed Reach Study was not performed in 2023, due to high river flow conditions. In response to New York DEC’s comments, Northbrook states in the final application that in lieu of the Bypassed Reach Study, it is proposing the following minimum bypassed reach flows at the Gouldtown Development: (1) veiling flows for aesthetic purposes during the recreation season (Memorial Day to Labor Day), to be provided over the dam via 0.5 inch of water; and (2) 10 cfs to the north channel of bypassed reach via the existing bypass flow pipe. Northbrook states that increasing the minimum flow from 5 to 10 cfs would likely increase aquatic habitat by providing greater depth and higher velocities. In response to the final application, the U.S. Fish and Wildlife Service (FWS) filed comments on July 9, 2024, stating that it cannot evaluate the proposed 10-cfs minimum flow without supporting data. FWS requests that Northbrook conduct the study as required, including an evaluation of the current minimum flows, agency-recommended fishway flows, and up to two other flows as agreed by study participants, including the New York DEC and FWS.

The information required by the Director’s study dispute resolution letter is needed to assess project effects on aquatic resources in the bypassed reach, and weigh the costs and benefits of alternative bypassed reach flows for the project. In consultation with the FWS and New York DEC, please conduct the Bypassed Reach Study and file the study results required by the study dispute resolution letter.

11. Section 16.8(b)(6)(vi) of the Commission’s regulations states that, if an applicant fails to obtain information or conduct a study as required by the OEP Director pursuant to section 16.8(b)(6)(iv), its application will be considered deficient.

As part of the Bypassed Reach Study required in the study dispute resolution letter issued on November 29, 2022, in response to the study dispute filed by the New York DEC, the OEP Director required a Delphi study to evaluate the aesthetic value of a range of flows in the bypassed reaches of the Kosterville and Lyons Falls Developments. For the Bypassed Reach Study at the Kosterville and Lyons Falls Developments, the letter required Northbrook to file a study report that included: (1) flow ratings provided by Delphi study participants; and (2) a summary of the consensus flows that were decided upon for the bypassed reach, including a discussion of how such flow values were collaboratively determined among the study participants.

Also, in response to a study dispute filed by American Whitewater and the Appalachian Mountain Club (AW/AMC), the OEP Director issued a separate study dispute resolution letter on November 29, 2022, pursuant to section 16.8(b)(6)(iv), that required Northbrook to conduct a Visual Resources Study of a range of flows at each of



the project's three developments to support an analysis of aesthetics. Commission staff explained that waterfalls at the Kosterville, Gouldtown, and Lyons Falls Developments can be viewed from a variety of vantage points and that, without information on how various flows affect aesthetic resources at the project, staff is unable to weigh the costs and benefits of alternative bypassed reach flows for the project. For the Visual Resources Study, the letter required: (1) a map showing the location of public vantage points at each of the three developments; (2) a description of the scenic views accessible to the public from each vantage point; public access to these areas (e.g., designated and informal parking areas, trails, fishing areas, and observation areas); and the location of these areas in relation to the project boundary; and (3) labeled photos and videos (with sound) of the falls at each development from the vantage points available to the public taken at a range of flows.

As described above in Schedule A, item 10, the final application indicates that Northbrook did not conduct the Bypassed Reach Study due to high flows in 2023. The final application does not discuss the Aesthetics Study. In response to New York DEC's comments on the draft application that the Bypassed Reach Study should be completed, Northbrook states in the final application that, in lieu of the Bypassed Reach Study, it is proposing veiling flows for aesthetic purposes at all three developments during the recreation season (Memorial Day to Labor Day), to be provided over the dams or flashboards via 0.5 inch of water.

The information required by the Director's study dispute resolution letters for the Bypassed Reach Study and the Visual Resources Study is needed to evaluate the aesthetic value of alternative flows and weigh the costs and benefits of alternative bypassed reach flows for the project. In consultation with the FWS, New York DEC, and AW/AMC, please conduct the Bypassed Reach Study and Visual Resources Study, and file the study results required by the study dispute resolution letters.

12. Section 16.8(b)(6)(vi) of the Commission's regulations states that, if an applicant fails to obtain information or conduct a study as required by the OEP Director pursuant to section 16.8(b)(6)(iv), its application will be considered deficient.

In the study dispute resolution letter on AW/AMC's study dispute, the OEP Director required Northbrook to conduct a Whitewater Boating Study at the Gouldtown Development due to the lack of information on boatable flows in the bypassed reach. The letter required the Whitewater Boating Study be conducted based on the methodology set forth in the Whittaker framework that is commonly used in flow studies at hydropower projects. The phases within the Whittaker framework include Level 1 (desktop analysis), Level 2 (limited reconnaissance options, including evaluation of single flow), and Level 3 (intensive studies, including evaluation of multiple flows).

On June 13, 2023, Northbrook filed a letter stating that it consulted with AW/AMC and concluded that, with the implementation of appropriate protection,

mitigation, and enhancement measures (PM&Es), a Whitewater Boating Study would not be needed. Northbrook attached emails from AW/AMC stating their concurrence with the PM&Es in lieu of the Whitewater Boating Study.

As indicated by Northbrook in the June 13 letter, Northbrook did not conduct the Whitewater Boating Study and the license application does not include any information on boatable flows in the bypassed reach. The agreed-upon PM&Es are included in section E.8.9 of the license application. As relevant for whitewater boating flows, Northbrook proposes to cease generation at the Kosterville and Gouldtown Developments and release all impoundment inflow over the spillways when EONY Generation Limited is releasing whitewater flows from the upstream Moose River Hydroelectric Project No. 4349. If the flow is greater than 1,000 cfs at the Kosterville Development, then Northbrook would provide a flow of 1,000 cfs or greater over the Development's spillway. If the flow is greater than 850 cfs at the Gouldtown Development, then Northbrook would provide a flow of 850 cfs or greater over the Development's spillway.

In the study dispute letter, Commission staff explained that the reach between the Gouldtown Development's dam and the Lyons Falls Development could provide a desirable whitewater experience within the north channel of the bypassed reach, which according to AW/AMC, contains two rapids that can be navigated during high-flow events. However, staff explained that the project record lacked information on boatable flows in the bypassed reach. Staff concluded that additional information was needed to determine whether whitewater flows could be provided from an operation and boating standpoint, and for staff to make a flow recommendation.

Although Northbrook's proposal to shut down the turbines and pass all flows downstream of the Gouldtown Development would maximize the flow available for whitewater boating in the north channel of the bypassed reach, the license application does not include sufficient information to determine whether the proposed flow releases would be suitable for whitewater boating. For example, a flow of 850 cfs (or greater) could be unsafe for whitewater boating in the 1000-foot-long north channel of the bypassed reach of the Gouldtown Development, which includes a relatively narrow bend between wooded shorelines. Alternatively, the flow and/or reach might not be sufficient for an enjoyable whitewater boating experience.

The information required by the OEP Director's study dispute resolution letter is needed to determine whether whitewater flows could be provided from an operation and boating standpoint, and for staff to make a flow recommendation. Therefore, in consultation with the AW/AMC, please conduct the Whitewater Boating Study and file the study results required by the study dispute resolution letter.

## **ADDITIONAL INFORMATION ON LICENSE APPLICATION**

### **General**

1. The Initial Statement and section A.4.2 of Exhibit A of the license application state that Northbrook is continuing with the authorized redevelopment of the powerhouse at the Lyons Falls Development, as approved in the 2016 amendment order, and that Northbrook anticipates initiating construction of the new powerhouse in November 2025, and completing construction in March 2027. The 2016 amendment order includes several conditions for the construction of the new intake and powerhouse facilities at the Lyons Falls Development, including environmental measures that must be implemented before, during, and after construction. Section A.4.4 of Exhibit A lists proposed measures, but does not include all of the measures required by the 2016 amendment order. In addition, section A.4.4 does not distinguish between measures that would be implemented before, during, or after construction of the facilities authorized in the 2016 amendment order. Please revise the license application (including, as applicable, Exhibits A – E) to specify each of the measures that Northbrook is proposing to implement during the term of any new license, including the implementation date of each proposed measure, the duration of each proposed measure, and the cost of each proposed measure.
2. Section A.2.1.1 of Exhibit A states that the gated section of the Lyons Falls Development dam includes a 6-foot-wide, 8-foot-high low-level outlet gate. However, sheet 3 of Exhibit F indicates that the low-level outlet gate is 6.7 feet wide. Sheet 3 also indicates that the gate is 52 feet high. Please verify the dimensions of the low-level outlet gate and revise the relicense application to rectify the inconsistencies and any typographical error. Please file the Exhibit F as Critical Energy Infrastructure Information pursuant to section 388.113 of the Commission's regulations.
3. Section A.2.1.1 of Exhibit A states that the gated section of the Lyons Falls Development dam includes two 6-foot-high sluice gates. However, sheet 3 of Exhibit F indicates that the sluice gates are 68 feet high. Please verify the height of the sluice gates and revise the relicense application to rectify the inconsistencies and any typographical error.
4. Section A.2.1.2 of Exhibit A states that the height of the Lyons Falls Development trashrack is 18 feet. However, the side view of the intake structure shown on sheet 4 of Exhibit F indicates that the height of the trashrack is 19.1 feet. Please verify the height of the trashrack and revise the relicense application to either clarify or rectify the inconsistency.
5. Exhibit A does not describe any east abutment to the Lyons Falls Development dam. Please explain if the dam includes any east abutment and, if so, provide the

dimensions of the abutment in Exhibit A and revise Exhibit F to include sufficient detail about the abutment.

6. Exhibit A does not describe any south abutment to the Gouldtown Development's south dam section. Please explain if the south dam section includes any south abutment and, if so, provide the dimensions of the abutment in Exhibit A and revise Exhibit F to include sufficient detail about the abutment.

7. Several elevations in the relicense application are provided in feet mean sea level (msl). If available, please provide a datum conversion factor from msl to current state-of-practice datums, such as the National Geodetic Vertical Datum of 1929 (NGVD 29) or the North American Vertical Datum of 1988.

8. The Initial Statement and sections A.1.1 and A.2.1.6 of Exhibit A state that the Lyons Falls Development includes eight generator lead lines. Please describe the configuration of the connections between the eight generator lead lines and the development's five generators.

9. For the Kosterville and Lyons Falls Developments, please describe the order of start-up of the turbine-generator units, as inflow to the impoundment increases above the minimum hydraulic capacity of the development. For each of these developments, please also describe the order of shutdown of the turbine-generator units as inflow to the impoundment decreases below the maximum hydraulic capacity of the development.

10. Section A.4.4 of Exhibit A states that Northbrook proposes to maintain the surface elevations of the impoundments within 6 inches of the flashboard crests or the spillway crests if flashboards are not in place. Please revise Exhibits A and E to describe: (1) the extent of any impoundment fluctuations during normal project operation, under the current run-of-river operation; (2) the need for, or purpose of, the 6-inch fluctuations for the project's operation; and (3) a description of any new or continuing impact of the 6-inch fluctuations on water quality, water quantity, aquatic habitat, and fisheries.

### **Exhibit A**

11. For each of the project's developments, please provide operation data in tabular format for the past 5 years, including hourly inflow, impoundment elevation, and outflow, including discharges from the turbines, spillway sections, sluice gates, low-level outlet gates, and debris sluice gates. Additionally, for each of the developments, please provide a record of any maintenance activities that required lowering the impoundment elevation during the past 5 years. If hourly flow or elevation values are not available, please provide the most accurate and precise flow and elevation values available.

12. Exhibit A indicates that the Lyons Falls Development's interconnection point with the electric grid is at a non-project step-up transformer located in a non-project substation. Please clarify the project uses and any non-project uses of the transformer and substation (e.g., the interconnection of any non-project facilities), and who owns and maintains the transformer.

13. The current license states that the Lyons Falls Development's turbine-generator Unit 8 has an installed capacity of 1,250 kilowatts (kW).<sup>6</sup> However, section A.2.1.4 and Table A.2-1 of Exhibit A indicate that Unit 8 has an installed capacity of 1,200 kW. Separately, Table A.2.1.4 indicates that Unit 8's generator has a capacity of 1,200 kilovolt-amperes (kVA), while the single-line diagram filed as part of Exhibit A indicates that Unit 8's generator has a capacity of 1,864 kVA and Exhibit A of the current license states that Unit 8's generator has a capacity of 1,560 kVA.<sup>7</sup> Please verify the installed capacity of Unit 8 and the capacity of its generator, and revise Exhibit A and the single-line diagram to either clarify or rectify the inconsistencies. Please file the single-line diagram as Critical Energy Infrastructure Information pursuant to section 388.113 of the Commission's regulations.

14. Exhibit A does not describe any tailrace for the Gouldtown or Lyons Falls Developments. Please explain whether either of these developments includes a tailrace and, if so, revise Exhibit A to include the dimensions of the tailrace and Exhibit F to include sufficient detail about the tailrace.

15. Exhibit A does not describe the type of turbine located at the Kosterville and Lyons Falls Developments (e.g., Kaplan, Francis). Please revise Exhibit A to include this information.

16. Some of the text in the single-line electrical diagram dated March, 13, 2006, and filed as part of Exhibit A is not legible. Please revise the single-line electrical diagram as follows:

- a. update the diagram to be legible;
- b. update the diagram to include system transmission elements associated with the facilities approved by the 2016 amendment order; and
- c. remove references to "existing" and "new" facilities, except to distinguish between the existing transmission elements and the transmission elements associated with the facilities approved by the 2016 amendment order.

---

<sup>6</sup> See *Lyons Falls Hydroelectric, Inc.*, 62 FERC ¶ 62,203 (1993).

<sup>7</sup> *Id.*, at ordering paragraph (A).

Please file the information as Critical Energy Infrastructure Information pursuant to section 388.113 of the Commission's regulations.

17. Section A.4.4.2 of Exhibit A states that Northbrook's proposed environmental measures would reduce the average annual energy production of the project by approximately 2%. Please revise Exhibit A to clarify which of the proposed environmental measures cause the 2% energy production decrease, and provide the generation lost (in megawatt-hours per year) that would result from each measure.

### **Exhibit E**

#### **Aquatic Resources**

18. Section E.5.7 of Exhibit E states that Northbrook proposes to develop a Stream Flow and Water Level Monitoring Plan, in consultation with resource agencies and the Commission. The initial statement of the license application also states that Northbrook is developing a Stream Flow and Water Level Monitoring Plan in consultation with resource agencies and the Commission, as required by the 2016 amendment order.<sup>8</sup> The proposal submitted with the relicense application lacks specificity. Without specific measures to analyze and consider under the FPA, Commission staff cannot assess the benefits of the proposal. Please describe the specific measures to be included in the plan and the cost of each measure.

19. Please revise Exhibit E to describe any current or proposed procedures for implementing impoundment drawdowns and refills during planned (e.g., flashboard installation) and unplanned outages or maintenance at the project's developments, including any current/proposed drawdown or refill rates, alternative minimum flows, and modes of operation.

20. The project currently includes trashracks with 2-inch clear bar spacing at the turbine intakes of all three developments, and Northbrook is proposing to install overlays with 1-inch clear bar spacing on the top half of the trashracks from April 15 through October 15, at all three developments. The application does not include sufficient information to evaluate the effects of current or proposed project operation on fishery resources, such as walleye, bass, and trout. To describe project effects on fishery resources, please revise Exhibit E to include a desktop analysis of fish impingement,

---

<sup>8</sup> On August 22, 2024, Northbrook submitted the latest version of the plan as part of the license amendment proceeding in FERC Docket No. P-2548-055. In the cover letter, Northbrook states that this latest version of the plan serves as an interim plan until the plan is updated as a result of the ongoing relicensing.

entrainment, and turbine mortality at each of the three developments, under current and proposed conditions, including:<sup>9</sup>

- a. the likelihood of fish impingement, considering: (i) biological characteristics of fish species at the project (behavior, swimming speeds of life stages, and body size and shape); (ii) trashrack dimensions, bar spacing, and angle; and (iii) approach velocities at the maximum hydraulic capacity of the turbines.
- b. the likelihood of fish entrainment and turbine mortality, considering: (i) biological characteristics of fish species at the project; (ii) intake velocities at the maximum hydraulic capacity of the turbines; and (iii) turbine characteristics, such as the type of turbine, number of blades, rotational speed, etc.

Please use the results to estimate the effects of impingement, entrainment, and turbine mortality on fish populations at each of the three developments, under current and proposed conditions.

### Terrestrial Resources

21. Exhibit E describes routine vegetation management that occurs along the perimeter of project facilities, the maintenance of project-related access ways (such as mowing of the canoe portage trail), and the clearing of large tree branches and brush beneath transmission lines. So that Commission staff can evaluate the effects of project maintenance activities on terrestrial resources, please provide more detail on the current and proposed vegetation management activities (e.g., regular or seasonal mowing, tree removal/cutting, herbicide use), including methods, total acreage of project land affected, and approximate dates when the activities typically occur.

22. Exhibit E does not include a discussion of observed wildlife (avian or mammal) interactions with the project's electrical components, such as transmission lines and transformers. So that staff can evaluate the potential effects of continued project operation on wildlife resources, please describe any observed interactions between wildlife and the electrical components of the project. Also, please describe any wildlife protection measures currently implemented at the project's electrical components.

---

<sup>9</sup> Although Northbrook conducted a fish entrainment and impingement study of the proposed powerhouse redevelopment at the Lyons Falls Development in 2015, the study evaluated project effects using a trashrack with 3-inch clear bar spacing and full-depth trashrack overlays with 1-inch clear bar spacing; the study did not analyze the 2-inch trashrack that is currently installed at the Lyons Falls Development or the proposed 1-inch overlay on only the top half of the trashracks.

23. Exhibit E identifies and describes several federally listed species that potentially occur in the vicinity of the project, including the monarch butterfly (*Danaus plexippus*), a candidate species for listing under the Endangered Species Act. Please identify any known stands of milkweed or other nectar-producing flowers in the project boundary, and any potential effects of current or planned vegetation maintenance (e.g., routine mowing, tree removal, or pesticide application) on milkweed and other nectar-producing flowers.

#### Recreation and Aesthetic Resources

24. Section E.8.2 does not describe all project recreation sites required by the July 28, 1988 Recreation Plan, including the 10-car parking lot below Lyons Falls Dam and the 14-car parking area at the intersection of Kosterville and Shibley Roads. Please revise section E.7.6.1.1 to describe all project recreation sites under the current license. To the extent the formal name of any facility is currently different than the name provided in the Recreation Plan, please list the differences in a separate table for each development. Each project recreation facility included in the Recreation Plan should be described in narrative form and shown in Figure E.8-1. The narrative should describe the amenities, operation, and maintenance of each project recreation facility. Separately, to the extent additional, non-project recreation facilities are also in the project boundary, those facilities should be described, listed, and marked separately in the corresponding narratives, tables, and figures, respectively.

25. The July 28, 1988 Recreation Plan includes two hand-carry boat take-out sites and portage routes at the Lyons Falls Development, including: (1) on the north shoreline of the Moose River, immediately upstream of the bridge on Lyons Falls Road; and (2) on the east shoreline of the Black River, immediately downstream of the bridge on Laura Street. Section E.8.2 does not describe or show the second take-out and associated portage route. Please revise section E.8.2 and Figure E.8-1 to discuss and show the second take-out.<sup>10</sup> If the second take-out site and portage route were not constructed or are not maintained, please explain the deviation from the Recreation Plan under the current license.

26. Section E.8.9 states that Northbrook proposes to install signage along the project's portage routes. Please specify the information that would be provided on the signs, the size of the signs, and the location of the signs.

---

<sup>10</sup> See Georgia Pacific Corporation's July 28, 1988 filing, including sheets 1 and 3 of the revised Recreation Plan, available at: <https://elibrary.ferc.gov/eLibrary/filedownload?fileid=97C751DD-7776-C712-8704-900E26000000>.



27. Section E.8.9 states that Northbrook proposes to provide parking for up to 15 cars at the Kosterville Development. Please provide the following information: (1) show the parking area on the map requested in item 5(e) of Schedule A of this letter; (2) specify the size and surface type of the parking area, (3) describe any ground disturbance or tree clearing necessary for the installation of the parking area, including the methods and timing of such activities; and (4) describe any maintenance activities associated with the parking area during the term of any new license.

28. In section E.8.9, Northbrook proposes to “add/enhance” the walking trail from the four-way intersection to the pool below the Gouldtown Development waterfall. Please provide the following information: (1) show the parking area on the map requested in item 5(e) of Schedule A of this letter; (2) specify the length and surface type of the walking trail; (3) describe any ground disturbance or tree clearing necessary for the installation of the walking trail, including the methods and timing of such activities; and (4) describe any maintenance activities associated with the walking trail during the term of any new license.

29. In section E.8.9, Northbrook proposes to evaluate the potential for installing new or additional gates/fencing closer to the Kosterville Development’s structures in order to keep the existing gate open during the recreation season. Section 4.51(f)(5)(iv) of the Commission’s regulations requires that an application describe any proposed measures. Please clarify whether Northbrook is proposing to install new or additional gate/fencing and, if so, when the fencing would be installed. Please update other sections of the application as necessary to specify any proposed measures related to the gate and fence, including the timing and cost of construction and maintenance, and the location of the gate and fence.

30. In section E.8.9, Northbrook proposes to install safety signage, regarding cliff jumping, near the spillway at the Kosterville Development. Please provide any documentation of incidents involving cliff jumping and describe the safety issues associated with cliff jumping. Please specify the information that would be provided on the signs, the size of the signs, and the location of the signs.

31. In section E.8.9 of the license application, Northbrook proposes to release whitewater boating flows at the Kosterville and Gouldtown Developments when EONY Generation Limited is releasing whitewater flows from its upstream Moose River Hydroelectric Project No. 4349. Northbrook proposes to shut down the turbines at the Kosterville and Gouldtown Developments and release all impoundment inflow over the Developments’ spillways when EONY is providing flows from the upstream project. Please include the following information about the proposals for each of the Kosterville and Gouldtown Developments: (1) any proposed generator ramping, including the ramping rate for whitewater flows; (2) whether flows would be released from a single point or distributed across multiple release points; (3) the proposed access points for

whitewater boating; and (4) any proposed public safety protocols associated with whitewater releases.

32. Section E.8.5.3 states that the Black River is designated in the Nationwide Rivers Inventory (NRI) downstream of the Lyons Falls Development dam. Please provide the following information: (1) the distance (in river miles) from the project boundary to the NRI-designated segment; (2) a figure depicting the NRI-designated segment relative to the project boundary; and (3) the potential effects of project operation on the NRI-designated segment.

33. Section E.8.5.2 states that the Black River was designated as a Blueway Trail by the New York State Department of State and the Governor in 2005. Please describe the types of recreation that take place on the Blueway Trail, and any effects of recreation on the Blueway Trail on the project's operation and *vice versa*.

34. In section E.10.3, Northbrook proposes veiling flows of 0.5 inch of water over the dam or flashboard crest for aesthetic purposes at all three developments from Memorial Day through Labor Day. Please provide the equivalent cubic feet per second (cfs) for all three developments.

35. Figures E.10-2, E.10-4, E.10-5, and E.10-6 show photos of the falls at the Lyons Falls, Gouldtown, and Kosterville Developments. Please describe the flow conditions at the time the photos were taken, including whether the photos show the proposed minimum flow conditions described in section E.10.3 of the relicense application for all three developments (e.g., 0.5 inch of water over the dam or flashboard crest elevation).

### Cultural Resources

36. Section E.9.5 states that Northbrook is proposing to conduct a reconnaissance level architectural survey, and will file the results of the survey in a supplemental filing. Please provide a schedule for filing the survey results. Please also revise Exhibit E to discuss the Area of Potential Effects (APE) for architectural resources, if different from the APE for archaeological resources.

37. Section E.8.9 includes proposed recreation measures that could require ground disturbance, including but not limited to a new parking area and walking trail. Appendix A of Exhibit E includes a letter from the New York State Historic Preservation Officer (New York SHPO), dated June 22, 2021, stating that if there are no new proposed ground disturbances, then the New York SHPO has no archaeological concerns. Please identify any potential project effects on historic properties, including but not limited to effects associated with the proposed recreation facilities, in consultation with the New York SHPO, and file documentation of consultation with the SHPO.

38. Section E.9.3 of the license application incorporates information that was developed as part of other cultural resource survey documents, including a 1983 report titled *Cultural Resources Survey of the Georgia Pacific Hydro Licensing Moose River* (Pratt, P. and M. Pratt, 1983). Please file the referenced document. Any information containing the location of archaeological resources should be filed as privileged in compliance with 18 C.F.R. § 388.112.

39. Section E.9.1.1 identifies the proposed APE for the project's relicensing as all lands within the project boundary. The Exhibit G maps indicate that Northbrook proposes to revise the project boundary, which could have changed the proposed APE analyzed by the New York SHPO during the pre-filing process for the proposed relicensing. Please clarify whether the New York SHPO has concurred on the proposed APE for archaeological resources (i.e., the proposed project boundary), and file documentation of consultation with the New York SHPO.

40. Section E.9.3 describes identified cultural resources within one mile of the project boundary but does not clearly identify the cultural resources inventoried in the New York SHPO's Cultural Resource Information System (CRIS) that occur in the proposed APE for the project's relicensing.<sup>11</sup> Please revise Exhibit E to describe all previously inventoried cultural resources that occur in the current and proposed project boundary.<sup>12</sup> If potentially eligible or listed cultural resources are identified, please describe any potential project effects on historic properties, including effects of proposed construction, operation, or maintenance. Any information containing the location of archaeological resources should be filed as privileged in compliance with 18 C.F.R. § 388.112.

### **Exhibit F**

41. The Exhibit F drawings include a note in the lower left corner of the sheets stating that all elevations are referenced to a vertical datum of NGVD 29. However, sheets 7 and 8 of Exhibit F include another note on the lower right corner stating that all elevations are

---

<sup>11</sup> The New York SHPO's CRIS database identifies the following cultural resources in the proposed project boundary: Kosterville Mill Site B (USN 04910.000002); Gouldtown Mill Site (04910.000001); Northbrook Lyons Falls (04910.000021); Bridge over Moose River (04910.000024); Lyons Falls Pulp and Paper Mill Complex (USN 04946.000002). See New York SHPO's CRIS for a complete record of recorded cultural resources. Archaeological site data is not publicly viewable in CRIS. The data is viewable to individuals who meet the New York SHPO's access requirements and are granted access by the New York SHPO.

<sup>12</sup> If the historic architectural APE is different from the archaeological APE, please identify all cultural resources within the respective APEs for the relicensing process.

referenced to msl. Please ensure that NGVD 29 is used to determine all the elevations shown on the Exhibit F drawings and remove the notes stating that elevations are referenced to msl.

42. Sheet 8 of Exhibit F labels some project facilities as “new” and “old.” Sheet 8 also shows a section of an intake trashrack that was replaced with the current intake structure. Please revise sheet 8 of Exhibit F to remove references to “new” and “old” and include only “as built” drawings of the project in its current configuration.

### **Exhibit G**

43. The Exhibit G maps do not show the project’s generator lead lines, transformers, or substations. Please revise the Exhibit G maps to clearly show and label the project’s generator lead lines, transformers, and substations. Also, please clearly label the transmission facilities (i.e., lead lines, transmission lines, transformers, and substations) associated with each development (i.e., Kosterville, Gouldtown, and Lyons Falls Developments) and the transmission facilities that are shared by the developments. Additionally, please distinguish between the project and non-project transmission facilities (e.g., transmission lines).

44. The Exhibit G maps describe the elevations of the impoundments, but do not describe the contour elevations of the project boundary around the impoundments. Please revise the Exhibit G maps to include this information.

### **Exhibit H**

45. Section H.1.1 of Exhibit H states that Northbrook does not plan to increase capacity or generation of the project. However, the Initial Statement and Exhibit A of the license application state that Northbrook is continuing with the authorized redevelopment of the powerhouse at the Lyons Falls Development, as approved in the 2016 amendment order. The 2016 amendment order increased the total authorized installed capacity of the project from 8.64 MW to 14.25 MW. Please revise section H.1.1 to include a description of the development plans approved by the 2016 amendment order.