Document Accession #: 20230807-3020 Filed Date: 08/07/2023

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426
August 7, 2023

OFFICE OF ENERGY PROJECTS

Project No. 4678-053 – New York
Crescent Hydroelectric Project

Project No. 4679-050 – New York
Vischer Ferry Hydroelectric Project

New York Power Authority

VIA Electronic Mail

Mr. Robert Daly
Director of Licensing
New York Power Authority
Robert.Daly@nypa.gov

Re: Request for Additional Information

Dear Mr. Daly:

In the license application for the Vischer Ferry Project, filed on May 25, 2022, the New York Power Authority (NYPA) stated it was exploring, as part of the State of New York's Reimagine the Canals Initiative,[1] several alternatives for reducing the extent and severity of ice-jam induced flooding on the Mohawk River upstream of the Vischer Ferry Project. These alternatives include the use of ice-breaking vessels, physical modifications of Vischer Ferry dam (including the installation of pneumatic crest gates), and upstream channel re-configuration of the Mohawk River.

In a letter filed on March 16, 2023, NYPA informed Commission staff of its preferred ice-jam mitigation alternative (P-1), which would include the installation and operation of 27-inch pneumatic crest gates at dams D and E and a combination of 27-inch and 48-inch pneumatic crest gates at dam F of the Vischer Ferry dam.[2] In the same letter, NYPA also proposes to maintain the impoundment at a full pond elevation of 213.25 feet

[1] https://www.ny.gov/programs/reimagine-canals-initiative.

[2] The crest gates would be operated in concert with ice-breaking vessels.

(Barge Canal Datum) on a year-round basis, not just during the navigation season (May through October) on the Erie Canal, as occurs under current project operation and was proposed in the license application. As explained further in schedule A, these proposed changes to project facilities and operation could alter the potential for (non-ice-jam-induced) flooding in the project area and affect dam stability. As such, Commission staff need additional information to assess the potential effects of these proposed changes on public safety and environmental resources. In addition, Commission staff also requests, in schedule A, additional information related to cultural resources for both the Vischer Ferry Project and the Crescent Project.[3] Therefore, please file, within 6 months of the date of this letter, the information requested in schedule A. If the 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 NYPA at any time before the Commission takes final action on the application.

The Commission strongly encourages electronic filing. Please file the requested information using the Commission's eFiling system at https://ferconline.ferc.gov/LogIn.aspx. For assistance, please contact FERC Online Support at FERCOnlineSupport@ferc.gov, (866) 208-3676 (toll free), or (202) 502-8659 (TTY). In lieu of electronic filing, you may submit a paper copy. Submissions sent via the U.S. Postal Service must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street NE, Room 1A, Washington, DC 20426. Submissions sent via any other carrier must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 12225 Wilkins Avenue, Rockville, Maryland 20852. The first page of any filing should include docket numbers P-4678-053 and P-4679-050.

If you have any questions concerning this letter, please contact Jody Callihan at (202) 502-8278 or jody.callihan@ferc.gov.

Sincerely,

JOHN SMITH Digitally signed by JOHN SMITH Date: 2023.08.07 10:45:52 -04'00'

John B. Smith, Chief
Mid-Atlantic Branch
Division of Hydropower Licensing

[3] The Crescent Project license application was filed on May 25, 2022.

Schedule A
Project Nos. 4678-053 and 4679-050

ADDITIONAL INFORMATION

1. The current operation of the Vischer Ferry Project involves maintaining a normal pool elevation of 211 feet,[4] except when 27-inch flashboards are installed during the navigation season (May through October), which raises the pool elevation to 213.25 feet. In conjunction with its proposed installation of pneumatic crest gates at the project, the New York Power Authority (NYPA) proposes to maintain the Vischer Ferry impoundment at an elevation of 213.25 feet on a year-round basis, not just during the navigation season. This proposed change in project operation would be expected to inundate additional wetland and riparian habitats around the impoundment for a longer duration (i.e., year-round) compared to current project operation (when the impoundment is only at an elevation of 213.25 feet during the navigation season). Therefore, please provide the acreage of all wetland and riparian habitat between the elevations of 211 feet and 213.25 feet that would be inundated for a longer period under the proposed operation of the project, as well as the National Wetland Inventory classifications of each wetland within this elevation range.

2. It is unclear what NYPA's proposed changes to the operation of the Vischer Ferry Project and its features would have on upstream and downstream flooding of non-project properties and structures. The proposed modifications would entail replacing the existing 27-inch flashboards with 27-inch pneumatically actuated crest gates (crest gates) on dams D and E, and a combination of 27-inch and 48-inch crest gates on dam F. The installation of 48-inch crest gates would require that the crest of dam F be lowered by 21 inches. Furthermore, as discussed above in item 1, the proposed changes would result in higher impoundment elevations relative to existing conditions, as the impoundment would be maintained at an elevation of 213.25 feet on a year-round basis—not just during the navigation season (May through October). Therefore, please prepare an engineering analysis that includes:

   a. An analysis of historical storms/floods that occurred at the project, such as the Flood of Record. The analysis should include an estimate of the recurrence interval of each historical event and the resultant upstream and downstream impacts. If sufficient records do not exist (e.g., gage records, impoundment elevations, inflows, outflows), this analysis could be accomplished by preparing a hydrologic and/or hydraulic model (e.g. HEC-HMS, HEC-RAS) based on historic precipitation data and watershed

[4] All elevations herein are referenced to the Barge Canal Datum, which is 1.67 feet lower than the North American Vertical Datum of 1988.

characteristics to simulate the historic floods and estimate flooding impacts;

b. A flood frequency analysis of flows at the project. At a minimum, the magnitude of the 2-year, 5-year, 10-year, 25-year, 50-year, 100-year, and 500-year events should be determined;

c. A comparison of how potential flood impacts in areas upstream and downstream of the project would differ for each historical and flood frequency event. The comparison should quantify the number of flooded non-project properties and structures, the depth and velocity of water at these structures, and the total inundated area. This analysis will likely require using a hydraulic model, as suggested in item (a) above, to route flows for the various events. If any non-project properties and structures are flooded as a result of the proposed modifications, the affected features should be evaluated to determine whether they can withstand collapsing or being washed away. Resources such as the U.S. Bureau of Reclamation ACER Technical Memorandum No. 11, Reclamation Consequence Estimating Methodology (RCEM), and/or U.S. Army Corps of Engineers' LifeSim software may facilitate this evaluation;

d. If applicable, a statement from the licensee's Chief Dam Safety Engineer that he/she has reviewed the information required by items (a), (b), and (c) and agrees that the change in project operations and features would have no significant impact on upstream and downstream flooding;

e. If applicable, a discussion of any proposed modifications or remedial measures that would be necessary if it is determined that the change in operation would result in significant impacts on upstream or downstream flooding; and

f. Within 6 months of the date of this letter, please file a study report that provides and summarizes the modeling results for this effort, including a copy of all input and output files used in the analyses.

3. It is unclear how the proposed changes in the features and operation of the Vischer Ferry Project would affect the stability of the project. The installation of 48-inch crest gates would require cutting the existing crest of dam F and removing concrete. Therefore, within 6 months of the date of this letter, please file a stability analysis in accordance with Chapter 3 and Chapter 10 of the Commission's Engineering Guidelines

for normal, normal plus ice, design flood loading, and post-seismic conditions.[5] Lastly, a revised Supporting Design Report should be filed that includes the stability calculations for the proposed changes.

4. NYPA's proposed installation of new (pneumatically-operated) crest gates at the Vischer Ferry Project could affect environmental resources in the vicinity of the project (e.g., due to altered water levels when the gates are being installed). However, it is unclear as to how or to what extent and duration the Vischer Ferry impoundment would need to be lowered to complete the proposed gate replacements, which, as described in item 3 above, would require the removal of the upper portion of dam F. Therefore, to facilitate staff's analysis of the potential effects of the proposed gate replacements on environmental resources, including any wetland, riparian, and adjacent upland habitat that may be affected during the gate replacements, please explain how (e.g., via drawdowns or cofferdams) and to what extent (e.g., depth) and duration all work areas would be isolated (from the impoundment) during the proposed gate replacements.

5. Section 2.1 of the "*Effect of Vischer Ferry Dam Modification Alternatives on Ice Jam Flooding*" report filed on July 10, 2023, describes the determination of ice cover thickness using the freezing degree-day method that was calibrated with the 2022 field data (air temperature, precipitation, etc.). The thickness of ice fragments in the ice-breaking channel was calculated to be 0.08 meter (3 inches) with periodic ice breaking in the channel during the winter. Was the thickness of ice fragments (i.e., 0.08 meter) calculated for 2022 and then used for the 2018 ice-jam modeling scenarios or was it predicted for the 2018 ice-jam event (i.e., using 2018 air temperature data) using the calibrated freezing degree-day method and then used for the 2018 ice-jam modeling scenarios? Please explain.

Cultural Resources

6. Page 162 of Exhibit E of the license application for the Crescent Project[6] lists project-related facilities that are contributing historic resources to the New York State Barge Canal Historic District and National Historic Landmark, managed by the New York State Canal Corporation under a draft historic properties management plan (HPMP). Page 173 of Exhibit E states that continued operation and maintenance of the projects will be performed in accordance with the provisions of the HPMP. However, the

[5] https://www.ferc.gov/industries-data/hydropower/dam-safety-and-inspections/eng-guidelines.

[6] The same Exhibit E was filed for the Crescent Project and Vischer Ferry Project.

citation to the draft HPMP does not include a link to a draft HPMP and staff has been unable to locate a draft HPMP online. So that staff has adequate information to conduct its environmental analysis, please file the draft HPMP, or the final HPMP if available, with the Commission. If the HPMP provides information about the location, character, or ownership of a historic property that may cause a significant invasion of privacy, risk harm to the historic property, or impede the use of a traditional religious site by practitioners, please file the document as privileged, as required by 36 CFR § 800.11 and 18 CFR § 388.112.

7. Page 173 of Exhibit E states the continued operation of the Crecent Project and Vischer Ferry Project will not result in adverse effects to cultural resources. Appendix A of Exhibit E contains two letters from the New York State Historic Preservation Office (New York SHPO) approving the proposed area of potential effects for each project; however, there is no correspondence indicating the New York SHPO concurs with NYPA's assessment that there is no effect to historic properties from continued operation of the projects. Therefore, please consult with the New York SHPO regarding whether it concurs with NYPA's finding of no effect and file a record of that consultation with the Commission.

Document Content(s)