FEDERAL ENERGY REGULATORY COMMISSION

Washington, DC 20426 September 20, 2019

OFFICE OF ENERGY PROJECTS

Project No. 4678-052-New York Crescent Hydroelectric Project

Project No. 4679-049–New York Vischer Ferry Hydroelectric Project

New York Power Authority

Subject: Scoping Document 2 for the Crescent Hydroelectric Project, P-4678 and Vischer Ferry Hydroelectric Project, P-4679

To the Party Addressed:

The Federal Energy Regulatory Commission (Commission) is currently reviewing the Pre-Application Document submitted by the Power Authority of the State of New York (New York Power Authority or NYPA) for relicensing the Crescent Hydroelectric Project (Crescent Project) (FERC No. 4678), and the Vischer Ferry Hydroelectric Project (Vischer Ferry Project) (FERC No. 4679). The projects are located on the Mohawk River in Saratoga, Albany, and Schenectady Counties, New York.

Pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended, Commission staff intends to prepare an environmental assessment (EA), which will be used by the Commission to determine whether, and under what conditions, to issue new licenses for the projects. To support and assist our environmental review, we are beginning the public scoping process to ensure that all pertinent issues are identified and analyzed, and that the EA is thorough and balanced.

Our preliminary review of the scope of environmental issues associated with the proposed relicensing of the projects was described in Scoping Document 1 (SD1), issued June 10, 2019. We requested comments on SD1, conducted an environmental site review, and held scoping meetings on July 10 and 11, 2019, to hear the views of all interested agencies and entities on the scope of issues that should be addressed in the EA. Based on the meetings and submission of written comments, we have updated SD1 to

Project Nos. 4768-052 and 4679-049

reflect our current view of issues and alternatives to be considered in the EA. Key changes from SD1 to SD2 are identified in bold and italicized type.

SD2 is being distributed to the Commission's official mailing list (see section 9.0 of the attached SD1). If you wish to be added to, or removed from, the Commission's official mailing list, please send your request by email to ferc.gov or by mail to: Secretary, Federal Energy Regulatory Commission, 888 First Street, NE, Room 1A, Washington, DC 20426. All written or emailed requests must specify your wish to be removed from or added to the mailing list and must clearly identify the following on the first page: Crescent Hydroelectric Project No. 4678-052 and/or Vischer Ferry Hydroelectric Project No. 4679-049.

You may also register online at http://www.ferc.gov/docs-filing/esubscription.asp to be notified via email of new filings and issuances related to this or other pending projects. For assistance, please contact FERC Online Support at ferc.gov.

SD2 is issued for informational use by all interested parties; no response is required. If you have any questions about SD2, the scoping process, or how Commission staff will develop the EA for this project, please contact Jody Callihan at (202) 502-8278 or jody.callihan@ferc.gov. Additional information about the Commission's licensing process and the Crescent and Vischer Ferry projects may be obtained from our website (www.ferc.gov) or NYPA's licensing website, https://www.nypa.gov/power/generation/all-generating-facilities/crescent-vischer-ferry-relicensing.

Enclosure: Scoping Document 2

SCOPING DOCUMENT 2

CRESCENT HYDROELECTRIC PROJECT

PROJECT NO. 4678-052

AND

VISCHER FERRY HYDROELECTRIC PROJECT

PROJECT NO. 4679-049

NEW YORK



Federal Energy Regulatory Commission Office of Energy Projects Division of Hydropower Licensing Washington, DC

September 2019

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SCOPING DOCUMENT 2

Crescent Hydroelectric Project, No. 4678-052 Vischer Ferry Hydroelectric Project, No. 4679-049

1.0 INTRODUCTION

The Federal Energy Regulatory Commission (Commission or FERC), under the authority of the Federal Power Act (FPA), may issue licenses for terms ranging from 30 to 50 years for the construction, operation, and maintenance of non-federal hydroelectric projects. On May 3, 2019, the Power Authority of the State of New York (New York Power Authority, or NYPA) filed a Pre-Application Document (PAD) and Notices of Intent to seek new licenses for the Crescent Hydroelectric Project (Crescent Project) (FERC Project No. 4678) and Vischer Ferry Hydroelectric Project (Vischer Ferry Project) (FERC Project No. 4679).²

Both projects are located on the lower Mohawk River (a major tributary to the Hudson River) at state-owned lock and dams on the Erie Canal portion of the New York State Canal System. The Crescent Project (associated with Lock E-6) is located at river mile 4 of the Mohawk River in Saratoga, Albany, and Schenectady Counties, near the town of Halfmoon, New York (figure 1). The Vischer Ferry Project is located at river mile 14 of the Mohawk River, 10 miles upstream of the Crescent Project, at Lock E-7, near the town of Niskayuna, New York (figure 1). Neither project occupies federal lands.

Both projects are operated as run-of-river (ROR) hydroelectric facilities. Each project has four turbine-generating units and a total authorized installed capacity of 11.8 megawatts (MW).³ The average annual generation of the Crescent Project and the Vischer Ferry Project from 2009 through 2018 was 58,456 megawatt-hours (MWh) and 50,601 MWh, respectively. Detailed descriptions of each project are provided in section 3.0.

¹ 16 U.S.C. § 791(a)-823(g) (2018).

² Each license, for the Crescent and Vischer Ferry projects, was issued on June 26, 1984 with a back-dated effective date of June 1, 1974. Both licenses expire on May 31, 2024.

³ 55 FERC ¶ 62,015. Order Amending License and Revising Annual Charges, issued April 8, 1991 for P-4678. 55 FERC ¶ 62,014. Order Amending License and Revising Annual Charges, issued April 8, 1991 for P-4679.

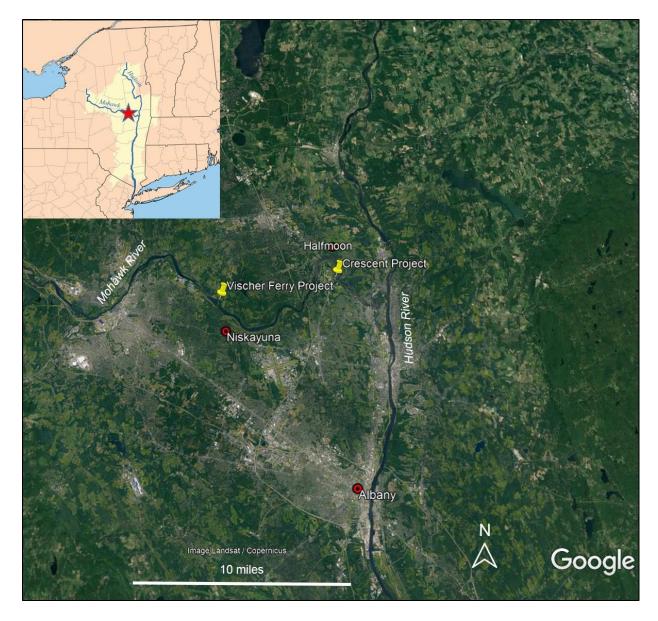


Figure 1. Location of the Crescent and Vischer Ferry projects (Source: Staff).

The National Environmental Policy Act (NEPA) of 1969,⁴ the Commission's regulations, and other applicable laws require that we independently evaluate the environmental effects of relicensing the Crescent and Vischer Ferry projects as proposed, and also consider reasonable alternatives to the licensee's proposed action. At this time, we intend to prepare an environmental assessment (EA) that describes and evaluates the probable effects, including an assessment of the site-specific and cumulative effects, if any, of the proposed action and alternatives. The EA preparation will be supported by a scoping process to ensure identification and analysis of all pertinent issues. Although our current intent is to prepare an EA, there is a possibility that an environmental impact statement (EIS) will be required. The scoping process will satisfy the NEPA scoping requirements, irrespective of whether the Commission issues an EA or an EIS.

⁴ National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321-4370(f) (2012).

2.0 SCOPING

This Scoping Document 2 (SD2) is intended to advise all participants as to the proposed scope of the EA and to seek additional information pertinent to this analysis. This document contains: (1) a description of the scoping process and schedule for the development of the EA; (2) a description of the proposed action and alternatives; (3) a preliminary identification of environmental issues and proposed studies; (4) a request for comments and information; (5) a proposed EA outline; and (6) a preliminary list of comprehensive plans that are applicable to the project.

2.1 PURPOSES OF SCOPING

Scoping is the process used to identify issues, concerns, and opportunities for enhancement or mitigation associated with a proposed action. In general, scoping should be conducted during the early planning stages of a project. The purposes of the scoping process are as follows:

- invite participation of federal, state and local resource agencies, Indian tribes, non-governmental organizations (NGOs), and the public to identify significant environmental and socioeconomic issues related to the proposed project;
- determine the resource issues, depth of analysis, and significance of issues to be addressed in the EA;
- identify how the project would or would not contribute to cumulative effects in the project area;
- identify reasonable alternatives to the proposed action that should be evaluated in the EA;
- solicit, from participants, available information on the resources at issue, including existing information and study needs; and
- determine the resource areas and potential issues that do not require detailed analysis during review of the project.

2.2 COMMENTS, SCOPING MEETINGS, AND ENVIRONMENTAL SITE REVIEW

We issued Scoping Document 1 (SD1) on June 10, 2019, to enable resource agencies, Indian tribes, non-governmental organizations (NGOs), and the public to more effectively participate in and contribute to the scoping process. In SD1, we requested clarification of the preliminary issues concerning the projects and identification of any new issues that need to be addressed in the EA. We revised SD1 following the scoping meetings, environmental site review, and review of written comments filed during the scoping period, which ended August 9, 2019. This SD2 presents our current view of issues and alternatives to be considered in the EA. To facilitate review, key changes from SD1 to SD2 are identified in bold and italicized type.

We conducted scoping meetings in Clifton Park, New York, on July 10, 2019 (evening), and July 11, 2019 (morning), and held an environmental site review of the project on July 10, 2019 to identify potential issues associated with the project. The scoping meetings and site review were noticed in local newspapers and the Federal Register. A court reporter recorded oral comments made during both scoping meetings.

In addition to oral comments received at the scoping meetings, written comments were also received from the following entities:

| Commenting Entity | Filing Date |
|---|----------------|
| Russell Wege | July 29, 2019 |
| Christopher Cook | August 7, 2019 |
| John Garver | August 8, 2019 |
| Phil Steck | August 8, 2019 |
| U.S. Fish and Wildlife Service | August 9, 2019 |
| James Woidt | August 9, 2019 |
| Riverkeeper, Inc. | August 9, 2019 |
| New York State Department of Environmental Conservation | August 9, 2019 |
| James Duggan | August 9, 2019 |
| U.S. National Park Service | 5 / |

All comments received are part of the Commission's official record for the project. Information in the official file is available for inspection and reproduction at the Commission's Public Reference Room, located at 888 First Street, NE, Room 2A, Washington, DC, 20426, or by calling (202) 502-8371. Information also may be

accessed through the Commission's eLibrary system using the "Documents & Filing" link on the Commission's website at <u>www.ferc.gov</u>. For assistance, call (202) 502-6652.

2.2.1 Issues Raised During Scoping

The issues raised by participants in the scoping process are summarized below. The summaries do not include every oral or written comment made during the scoping process. We revised SD1 to address only those comments relating directly to the scope of environmental issues for the Crescent and Vischer Ferry projects. Comments on the PAD and study requests are not discussed here, but will be considered during study plan development and the ensuing study plan meetings. Further, we do not address comments that are recommendations for license conditions, such as protection, mitigation, and enhancement (PM&E) measures, as these recommendations will be addressed in the EA or any license order issued for this project. We will request final terms, conditions, recommendations, and comments when we issue our Ready for Environmental Analysis (REA) notice. Finally, we do not address comments or recommendations that are administrative in nature, such as requests for changes to the mailing list. Those items will be addressed separately.

General Comments

<u>Comment</u>: Riverkeeper Inc. (Riverkeeper) is concerned that staff's cumulative effects analysis will fall short of the "hard look" at environmental consequences that is required by NEPA. Specifically, Riverkeeper is concerned with the statement in section 4.1.3 of SD1 that "The historical discussion will, by necessity, be limited to the amount of available information for each resource. The quality and quantity of information, however, diminishes as we analyze resources further away in time from the present." Riverkeeper suggests this statement must be removed from SD1 and the scope of staff's cumulative impacts analysis expanded to include a thorough comparison of conditions before and after dam construction.

<u>Response</u>: The text that Riverkeeper references from section 4.1.3 of SD1 does not preclude staff from analyzing environmental conditions before and after dam construction as part of its cumulative effects analysis. Similar to other recently issued EAs, staff's cumulative effects analysis for the Crescent and Vischer Ferry projects

⁵ See Final EAs for the: Great Falls Hydroelectric Project (FERC Project No. 2839) issued on August 28, 2019; Ellsworth Hydroelectric Project (FERC Project No. 2727) issued on July 29, 2019; ; and the Mattaceunk Hydroelectric Project (FERC Project No. 2520) issued on September 25, 2018.

will describe environmental conditions in the Mohawk River before and after dam construction as they relate to migratory fish and water quality. Consequently, no changes have been made to this document.

<u>Comment</u>: Riverkeeper states it is inappropriate to pre-judge whether decommissioning is appropriate before it has been studied and that the Commission must perform a study of the project decommissioning alternative to determine the environmental conditions if the dams were to be removed. Riverkeeper states it might support the decommissioning alternative if its requested NEPA study shows positive environmental impacts of free-flowing river conditions. Riverkeeper also states that the decommissioning and dam removal alternative must be used as the baseline "noaction" alternative in staff's NEPA analysis rather than the no-action alternative of existing baseline conditions under the current license conditions.

Response: As the Commission has previously held, decommissioning is not a reasonable alternative to relicensing in most cases. Decommissioning can be accomplished in different ways depending on the project, its environment, and the particular resource needs. For these reasons, the Commission does not speculate about possible decommissioning measures at the time of relicensing, but rather waits until an applicant actually proposes to decommission a project, or a participant in a licensing proceeding demonstrates that there are serious resource concerns that make decommissioning a reasonable alternative. Riverkeeper does not recommend

⁶ See, e.g., Eagle Crest Energy Co., 153 FERC ¶ 61,058, at P 67 (2015); Public Utility District No. 1 of Pend Oreille County, 112 FERC ¶ 61,055, at P 82 (2005); Midwest Hydro, Inc., 111 FERC ¶ 61,327, at PP 35-38 (2005).

⁷ In the unlikely event that the Commission denies relicensing a project or a licensee decides to surrender an existing project, the Commission must approve a surrender "upon such conditions with respect to the disposition of such works as may be determined by the Commission." 18 C.F.R. § 6.2 (2019). This can include simply shutting down the power operations, removing all or parts of the project (including the dam), or restoring the site to its pre-project condition.

⁸ See generally Project Decommissioning at Relicensing; Policy Statement, FERC Stats. & Regs., Regulations Preambles (1991-1996), ¶ 31,011 (1994); see also City of Tacoma, Washington, 110 FERC ¶ 61,140 (2005) (finding that unless and until the Commission has a specific decommissioning proposal, any further environmental analysis of the effects of project decommissioning would be both premature and speculative).

decommissioning, nor does it demonstrate there are serious resource concerns that make decommissioning a reasonable alternative; as such, there is no reason, at this time, to include decommissioning as a reasonable alternative to be evaluated and studied as part of staff's NEPA analysis. Consequently, no changes have been made to this document.

<u>Comment</u>: Riverkeeper notes there are two Potential Environmental Justice Areas (PEJAs) located directly adjacent to the Mohawk River shoreline in the city of Schenectady; that according to Environmental Protection Agency environmental exposure indicators, exposure to major wastewater discharges in these areas is high. Riverkeeper states that staff's environmental analysis must consider historical, ongoing, and potential future impacts of the projects' dams and their operations on these PEJAs.

Response: Staff's cumulative effects analysis will include an assessment of the potential combined effects of hydroelectric projects and other activities, such as wastewater treatment facilities, on water quality in the lower Mohawk River. We have modified the text in section 4.1.2 of this document to clarify that our cumulative effects analysis will consider discharge from wastewater treatment facilities. If project-related effects are identified during this relicensing proceeding that would affect environmental justice communities, the Commission would address such effects, including human health, social, and economic effects of the projects on minority and low-income communities or Native American programs; and describe its efforts to identify and communicate with these groups and individuals regarding the measures used to avoid and minimize any project impacts.⁹

<u>Comment</u>: NYPA states that the ILP schedule included in Appendix B of SD1 should indicate the first study season will be in 2020 (not 2021) and the second study season would be in 2021 (not 2022).

<u>Response</u>: The Process Plan in Appendix B of this document has been corrected to indicate the first study season will commence in the spring/summer of 2020 and the second study season would occur in the spring/summer of 2021.

Aquatic Resources

<u>Comment:</u> Several commenters (James Duggan, Russell Wege, James Woidt, and Phil Steck) expressed concern over the impact the Vischer Ferry Dam has on

 $^{{}^{9}\,\}underline{\text{https://www.ferc.gov/industries/gas/enviro/guidelines/guidance-manual-volume-1.pdf.}}$

flooding, particularly in the project impoundment and its surrounding communities (e.g., the historic Stockade District in Schenectady).

<u>Response</u>: We added a bullet to section 4.2.2 of this document to indicate that our environmental analysis will evaluate the effects of the operation of the Vischer Ferry Project on flooding in the project impoundment.

<u>Comment</u>: Christopher Cook states the environmental analysis should include the impacts of the projects' dams on migratory fish and water quality.

<u>Response</u>: As indicated in SD1, staff's environmental analysis will evaluate the effects of continued project operation and maintenance on both diadromous (migratory) fish and water quality. Consequently, no changes have been made in this document.

<u>Comment</u>: Riverkeeper states the environmental analysis should consider a broader range of issues related to fishery resources at the projects, including: (1) upstream passage of juvenile American eel, (2) movements of native and sport fishes, (3) dam-associated mortality for blueback herring and American eel, (4) the effects of lighting on eel migration, (5) impacts on freshwater mussels, (6) impacts on eggs and larvae of native and high-value recreational fishes, and (7) comparisons of impact to historic baseline fish populations, not only status quo operation and maintenance.

Response: We have added a bullet to section 4.2.2 of this document to indicate that our environmental analysis will assess the need for upstream and downstream passage of American eel and blueback herring at the projects (Item 1 above). Evaluating effects of the dams' exterior lighting (Item 4 above) on migrating eels (and the possible disorientation effects it may cause) is a potential PM&E measure; as such, will not be addressed in this document. Regarding Item 3 above, SD1 indicates that staff's environmental analysis will evaluate project-related mortality (including entrainment mortality) of blueback herring and American eel. Therefore, no changes have been made to this document in response to Item 3.

Unlike diadromous fish such as American eel and blueback herring that must migrate between oceanic and riverine environments to complete their life cycle (i.e., reproduce), riverine resident fishes are generally capable of completing their life cycle within the freshwater system in which they live (e.g., the segment of a river upstream or downstream of an existing dam). Accordingly, the mere presence of project dams themselves (Item 2 above) is not expected to have a significant effect on freshwater fish populations in the vicinity of the projects. Nor does the entrainment of fish eggs and larvae of resident fish species represent an important source of project-related

mortality because the vast majority of eggs and larvae entrained through the project likely survive due to their small size; these early life history stages are rarely considered in entrainment studies of fish at hydropower projects, which are focused instead on juveniles and adults. Consequently, no changes have been made to this document in response to Items 2 and 6.

Regarding freshwater mussels (Item 5), we modified a bullet in section 4.2.2 of this document to indicate that our environmental analysis will include the effects of project operation and maintenance on freshwater mussels.

Regarding Item 7, staff's cumulative effects analysis, as indicated above, will describe environmental conditions in the Mohawk River before and after dam construction (e.g., as they relate to migratory fish). Consequently, no changes have been made to this document regarding Item 7.

<u>Comment</u>: Riverkeeper suggests that drinking water should be added to SD1 as an aquatic resources issue and that staff's environmental analysis should accurately account for drinking water intakes and source water impacts in the project areas. Riverkeeper also states that any flow alterations associated with these dams and their operations have the potential to impact ecological processes affecting pollutants discharged from wastewater treatment plants in the vicinity of the projects. Phil Steck suggests that staff's environmental analysis should evaluate the role the projects' dams play in affecting drinking water supplies in the project areas.

<u>Response</u>: As indicated above, staff's cumulative effects analysis will include an assessment of the potential combined effects of hydroelectric projects and other activities, such as wastewater treatment facilities, on water quality and drinking water supplies in the lower Mohawk River. We have modified the text in section 4.1.2 of this document to clarify this point.

¹⁰ Cada, G.F. 1990. A review of studies relating to the effects of propeller-type turbine passage on fish early life stages. North American Journal of Fisheries Management 10:418-426.

Recreation Resources

<u>Comment</u>: NYPA points out that section 3.2 of SD1 omits NYPA's proposal to maintain the following formal project recreation sites at the Crescent Project: (1) tailrace bank fishing area, and (2) powerhouse picnic area.

<u>Response</u>: SD2 has been corrected to include NYPA's proposal to maintain these existing recreation sites.

3.0 PROPOSED ACTION AND ALTERNATIVES

In accordance with NEPA, the environmental analysis will consider the following alternatives, at a minimum: (1) the no-action alternative, (2) the applicant's proposed action, and (3) alternatives to the proposed action.

3.1 NO-ACTION ALTERNATIVE

Under the no-action alternative, the Crescent and Vischer Ferry projects would continue to operate as required by the current project licenses (i.e., there would be no change to the existing environment). No new environmental protection, mitigation, or enhancement measures would be implemented. We use this alternative to establish baseline environmental conditions for comparison with other alternatives.

3.1.1 Existing Project Facilities

Crescent Project

The Crescent Project consists of two main concrete gravity dams (dams A and B) that are curved, have a total length of 1,435 feet, and link each bank to a rock island in the middle of the Mohawk River (figure 2). The project impoundment extends upstream 10 miles to the Vischer Ferry Project, and has a surface area of 2,000 acres and holds 50,000 acre-feet of water at the normal pool elevation of 184 feet. When the 1-foothigh wooden flashboards are seasonally installed on the dams' spillways during the canal navigation season (generally May through November), the normal full pool elevation is increased from 184 feet to 185 feet, resulting in the retention of an additional 2,000 acrefeet of water to aid navigation lockages. A third, smaller dam (dam C, figure 2) provides added structural stability for dam B by impounding water to approximately 4.5 feet deep against the downstream toe of dam B. Two regulating structures, a 30-foot-wide Tainter gate and an 8-foot-wide ice/trash sluice gate, are located on the western side of dam B.

The powerhouse is 180 feet long (across the river) and 73 feet wide (parallel to the river), integral with dam B, and has four turbine-generator units: two vertical Kaplan turbines (with a rated capacity of 3.0 MW each) and two vertical Francis turbines (with a rated capacity of 2.8 MW each). The project also contains a switchyard, generator leads, transformer banks, and appurtenant facilities.

¹¹ All elevations herein are in the Barge Canal Datum (BCD), which is 1.67 feet lower than the North American Vertical Datum of 1988 (NAVD 88).

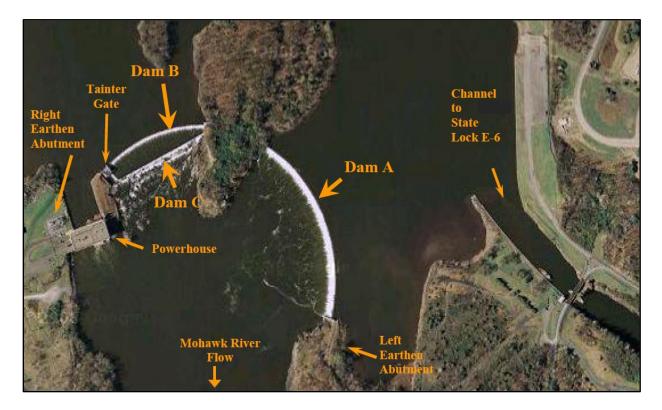


Figure 2. Project facilities at the Crescent Project (Source: Staff).

Vischer Ferry Project

The Vischer Ferry Project consists of three connected concrete gravity dams (dams D, E, and F) having a total length of 1,919 feet (figure 3). Dams D and F are 30 feet high, while dam E varies in height from 1 to 3 feet above Goat Island, located in the middle of the river (figure 3). The project impoundment extends 10.3 miles upstream to Lock E-8 in Schenectady, New York, and has a surface area of 1,050 acres and holds 25,000 acre-feet of water at the normal pool elevation of 211 feet. When the 27-inchhigh wooden flashboards are seasonally installed on the dams' spillways during the canal navigation season (generally May through November), the normal full pool elevation is increased from 211.0 feet to 213.25 feet, resulting in the retention of an additional 2,400 acre-feet of water to aid navigation lockages. Regulating structures are present along the project's headrace and include seven sluice gates (figure 3). Six of these gates have openings that are 14 feet high by 8 feet wide with sill elevations of 202.1 feet; the seventh opening is used as a trash sluice and is 12 feet high and 8 feet wide with a sill elevation of 190 feet.

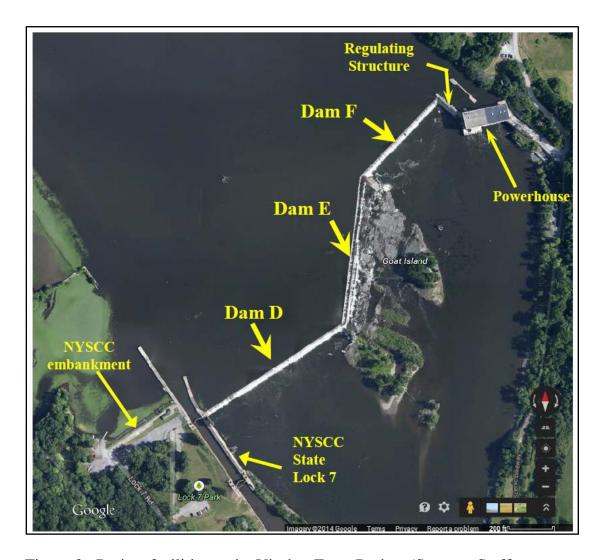


Figure 3. Project facilities at the Vischer Ferry Project (Source: Staff).

The powerhouse is 186 feet long (across the river) and 73 feet wide (parallel to the river), integral with dam F, and similar to the Crescent Project, has four turbine-generator units: two vertical Kaplan turbines (with a rated capacity of 3.0 MW each) and two vertical Francis turbines (with a rated capacity of 2.8 MW each). The project also contains a switchyard, generator leads, transformer banks, and appurtenant facilities.

Lock E-7 of the Erie Canal and its associated earthen embankment (figure 3) are included as project features¹² because they are necessary in maintaining the project

 $^{^{12}}$ 130 FERC \P 62,027. Order Revising Approved Exhibit G Drawings, issued January 12, 2010.

impoundment. Lock E-7 is owned and operated by the New York State Canal Corporation.

In 1983, NYPA obtained a perpetual hydroelectric easement from the State of New York to develop and operate the Vischer Ferry and Crescent projects. NYPA does not propose any new or upgraded facilities or structural changes to the projects at this time.

3.1.2 Existing Project Operations

Crescent Project

The Crescent Project is operated as a ROR hydroelectric facility. In some instances, when there is a curtailment of project inflows due to operations of the New York State Canal System (upstream of the project), the licensee is authorized to lower the project impoundment up to 6 inches below the flashboards (if installed) or crest of the dams (when the flashboards are removed) to minimize disruptions to project generation during such instances. 13 This 6-inch fluctuation allowance is not meant to be used for regular ponding or peaking purposes. During the navigation season (generally May through November), when the flashboards are present on top of the spillways, 250 cubic feet per second (cfs) is spilled through an 80-foot-wide, 1-foot-high opening in dam A (where the flashboards are absent) to provide a downstream passage route (that bypasses the turbines) for adult and juvenile blueback herring. ¹⁴ The 100-cfs minimum flow required by Article 36 of the current license is considered as part of this 250-cfs fish passage flow that is released during the navigation season. ¹⁵ During the non-navigation season (December through April), the minimum flow is provided via generation as project inflows are greater than the minimum hydraulic capacity of a single unit (300 cfs) 99 percent of the time; in the rare occasion project inflows are lower than 300 cfs, the minimum flow is released through the trash sluice.

¹³ 93 FERC ¶ 62,127. Order Amending Article 41, issued November 17, 2000.

¹⁴ 120 FERC ¶ 62,087. Order Modifying and Approving Downstream Fish Passage Plan Under December 28, 2006 Order, Modifying Effectiveness Study Plan Schedule Under January 31, 2007 Order, and Approving Operating Schedule for Downstream Fish Passage Under February 15, 2005 Order, issued July 31, 2007.

¹⁵ 110 FERC ¶ 62,141. Order Modifying and Approving Fish Protection Recommendations Under August 14, 2002 Order, issued February 15, 2005.

The Crescent Project can be operated both remotely and manually, but is typically operated remotely from NYPA's Blenheim-Gilboa control room. The project utilizes a programmable logic controller system to monitor impoundment water levels and plant output. The project operator monitors available water level and weather forecasting information for severe weather predictions. The project operates in close coordination with the New York State Canal System and during unusual conditions or emergencies, public safety is always prioritized.

Vischer Ferry Project

The Vischer Ferry Project is operated in the same manner as described above for the Crescent Project with the exception that a 200-cfs continuous minimum flow (or inflow if less) is required for the Vischer Ferry Project. Similar to the Crescent Project, the required minimum flow at Vischer Ferry is considered as part of the downstream fish passage flow through the flashboards during the navigation season and via generation or through a sluice gate during the non-navigation season.

3.2 APPLICANT'S PROPOSAL

3.2.1 Proposed Project Facilities and Operations

The proposed action is to continue to operate and maintain the Crescent and Vischer Ferry projects as required by the existing licenses and amendments as described above. No new or upgraded facilities, structural changes, or operational changes to the projects are proposed by NYPA at this time. The current license for each project expires on May 31, 2024.

3.2.2 Proposed Environmental Measures

NYPA's existing protection, mitigation, and enhancement (PM&E) measures, consistent with its current license and associated amendments, are as follows:

Aquatic Resources

- Maintain ROR operation at both projects.
- Provide continuous minimum flows of 100 cfs and 200 cfs (or project inflows, if less) into the Mohawk River downstream of the Crescent and Vischer Ferry projects, respectively.

 Operate underwater ultrasonic acoustic deterrence devices in both project impoundments during the navigation season (generally May through November)¹⁶ to help direct out-migrating juvenile and adult blueback herring away from the project intakes and towards surface openings in the dams' flashboards to provide downstream passage protection and reduce the turbine mortality of blueback herring.

Recreation and Land Use

- Maintain the following formal recreation sites (included in the project boundary) at the Vischer Ferry Project: (1) project forebay scenic overlook, (2) tailrace parking facilities, and (3) Town of Niskayuna boat ramp.
- Maintain the following formal recreation sites (included in the project boundary) at the Crescent Project: (1) tailrace bank fishing area, (2) powerhouse picnic area.

Cultural Resources

• Consult with the New York State Historic Preservation Office (New York SHPO) prior to the commencement of any construction at the projects about the need for any cultural resources survey or salvage work. Should any unrecorded archaeological or historical sites be discovered during the course of construction or development of any project works or other facilities at the projects, halt construction activity, consult with a qualified archaeologist to determine the significance of the sites, and consult with the New York SHPO to develop any necessary mitigation plans for the protection of significant archaeological or historic resources.

3.3 DAM SAFETY

It is important to note that dam safety constraints may exist and should be taken into consideration in the development of proposals and alternatives considered in the

¹⁶ At the Vischer Ferry Project, NYPA states it operates the acoustic deterrence system and maintains separate flashboard openings in dam F for the downstream passage of adult blueback herring from May through July and for juvenile blueback herring from September through November. For the Crescent Project, the licensee is required by 120 FERC ¶ 62,087 (issued July 31, 2007) to operate the acoustic deterrence system and maintain downstream fish passage flows through the flashboard openings for the entire duration of the navigation season (generally May through November).

pending proceeding. For example, proposed modifications to the dam structure, such as the addition of flashboards or fish passage facilities, could impact the integrity of the dam structure. As the proposal and alternatives are developed, the applicant must evaluate the effects and ensure that the projects would meet the Commission's dam safety criteria found in Part 12 of the Commission's regulations and the Engineering Guidelines (http://www.ferc.gov/industries/hydropower/safety/guidelines/eng-guide.asp).

3.4 ALTERNATIVES TO THE PROPOSED ACTION

Commission staff will consider and assess all alternative recommendations for operational or facility modifications, as well as PM&E measures identified by the Commission, the agencies, Indian tribes, NGOs, and the public.

3.5 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

At present, we propose to eliminate the following alternatives from detailed study in the EA.

3.5.1 Federal Government Takeover

In accordance with § 16.14 of the Commission's regulations, a federal department or agency may file a recommendation that the United States exercise its right to take over a hydroelectric power project with a license that is subject to sections 14 and 15 of the FPA.¹⁷ We do not consider federal takeover to be a reasonable alternative. Federal takeover of the projects would require congressional approval. While that fact alone would not preclude further consideration of this alternative, there is currently no evidence showing that federal takeover should be recommended to Congress. No party has suggested that federal takeover would be appropriate, and no federal agency has expressed interest in operating the projects.

3.5.2 Non-power License

A non-power license is a temporary license the Commission would terminate whenever it determines that another governmental agency is authorized and willing to assume regulatory authority and supervision over the lands and facilities covered by the non-power license. At this time, no governmental agency has suggested a willingness or ability to take over the projects. No party has sought a non-power license, and we have

¹⁷ 16 U.S.C. § 791(a)-823(g) (2018).

no basis for concluding that the Crescent and Vischer Ferry projects should no longer be used to produce power. Thus, we do not consider a non-power license a reasonable alternative to relicensing the projects.

3.5.3 Project Decommissioning

Decommissioning of the projects could be accomplished with or without dam removal. Either alternative would require denying the relicense application and surrender or termination of the existing licenses with appropriate conditions. There would be significant costs involved with decommissioning the projects and/or removing any project facilities. The projects provide a viable, safe, and clean renewable source of power to the region. With decommissioning, the projects would no longer be authorized to generate power.

No party has suggested project decommissioning would be appropriate in this case, and we have no basis for recommending it. Thus, we do not consider project decommissioning a reasonable alternative to relicensing the projects with appropriate environmental measures.

4.0 SCOPE OF CUMULATIVE EFFECTS AND SITE-SPECIFIC RESOURCE ISSUES

4.1 CUMULATIVE EFFECTS

According to the Council on Environmental Quality's regulations for implementing NEPA (40 C.F.R. 1508.7), a cumulative effect is the effect on the environment that results from the incremental effect of the action when added to other past, present and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time, including hydropower and other land and water development activities.

4.1.1 Resources that could be Cumulatively Affected

Based on information in the PAD for the Crescent and Vischer Ferry projects and preliminary staff analysis, we identified water quality and diadromous fishes (including blueback herring and American eel), as having the potential to be cumulatively affected by the continued operation and maintenance of the Crescent and Vischer Ferry projects in combination with other hydroelectric projects and activities in the Mohawk and Hudson River Basins.

4.1.2 Geographic Scope

Our geographic scope of analysis for cumulatively affected resources is defined by the physical limits or boundaries of: (1) the proposed action's effect on the resources, and (2) contributing effects from other hydropower and non-hydropower activities within the Mohawk River Basin. There are six hydroelectric projects (including the Crescent and Vischer Ferry projects) on the Mohawk River and one hydroelectric project (Green Island, FERC No. 13) on the Hudson River downstream of its confluence with the Mohawk River (figure 4). We have identified the geographic scope for water quality to include the Mohawk River from the Vischer Ferry impoundment to its confluence with the Hudson River because this relatively short (15-mile) reach of the river contains five hydropower projects and numerous wastewater treatment facilities, the operation of which may cumulatively affect water quality and drinking water supplies in the identified area. For diadromous fishes, the geographic scope includes the section of the Mohawk River from the Little Falls Project (FERC No. 3509) impoundment to the confluence of the Mohawk and Hudson rivers, and extending down the Hudson River 2 miles to the Green Island Project. We have identified this geographic scope for diadromous fishes because adult and juvenile blueback herring and adult American eels out-migrating from the Mohawk River would have to pass this series of hydropower

dams, and could be cumulatively affected by turbine mortality at the projects *en route* to their Atlantic Ocean feeding (herring) and spawning grounds (eels).

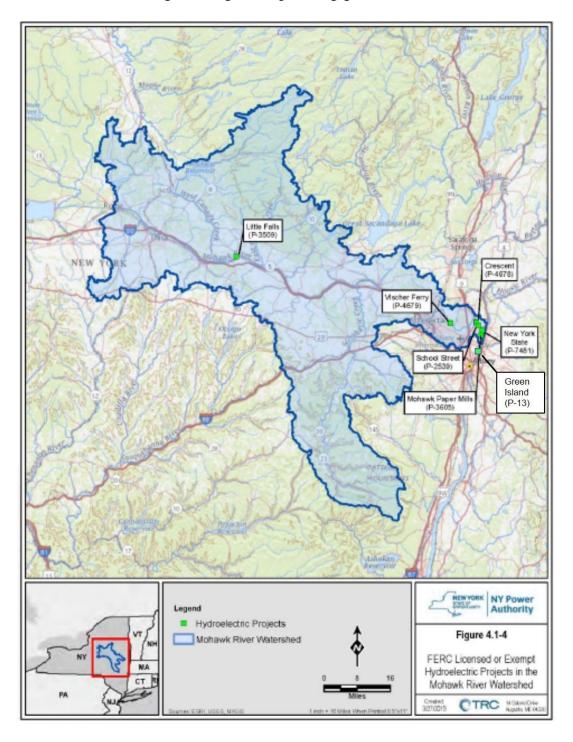


Figure 4. Hydropower plants on the Mohawk River and lower Hudson River (Source: NYPA, as modified by staff).

4.1.3 Temporal Scope

The temporal scope of our cumulative effects analysis in the EA will include a discussion of past, present, and reasonably foreseeable future actions and their effects on each resource that could be cumulatively affected. Based on the potential term of a new license, the temporal scope will look 30 to 50 years into the future, concentrating on the effect on the resources from reasonably foreseeable future actions. The historical discussion will, by necessity, be limited to the amount of available information for each resource. The quality and quantity of information, however, diminishes as we analyze resources further away in time from the present.

4.2 RESOURCE ISSUES

In this section, we present a preliminary list of environmental issues to be addressed in the EA. We identified these issues, which are listed by resource area, by reviewing the PAD and the Commission's record for the Crescent and Vischer Ferry projects. This list is not intended to be exhaustive or final, but contains the issues raised to date. After the scoping process is complete, we will review the list and determine the appropriate level of analysis needed to address each issue in the EA. Those issues identified by an asterisk (*) will be analyzed for both cumulative and site-specific effects.

4.2.1 Geologic and Soils Resources

• Effects of continued project operation and maintenance on shoreline stability and erosion upstream and downstream of each project (Crescent and Vischer Ferry).

4.2.2 Aquatic Resources

- Effects of the operation of the Vischer Ferry Project on flooding in the project impoundment.
- Effects of continued project operation and maintenance on water quality, including dissolved oxygen (DO) and water temperature, upstream and downstream of each project (Crescent and Vischer Ferry).*
- Need for minimum flows to protect aquatic resources downstream of each project (Crescent and Vischer Ferry).
- Effects of continued operation and maintenance of the projects on aquatic resources, including *freshwater mussels and* entrainment and impingement

mortality of resident fishes, such as smallmouth bass and walleye.

- Effects of continued operation and maintenance of the projects on diadromous fishes, including entrainment mortality and downstream passage of blueback herring and American eel.*
- Need for upstream and downstream passage of American eel and blueback herring at the projects.*

4.2.3 Terrestrial Resources

• Effects of continued operation and maintenance of the projects on botanical resources, riparian and wetland habitat, wildlife resources, and any state-listed rare, threatened, or endangered species identified by the New York State Department of Environmental Conservation or other state agency (e.g., the bald eagle, osprey, and Culver's root).

4.2.4 Threatened and Endangered Species

• Effects of continued operation and maintenance of the projects on the federally listed threatened northern long-eared bat.

4.2.5 Recreation, Land Use, and Aesthetics

- The adequacy of public access and recreation facilities to meet current and future recreation demand at the projects.
- Effects of continued operation and maintenance of the projects on recreational opportunities and river access within the project areas.
- Effects of continued operation and maintenance of the projects on land use and aesthetic resources within the project areas.

4.2.6 Cultural Resources

• Effects of continued operation and maintenance of the projects on historic properties and archaeological resources that are included in, eligible for listing in, or potentially eligible for inclusion in the National Register of Historic Places.

• Effects of continued operation and maintenance of the projects on any previously unidentified historic or archaeological resources or traditional cultural properties that may be eligible for inclusion in the National Register of Historic Places.

4.2.7 Developmental Resources

• Effects of any recommended environmental measures on the projects' economics.

5.0 PROPOSED STUDIES

Depending upon the findings of studies completed by NYPA and the recommendations of the consulted entities, NYPA will consider, and may propose certain other measures to enhance environmental resources affected by the project as part of the proposed action. NYPA's initial study proposals are identified by resource area in table 1. Detailed information on NYPA's initial study proposals can be found in the PAD. Further studies may need to be added to this list based on comments provided to the Commission and NYPA from interested participants, including Indian tribes.

Table 1. NYPA's initial study proposals (Source: PAD)

| Resource Area | Proposed Study | |
|----------------------|--|--|
| Aquatic Resources | | |
| | NYPA proposes to conduct a water quality study of the Crescent and Vischer Ferry projects to assess the current DO and temperature conditions at the projects to ensure that operation of the projects results in values of these parameters that are consistent with state water quality standards. | |
| Recreation Resources | | |
| | NYPA proposes to conduct a recreation site and facility inventory to assess each of the project recreation sites. The study will follow standard methods and include a description of each site, an inventory of the facilities and amenities provided at each site, photographs of the site/facilities/amenities, an estimate of parking capacity provided at the sites, an assessment of the overall condition of the sites using a standardized condition rating scale, and general observations on site use, condition, and accessibility. | |

6.0 EA PREPARATION SCHEDULE

At this time, we anticipate the need to prepare a single EA. The EA will be sent to all persons and entities on the Commission's service and mailing lists for the Crescent and Vischer Ferry projects. The EA will include our recommendations for operating procedures, as well as PM&E measures that should be part of any license issued by the Commission. All recipients will then have 30 days to review the EA and file written comments with the Commission. All comments on the EA filed with the Commission will be considered in the preparation of the license order. A schedule for the EA preparation will be provided after a license application is filed.

The major milestones, with pre-filing target dates are as follows:

| Major Milestone | Target Date |
|---|-------------|
| Scoping Meetings | July 2019 |
| License Application Filed | May 2022 |
| Ready for Environmental Analysis Notice Issued | • |
| Deadline for Filing Comments, Recommendations, and | |
| Agency Terms and Conditions/Prescriptions | |
| Single EA Issued | |
| Comments on EA Due | |
| Deadline for Filing Modified Agency Recommendations | |
| Order Issued | |

A process plan, which has a complete list of relicensing milestones for the Crescent and Vischer Ferry projects, including those for developing the license application, is attached as Appendix B to this SD2.

7.0 PROPOSED EA OUTLINE

The preliminary outline for the Crescent and Vischer Ferry projects' EA is as follows:

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- 1.3 Statutory and Regulatory Requirements
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 - 1.3.2 Clean Water Act
 - 1.3.3 Endangered Species Act
 - 1.3.4 Coastal Zone Management Act
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- A—Draft License Conditions Recommended by Staff
- B—Response to Comments on the Environmental Assessment (if a Draft EA is issued)

8.0 COMPREHENSIVE PLANS

Section 10(a)(2) of the FPA, 16 U.S.C. section 803(a)(2)(A), requires the Commission to consider the extent to which a project is consistent with federal and state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by a project. The staff has preliminarily identified and reviewed the plans listed below that may be relevant to the Crescent and Vischer Ferry projects. Agencies are requested to review this list and inform the Commission staff of any changes. If there are other comprehensive plans that should be considered for this list that are not on file with the Commission, or if there are more recent versions of the plans already listed, they can be filed for consideration with the Commission according to 18 CFR 2.19 of the Commission's regulations. Please follow the instructions for filing a plan at http://www.ferc.gov/industries/hydropower/gen-info/licensing/complan.pdf.

The following is a list of comprehensive plans currently on file with the Commission that may be relevant to the Crescent and Vischer Ferry projects.

- Atlantic States Marine Fisheries Commission. 1999. Amendment 1 to the Interstate Fishery Management Plan for shad and river herring. (Report No. 35). April 1999.
- Atlantic States Marine Fisheries Commission. 2000. Interstate Fishery Management Plan for American eel (*Anguilla rostrata*). (Report No. 36). April 2000.
- Atlantic States Marine Fisheries Commission. 2000. Technical Addendum 1 to Amendment 1 of the Interstate Fishery Management Plan for shad and river herring. February 9, 2000.
- Atlantic States Marine Fisheries Commission. 2008. Amendment 2 to the Interstate Fishery Management Plan for American eel. Arlington, Virginia. October 2008.
- Atlantic States Marine Fisheries Commission. 2009. Amendment 2 to the Interstate Fishery Management Plan for shad and river herring, Arlington, Virginia. May 2009.
- Atlantic States Marine Fisheries Commission. 2010. Amendment 3 to the Interstate Fishery Management Plan for shad and river herring, Arlington, Virginia. February 2010.
- Atlantic States Marine Fisheries Commission. 2013. Amendment 3 to the Interstate Fishery Management Plan for American eel. Arlington, Virginia. August 2013.

- Atlantic States Marine Fisheries Commission. 2014. Amendment 4 to the Interstate Fishery Management Plan for American eel. Arlington, Virginia. October 2014.
- National Park Service. The Nationwide Rivers Inventory. Department of the Interior, Washington, D.C. 1993.
- New York Department of Environmental Conservation. 1979. Hudson River Basin water and related land resources: Level B study report and environmental impact statement. Albany, New York. September 1979.
- New York Department of Environmental Conservation. 1985. New York State Wild, Scenic, and Recreational River System Act. Albany, New York. March 1985.
- New York Department of Environmental Conservation. 1986. Regulation for administration and management of the wild, scenic, and recreational rivers system in New York State excepting the Adirondack Park. Albany, New York. March 26, 1986.
- New York State Office of Parks, Recreation, and Historic Preservation. New York Statewide Comprehensive Outdoor Recreation Plan (SCORP): 2003-2007. Albany, New York. January 2003.
- State of New York Hudson River Regulating District. 1923. General plan for the regulation of the flow of the Hudson River and certain of its tributaries. Albany, New York. June 7, 1923.
- U.S. Fish and Wildlife Service. Canadian Wildlife Service. 1986. North American waterfowl management plan. Department of the Interior. Environment Canada. May 1986.
- U.S. Fish and Wildlife Service. n.d. Fisheries USA: the recreational fisheries policy of the U.S. Fish and Wildlife Service. Washington, D.C.

9.0 MAILING LISTS

The lists below are the Commission's official mailing lists for the Crescent Project (FERC No. 4678) and Vischer Ferry Project (FERC No. 4679). If you want to receive future mailings for the Crescent Project and/or Vischer Ferry Project and are not included in the list below, please send your request by email to efiling@ferc.gov or by mail to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street, N.E., Room 1A, Washington, DC 20426. All written and emailed requests to be added to the mailing list must clearly identify the following on the first page: Crescent Project No. 4678-052 or Vischer Ferry Project No. 4679-049. You may use the same method if requesting removal from the mailing list below.

Register online at http://www.ferc.gov/esubscribenow.htm to be notified via email of new filings and issuances related to this or other pending projects. For assistance, please contact FERC Online Support at FERCOnlineSupport@ferc.gov or toll free at 1-866-208-3676, or for TTY, (202) 502-8659.

Official Mailing List for the Crescent Project

| Geologist State of New York Cultural Education Center Geological Survey Albany, NY 12230-0001 | New York State Department of Transportation Director Region 4 1530 Jefferson Rd Rochester, NY 14623-3110 |
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| Director New York State Public Service Commission State of New York 3 Empire State Plaza Albany, NY 12223-1350 | James A Besha, P.E President Erie Boulevard Hydropower, L.P. 5 Washington Sq Albany, NY 12205-5512 |
| Keith F Corneau Manager Erie Boulevard Hydropower, L.P. c/o Adirondack Hydro Development Corp. 39 Hudson Falls Rd Glens Falls, NY 12803-5041 | New York State Department of Environmental Conservation Commissioner Office of the Commissioner 625 Broadway, 14th Floor Albany, NY 12233-0001 |

| Joseph Legnard General Counsel Difabio, Tommaney and Legnard 69 Hudson Ave Green Island, NY 12183 | John J. McNulty, Jr. Mayor Village of Green Island 20 Clinton St Green Island, NY 12183-1117 |
|--|--|
| John Blake, Ph.D. Director New York Power Authority 123 Main St White Plains, NY 10601-3104 | Robert J. Knowlton Director - Civil/Struc. Eng. New York Power Authority 123 Main Street, M/S 12F White Plains, NY 10601 |
| Quentin E. Ross Senior Engineer New York Power Authority 123 Main St White Plains, NY 10601-3104 | Beverly Ravitch New York Power Authority 123 Main St White Plains, NY 10601-3104 |
| Charles M Pratt New York Power Authority 123 Main St # 16 White Plains, NY 10601-3104 | Kevin Bruce U.S. Army Corps of Engineers, New York District CENAN-OP-RU, Upstate Regulatory Field Office 1 Buffington St, Bld. 10, 3rd Flr North Watervliet, NY 12189-4000 |
| Commanding Officer U.S. Coast Guard MSO Buffalo 1 Fuhrmann Blvd Buffalo, NY 14203-3105 | Commanding Officer U.S. Coast Guard MSO Long Island Sound 120 Woodward Ave New Haven, CT 06512-3628 |
| David Stilwell U.S. Fish & Wildlife Service NY Region 5 Field Office 3817 Luker Rd Cortland, NY 13045-9385 | Charles Schumer U.S. Senate 322 Hart Senate Office Building Washington, DC 20510 |
| Thomas McDonald Dam Safety Engineer New York State Canal Corporation 30 South Pearl Street Albany, NY 12207 | Howard M Goebel Canal Hydrologist New York State Canal Corporation 200 Southern Blvd Albany, NY 12201-0189 |

| Sita Crounse Senior Attorney New York State Department of Environmental Conservation 625 Broadway Albany, NY 12233-1500 | New York State Department of Environmental Conservation Unit Director Dam Safety Unit, Division of Water 625 Broadway Albany, NY 12233-3504 |
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| William Clarke Manager New York State Department of Environmental Conservation 1150 N Westcott Rd Schenectady, NY 12306-2014 | County Clerk Saratoga County, New York Saratoga County Planning Board 40 McMaster St Ballston Spa, NY 12020-1980 |
| County of Schenectady 620 State St Schenectady, NY 12305-2112 | U.S. Army Corps of Engineers Regulatory Branch Buffalo District 1776 Niagara St Buffalo, NY 14207-3111 |
| U.S. Bureau of Land Management Field Manager 626 E Wisconsin Ave Ste 200 Milwaukee, WI 53202-4618 | Andrew Tittler Attorney-Advisor U.S. Department of Interior 15 State St. 8th Floor Boston, MA 02109-3502 |
| Anthony R. Conte U.S. Department of Interior Office of the Solicitor 1 Gateway Ctr Suite 612 Newton, MA 02458-2879 | Sherry W. Morgan U.S. Fish & Wildlife Service 3817 Luker Rd Cortland, NY 13045-9385 |
| Honorable Michael R McNulty U.S. House of Representatives Washington, D.C. 20515 | |

Official Mailing List for the Vischer Ferry Project

| Geologist State of New York Cultural Education Center Geological Survey Albany, NY 12230-0001 | New York State Department of Transportation Director Region 4 1530 Jefferson Rd Rochester, NY 14623-3110 |
|--|---|
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| Keith F Corneau Manager Erie Boulevard Hydropower, L.P. c/o Adirondack Hydro Development Corp. 39 Hudson Falls Rd Glens Falls, NY 12803-5041 | New York State Department of Environmental Conservation Commissioner Office of the Commissioner 625 Broadway, 14th Floor Albany, NY 12233-0001 |
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| Quentin E. Ross Senior Engineer New York Power Authority 123 Main St White Plains, NY 10601-3104 | Beverly Ravitch New York Power Authority 123 Main St White Plains, NY 10601-3104 |

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| Sita Crounse Senior Attorney New York State Department of Environmental Conservation 625 Broadway Albany, NY 12233-1500 | New York State Department of Environmental Conservation Unit Director Dam Safety Unit, Division of Water 625 Broadway Albany, NY 12233-3504 |
| John M. McDonald Commissioner Town of Rotterdam Vinewood Avenue Schenectady, NY 12306 | County Clerk Saratoga County, New York Saratoga County Planning Board 40 McMaster St Ballston Spa, NY 12020-1980 |
| County of Schenectady 620 State St Schenectady, NY 12305-2112 | U.S. Army Corps of Engineers Regulatory Branch Buffalo District 1776 Niagara St Buffalo, NY 14207-3111 |

| U.S. Bureau of Land Management Field Manager 626 E Wisconsin Ave Ste 200 Milwaukee, WI 53202-4618 | Andrew Tittler Attorney-Advisor U.S. Department of Interior 15 State St. 8th Floor Boston, MA 02109-3502 |
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| Honorable Michael R McNulty U.S. House of Representatives Washington, D.C. 20515 | Cori Collins NOAA National Marine Fisheries Service 212 Rogers Ave Milford, CT 06460-6435 |

APPENDIX A STUDY PLAN CRITERIA 18 CFR Section 5.9(b)

Any information or study request must contain the following:

- 1. Describe the goals and objectives of each study proposal and the information to be obtained;
- 2. If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied;
- 3. If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study;
- 4. Describe existing information concerning the subject of the study proposal, and the need for additional information;
- 5. Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements;
- 6. Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate filed season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge; and
- 7. Describe considerations of level of effort and cost, as applicable, and why proposed alternative studies would not be sufficient to meet the stated information needs.

APPENDIX B PROCESS PLAN AND SCHEDULE FOR THE CRESCENT AND VISCHER FERRY PROJECTS

Shaded milestones are unnecessary if there are no study disputes. If the due date falls on a weekend or holiday, the due date is the following business day. Early filings or issuances will not result in changes to these deadlines.

| Responsible Party | Pre-Filing Milestone | Date | FERC Regulation |
|---------------------------------------|---|--------------------|--------------------|
| NYPA | Issue Public Notice for NOI/PAD | 5/3/19 | 5.3(d)(2) |
| NYPA | File NOI/PAD | 5/3/19 | 5.5, 5.6 |
| FERC | Tribal Meetings | 6/2/19 | 5.7 |
| FERC | Issue Notice of Commencement of Proceeding and Scoping Document 1 | 6/10/19 | 5.8 |
| FERC | Scoping Meetings and Project Site Visit | 7/10/19 7/11/19 | 5.8(b)(viii) |
| All Stakeholders | File Comments on PAD/Scoping Document 1 and Study Requests | 8/9/19 | 5.9 |
| FERC | Issue Scoping Document 2 (if necessary) | 9/23/19 | 5.10 |
| NYPA | File Proposed Study Plan | 9/23/19 | 5.11(a) |
| All Stakeholders | Proposed Study Plan Meeting | 10/23/19 | 5.11(e) |
| All Stakeholders | File Comments on Proposed Study Plan | 12/22/19 | 5.12 |
| NYPA | File Revised Study Plan | 1/21/20 | 5.13(a) |
| All Stakeholders | File Comments on Revised Study Plan | 2/5/20 | 5.13(b) |
| FERC | Issue Director's Study Plan Determination | 2/20/20 | 5.13(c) |
| Mandatory Conditioning Agencies | File Any Study Disputes | 3/11/20 | 5.14(a) |
| Dispute Panel | Select Third Dispute Resolution Panel Member | 3/26/20 | 5.14(d) |
| Dispute Panel | Convene Dispute Resolution Panel | 3/31/20 | 5.14(d)(3) |

| Responsible Party | Pre-Filing Milestone | Date | FERC Regulation |
|----------------------|--|--------------------|--------------------|
| NYPA | File Comments on Study Disputes | 4/5/20 | 5.14(i) |
| Dispute Panel | Dispute Resolution Panel Technical Conference | 4/10/20 | 5.14(j) |
| Dispute Panel | Issue Dispute Resolution Panel Findings | 4/30/20 | 5.14(k) |
| FERC | Issue Director's Study Dispute Determination | 5/20/20 | 5.14(1) |
| NYPA | First Study Season | Spring/Sum 2020 | 5.15(a) |
| NYPA | File Initial Study Report | 2/19/21 | 5.15(c)(1) |
| All Stakeholders | Initial Study Report Meeting | 3/6/21 | 5.15(c)(2) |
| NYPA | File Initial Study Report Meeting Summary | 3/21/21 | 5.15(c)(3) |
| All Stakeholders | File Disagreements/Requests to Amend Study Plan | 4/20/21 | 5.15(c)(4) |
| All Stakeholders | File Responses to Disagreements/Amendment Requests | 5/20/21 | 5.15(c)(5) |
| FERC | Issue Director's Determination on Disagreements/Amendments | 6/19/21 | 5.15(c)(6) |
| NYPA | Second Study Season | Spring/Sum 2021 | 5.15(a) |
| NYPA | File Updated Study Report | 2/19/22 | 5.15(f) |
| All Stakeholders | Updated Study Report Meeting | 3/6/22 | 5.15(f) |
| NYPA | File Updated Study Report Meeting Summary | 3/21/22 | 5.15(f) |
| All Stakeholders | File Disagreements/Requests to Amend Study Plan | 4/20/22 | 5.15(f) |
| All Stakeholders | File Responses to Disagreements/Amendment Requests | 5/20/22 | 5.15(f) |
| FERC | Issue Director's Determination on Disagreements/Amendments | 6/19/22 | 5.15(f) |

| Responsible Party | Pre-Filing Milestone | Date | FERC Regulation |
|----------------------|---|---------|--------------------|
| NYPA | File Preliminary Licensing Proposal (or Draft License Application) | 1/1/22 | 5.16(a)-(c) |
| All Stakeholders | File Comments on Preliminary Licensing Proposal (or Draft License Application) | 4/1/22 | 5.16(e) |
| NYPA | File Final License Application | 5/31/22 | 5.17 |
| NYPA | Issue Public Notice of Final License Application Filing | 6/14/22 | 5.17(d)(2) |

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