179 FERC ¶ 61,203
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Richard Glick, Chairman;
James P. Danly, Allison Clements,
Mark C. Christie, and Willie L. Phillips.

The Town of Rollinsford, New Hampshire Project No. 3777-011

ORDER ISSUING SUBSEQUENT LICENSE

(Issued June 16, 2022)

Introduction

1. On August 29, 2019, the Town of Rollinsford, New Hampshire (Town) filed, pursuant to Part I of the Federal Power Act (FPA),[1] an application for a subsequent license to continue operating and maintaining the 1.5-megawatt (MW) Rollinsford Hydroelectric Project No. 3777 (Rollinsford Project, or project). The project is located on the Salmon Falls River in Strafford County, New Hampshire, and York County, Maine.[2]

2. As discussed below, this order issues a subsequent license for the Rollinsford Project.

Background

3. The Commission issued the original license for the project on September 18, 1981, with an effective date of September 1, 1981, and an expiration date of August 31, 2021.[3]

[1] 16 U.S.C. §§ 791(a) – 825(r).

[2] Because the project is located on a navigable waterway of the United States, it is required to be licensed by section 23(b)(1) of the FPA. 16 U.S.C. § 817(1). *See Spaulding Fibre Co., Inc.*, 12 FERC ¶ 61,028 (1980) (finding the Salmon Falls River is a navigable waterway of the United States).

[3] *Town of Rollinsford, N.H.,* 16 FERC ¶ 62,474 (1981).

Since the expiration date, the Town has operated the project pursuant to section 16.21 of the Commission's regulations, pending the disposition of the Town's application.[4]

4. On April 29, 2020, the Commission issued a public notice that was published in the *Federal Register* accepting the application for filing, indicating the application was ready for environmental analysis, and setting June 29, 2020, as the deadline for filing motions to intervene, protests, comments, recommendations, terms and conditions, and fishway prescriptions.[5] The U.S. Department of the Interior (Interior) and the U.S. Department of Commerce (Commerce) filed timely notices of intervention on June 25, 2020, and June 29, 2020, respectively.[6]

5. Commerce, the New Hampshire Fish and Game Department (New Hampshire FGD), and the Maine Department of Inland Fisheries and Wildlife (Maine DIFW) filed comments and recommendations. The Maine Division of Marine Resources (Maine DMR) and the Sebago Chapter of Trout Unlimited filed comments. Interior filed comments, recommendations, and a preliminary fishway prescription on June 25, 2020, pursuant to FPA section 18.[7] On July 24, 2020, the Town filed an alternative fishway prescription pursuant to section 33(b)(1) of the FPA and the procedures outlined in Part 45, Subpart C of Interior's regulations.[8]

6. On March 5, 2021, Green Mountain Power Corporation (GMP), on behalf of the Town, filed a Settlement Agreement for Fishways (Settlement Agreement) entered into by the Town, GMP, and Interior. The Settlement Agreement resolved disagreements over the

[4] 18 C.F.R. § 16.21 (2021). *See* September 14, 2021 Notice of Authorization for Continued Project Operation.

[5] 85 Fed. Reg. 26,681 (May 5, 2020). The Commission's Rules of Practice and Procedure provide that if a filing deadline falls on a Saturday, Sunday, holiday, or other day when the Commission is closed for business, the filing deadline does not end until the close of business on the next business day. 18 C.F.R. § 385.2007(a)(2) (2021). Because the 60-day filing deadline fell on a Sunday (i.e., June 28, 2020), the filing deadline was extended until the close of business on Monday, June 29, 2020.

[6] Under Rule 214(a) of the Commission's Rules of Practice and Procedure, Interior and Commerce each became a party to the proceeding upon the timely filing of the notices of intervention. 18 C.F.R. § 385.214(a) (2021).

[7] 16 U.S.C. § 811.

[8] 16 U.S.C. § 823d(b)(1); 43 C.F.R. pt. 45, subpt. C (2021).

terms of Interior's fishway prescription. On April 22, 2021, the Town stated it was adopting the terms of the Settlement Agreement as its relicensing proposal.

7. Commission staff issued an environmental assessment (EA) on August 23, 2021, analyzing the effects of the proposed project and alternatives to it, and setting a deadline for comments of October 7, 2021. The Town filed comments on the EA on October 7, 2021. Interior filed comments on October 19, 2021.

8. The interventions, comments, recommendations, and prescriptions have been fully considered in determining whether, and under what conditions, to issue the license.

Project Description

A. Project Area

9. The Rollinsford Project is located at river mile (RM) 5 of the Salmon Falls River. The Salmon Falls River runs for approximately 38 miles long from the mouth of the Great East Lake to its confluence with the Cocheco River, where the two rivers join to form the Piscataqua River near Dover, New Hampshire. The Salmon Falls River Basin has a drainage area of approximately 236 square miles.

10. There are 15 dams on the Salmon Falls River, 7 of which are used for hydropower generation.[9] The other dams are used for flood control, water supply, and recreation.

11. The project is located within the Town of Rollinsford, Strafford County, New Hampshire, and the Town of Berwick, York County, Maine. Land in the project vicinity is forested and interspersed with commercial and residential use.

B. Project Facilities

12. The Rollinsford Project includes a 317-foot-long, 19-foot-high concrete-masonry dam (Rollinsford Dam) that consists of the following sections: (1) a 12-foot-long east abutment; (2) a 247-foot-long spillway with 15-inch-high flashboards and a crest elevation of 71.25 feet National Geodetic Vertical Datum of 1929 (NGVD 29) at the top of the flashboards; (3) a 22-foot-long west abutment; and (4) a 36-foot-long concrete headgate structure with five 5.5-foot-wide, 5.5-foot-high vertical lift gates. The dam creates an

[9] The four FERC-licensed hydroelectric projects are South Berwick Project No. 11163 (RM 3.9), Rollinsford Project No. 3777 (RM 5.0), Lower Great Falls Project No. 4451 (RM 7.4), and Somersworth Project No. 3820 (RM 8.8); the three hydroelectric exemption projects are Boston Felt Project No. 4542 (RM 19.8), North Rochester Project No. 3985 (RM 25.8), and South Milton Project No. 3984 (RM 28.1).

impoundment that has a surface area of approximately 84 acres at an elevation of 71.25 feet NGVD 29.[10]

13. From the impoundment, water flows through the headgates to an intake headworks structure that includes: (1) an approximately 82-foot-long, 52-foot-wide bay; (2) an 8-foot-wide waste gate; (3) a 4-foot-wide sluice gate;[11] and (4) a 21.5-foot-long spillway section with a crest elevation of 73 feet NGVD 29.

14. From the intake headworks structure, water flows through a 22.8-foot-wide, 17.6-foot-high inclined trashrack with 2.5-inch clear bar spacing, and into a 600-foot-long penstock. The penstock conveys water to a 30-foot-long, 40-foot-wide concrete forebay that provides water to two 0.750-MW vertical Z-type Francis turbine-generator units located in a 38-foot-long, 60-foot-wide concrete and brick masonry powerhouse. Water is discharged from the turbines through draft tubes to a 38-foot-long tailrace, where it returns to the Salmon Falls River. The project bypasses approximately 680 feet of the Salmon Falls River (bypassed reach).

15. Electricity generated at the powerhouse is transmitted to the regional electric grid via a 100-foot-long, 4.16-kilovolt (kV) underground transmission line and a 4.16/13.8-kV step-up transformer located approximately 90 feet west of the powerhouse.

16. There are no project recreation facilities. A more detailed description of the project facilities is contained in ordering paragraph (B)(2).

C. Project Boundary

17. The current project boundary encloses approximately 82 acres, including: (1) approximately 70 acres of the impoundment; (2) approximately 7 acres of land on the shoreline of the impoundment above the normal maximum pool elevation of 71.25 feet NGVD 29; (3) the 680-foot-long bypassed reach; (4) approximately 0.4 acre of land adjacent to the bypassed reach on the east side of the river; and (5) land underlying the project facilities listed above.

18. The Town proposes to modify the current project boundary along the impoundment to follow a contour elevation of 71.25 feet NGVD 29 (i.e., the flashboard crest elevation), which would result in: (1) increasing the area of the impoundment included in the project boundary from 70 acres to approximately 84 acres; and (2) removing approximately 7 acres of land from the project boundary that is above 71.25 feet NGVD 29. The Town also proposes to modify the project boundary downstream of Rollinsford

[10] EA at 8.

[11] The gate opening was sealed with a steel plate in the early 1980s.

Dam by removing 0.4 acre of land adjacent to the east bank of the bypassed reach and 0.3 acre of land adjacent to the transformer. The proposed changes would increase the area enclosed by the project boundary to 88 acres.

D. Current Project Operation

19. The Town voluntarily operates the project in a run-of-river mode, such that outflow from the project approximates inflow. The Town maintains the project impoundment at the flashboard crest elevation of 71.25 feet NGVD 29. When the project is generating, water is diverted from the impoundment to the intake headworks structure via the headgates. From the intake headworks structure, water flows through the penstock and enters the forebay that provides water to the turbines, where it is then discharged to the project tailrace and the Salmon Falls River. When not generating, water is passed over the project dam into the bypassed reach.

20. Article 27 of the current license requires the Town to release a minimum flow of 10 cubic feet per second (cfs) to the bypassed reach, and to maintain a total project discharge of 115 cfs or inflow to the impoundment, whichever is less, to the Salmon Falls River downstream of the powerhouse.[12] The Town releases the 10-cfs minimum bypassed reach flow through a notch in the flashboards and maintains a total discharge of 115 cfs to the downstream reach through a combination of flows from the powerhouse and the notch in the flashboards. These discharges to the Salmon Falls River downstream of the dam and powerhouse occur in both Maine and New Hampshire.

21. The minimum and maximum hydraulic capacities of the powerhouse are 80 and 456 cfs, respectively. The Town discharges all flow over the dam to the bypassed reach until inflow to the impoundment reaches 90 cfs (minimum hydraulic capacity of one turbine-generator unit plus the minimum bypassed reach flow). When inflow is between 90 cfs and 466 cfs (maximum hydraulic capacity of both units plus the minimum bypassed reach flow), the Town releases a minimum flow of 10 cfs from the notch in the flashboards to the bypassed reach and diverts the remaining flow from the Salmon Falls River to the turbine-generator units to generate electricity. When river flow exceeds 466 cfs, the Town operates both units at their combined 456-cfs maximum hydraulic capacity and releases the remaining flow over the dam and through the waste gate located in the intake headworks structure.[13]

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[12] *Town of Rollinsford, N.H.*, 29 FERC ¶ 62,282 (1984).

[13] The waste gate releases flow to the bypassed reach approximately 50 feet downstream of the dam.

22. The project's average annual generation is approximately 5,837.9 megawatt-hours (MWh). Generation at the project occurs on a year-round basis and is typically highest during the spring season (March through May) when river flow is highest.

E. Proposed Operation and Environmental Measures

23. To protect aquatic resources and water quality, the Town proposes to continue operating the project in a run-of-river mode, such that outflow approximates inflow.

24. To protect aquatic habitat in the project impoundment, the Town proposes to maintain the surface elevation of the impoundment at the flashboard crest elevation of 71.25 feet NGVD29.

25. To protect aquatic habitat in the bypassed reach, the Town proposes to continue to discharge all inflow to the bypassed reach when the project is not generating.

26. To enhance aquatic habitat in the bypassed reach, the Town proposes to increase the minimum bypassed reach flow from 10 cfs to 35 cfs or inflow, whichever is less, when the turbine-generators are operating and release the flow from the following locations: (1) through the notch in the flashboards from January 1 through August 31 and from November 1 through December 31; and (2) through a proposed downstream eel passage facility (25 cfs, as discussed below) and the existing waste gate in the intake headworks structure (10 cfs) from September 1 through October 31.

27. To provide upstream passage for American shad and river herring,[14] the Town proposes[15] to construct and operate a Denil fishway at the dam and excavate the lower section of the bypassed reach if GMP does not install a new trap and truck facility at the South Berwick Project No. 11163 (South Berwick Project), located approximately 1 mile downstream of the Rollinsford Project, to trap fish and transport them upstream to the impoundments of the Rollinsford Project, the Lower Great Falls Project No. 4451, and the Somersworth Project No. 3820.[16]

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[14] Blueback herring and alewife are difficult to distinguish visually and are therefore often collectively referred to as river herring.

[15] The Town's proposal is included in section 2.1 through 2.4 of the Settlement Agreement, as confirmed by the Town in its April 22, 2021 response to Commission staff's March 23, 2021 letter.

[16] If the Commission does not approve a request by GMP to install a trap and truck facility at the South Berwick Project, the Town proposes to construct the Denil fishway and excavate the lower bypassed reach prior to the fourth passage season after the denial. If GMP receives authorization to install a trap and truck facility, but later discontinues the

28. To enhance water quality in the impoundment, the Town proposes to implement a Water Quality Mitigation and Enhancement Plan (water quality plan) that includes:[17] (1) drawing down the impoundment by 1.25 feet by releasing flow for project generation during "critical low flow periods"[18] to "flush stagnant water from the impoundment;" (2) refilling the impoundment by retaining all inflow except for the proposed 35-cfs bypassed reach minimum flow; and (3) monitoring water temperature and dissolved oxygen (DO) concentrations in the impoundment, bypassed reach, and tailrace from July 1 through September 15 for three years after license issuance to determine the effectiveness of the impoundment drawdown procedures in improving water quality within the impoundment.

29. To provide upstream eel passage, the Town proposes to conduct an upstream eel passage facility siting survey for two passage seasons to determine the optimal location for siting an upstream eel ramp, and to install an upstream eel ramp within two years of completing the survey.

30. To protect downstream migrating eels from September 1 through October 31, the Town proposes to implement nighttime turbine shutdowns from 8 p.m. to 4 a.m. for three consecutive nights following rain accumulations of 0.5 inch or more over a 24-hour period, within four years of license issuance.

31. To provide downstream eel passage at the project, the Town proposes to install a downstream eel passage facility within four years of license issuance, including a new 185-foot-long steel flume that would convey 25 cfs from the intake headworks structure to a plunge pool located 190 feet downstream of the dam, and operate the facility from September 1 through October 31 each year.

32. To protect cultural resources within the project boundary, the Town proposes to consult with the New Hampshire and Maine State Historic Preservation Officers (SHPO) prior to conducting any land-disturbing activities or alterations to known historic structures

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operation of the trap and truck facility during the term of a subsequent license, the Town would install a Denil fishway and excavate the lower bypassed reach four years after the cessation of the trap and truck operation. The Town defines the upstream passage season for American shad and river herring as April 15 to July 15.

[17] *See* Commission staff's June 22, 2021 Memorandum at Enclosure B.

[18] The Town defines "critical low flow periods" as when total inflow to the project has been less than 80 cfs for seven consecutive days during the period of July 1 through September 15.

within the project boundary, to determine whether to conduct archaeological or historical surveys, or to implement avoidance or mitigation measures during the activity.

Summary of License Requirements

33. This license, which authorizes 1.5 MW of renewable energy generation capacity, requires most of the proposed measures noted above, the staff-recommended measures described below, the conditions required by the Maine Department of Environmental Protection's (Maine DEP) and the New Hampshire Department of Environmental Service's (New Hampshire DES) water quality certifications (Appendices A and B), and the conditions required by Interior's section 18 fishway prescription (Appendix C). Combined, these measures will protect or enhance aquatic resources, water quality, federally listed species, and cultural resources at the project.

34. This license does not include the Town's proposal to provide downstream eel passage by installing a flume from the intake headworks structure to a plunge pool downstream of the dam within four years of license issuance and operating the facility from September 1 through October 31, but instead requires the Town to provide downstream passage for American eel, American shad, and river herring by installing the following facilities within three years of license issuance and operating the facilities from June 1 through November 15: (1) a diversionary guidance boom in the impoundment upstream of the headgates that prevents downstream migrating alosines from entering the intake headworks;[19] (2) a surface bypass weir with a hydraulic capacity of 35 cfs at the dam; and (3) a 4-foot-deep plunge pool downstream of the dam.

35. This license does not require the Town's proposal to protect downstream migrating eels by implementing nighttime turbine shutdowns from September 1 through October 31 within four years of license issuance, but instead requires the Town to implement nighttime turbine shutdowns as an interim measure for the first two passage seasons after license issuance (from August 15 through November 15 each year), until the permanent downstream fish passage facilities are installed at the project.

36. Instead of the Town's proposal to protect and enhance aquatic habitat in the bypassed reach by releasing a year-round minimum flow of 35 cfs from a notch in the flashboards for the full license term, this license requires the Town to: (1) release a year-round minimum flow of 35 cfs from a notch in the flashboards for two years after license issuance; and (2) release the following minimum bypassed reach flows from the fish passage facilities required by this license, beginning on April 15 of the third year after

[19] Alewives, American shad, and blueback herring are members of the genus *Alosa* and are collectively referred to as "alosines."

license issuance: (a) 60 cfs or inflow, whichever is less, from April 15 through July 15; and (b) 35 cfs or inflow, whichever is less, from July 16 through April 14.

37. To protect the federally threatened northern long-eared bat, this license requires the Town to avoid the removal of non-hazardous trees greater than or equal to 3 inches diameter at breast height from April 1 through October 1.

38. To protect historic properties that are eligible for or listed on the National Register of Historic Places (National Register), this license requires the Town to develop an Historic Properties Management Plan (HPMP).

Water Quality Certifications

39. Under section 401(a)(1) of the Clean Water Act (CWA),[20] the Commission may not issue a license authorizing the construction or operation of a hydroelectric project unless the state water quality certifying agency has either issued a water quality certification (certification) for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year. Section 401(d) of the CWA provides that the certification must become a condition of any federal license that authorizes construction or operation of the project.[21]

A. Maine Water Quality Certification

40. On June 12, 2020, the Town applied to Maine DEP for a water quality certification for the Rollinsford Project, which Maine DEP received on June 15, 2020. On June 11, 2021, Maine DEP issued a certification for the project that includes 12 conditions. Six of the conditions (conditions 7 through 12) are general or administrative in nature. The remaining conditions require the Town to:

(1) maintain the surface elevation of the impoundment at the flashboard crest elevation of 71.25 feet NGVD29 (condition 1A);

(2) develop an operation compliance monitoring plan (condition 1B);

[20] 33 U.S.C. § 1341(a)(1).

[21] *Id.* § 1341(d).

(3) prior to the installation of upstream fish passage facilities at the project (discussed below for certification condition 3),[22] release a year-round minimum bypassed reach of 35 cfs or inflow, whichever is less, to protect aquatic life in the bypassed reach when the project is generating (condition 2A);

(4) after installing upstream fish passage facilities at the project, and when the project is generating, release to the bypassed reach: (1) a minimum flow of 35 cfs or inflow, whichever is less, from July 16 through April 14; and (2) an unspecified minimum flow from April 15 through July 15, the quantity of which must be determined in consultation with resource agencies (condition 2A);

(5) when the project is not generating, release all impoundment inflow to the bypassed reach (condition 2A);

(6) conduct an upstream eel passage facility siting survey, and install and operate an upstream eel passage facility in accordance with schedules established by the Commission and measures prescribed by Interior (condition 3A);

(7) construct and operate a Denil fishway to provide upstream passage for anadromous fish in consultation with resource agencies, in accordance with the schedule established by the Commission, and as prescribed by Interior, unless an amendment for installing a trap and truck facility at the South Berwick Project No. 11163 is requested within two years of issuance of a new license, and approved by the U.S. Fish and Wildlife Service (FWS) and by the Commission (condition 3B);

(8) construct and operate downstream eel and anadromous fish passage facilities in consultation with resource agencies, in accordance with schedules established by the Commission, and as prescribed by Interior (conditions 4A and B);

(9) design the upstream and downstream fish passage facilities in consultation with resource agencies and in a manner that is consistent with the FWS's Fish Passage Engineering Design Criteria Manual (Design Criteria Manual; conditions 3C and 4C);

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[22] Maine DEP has not provided a schedule for installing upstream fish passage facilities. Maine DEP states that, prior to the installation of the upstream fish passage facilities, bypassed reach flows should be released over the spillway when the project is not generating.

(10) conduct effectiveness studies for the upstream and downstream fish passage facilities in consultation with resource agencies and in accordance with schedules established by the Commission (conditions 3D and 4D);

(11) develop a fishway operation and maintenance plan describing the operation and maintenance of the upstream and downstream fish passage facilities (conditions 3E and 4E);

(12) to protect water quality in the impoundment during low flow periods: (1) finalize the proposed water quality plan within 60 days of license issuance, in consultation with the New Hampshire DES and Maine DEP (condition 5A); (2) for two years following license issuance, monitor DO in the impoundment following seven days of inflow less than 80 cfs, between July 1 and September 15 (condition 5B);[23] and (3) if monitoring indicates that DO is below 5.0 milligrams per liter (mg/L), implement the water quality plan in the third year following license issuance (condition 5B); and

(13) continue to provide informal access to the project for recreation and navigation; and consult with the Maine DIFW within six months of license issuance about improvements to access for streamside angling, including additional signs and trails to the tailrace and bypassed reach (condition 6A).

41. The conditions of Maine DEP's certification are set forth in Appendix A of this order and incorporated into the license by ordering paragraph (E).

B. New Hampshire Water Quality Certification

42. On June 12, 2020, the Town applied to the New Hampshire DES for a water quality certification for the Rollinsford Project, which New Hampshire DES received on the same date. On June 10, 2021, New Hampshire DES issued a certification for the project that includes 15 conditions. Nine of the conditions (conditions E-1 through E-9) are general or administrative in nature and are not discussed further. The remaining conditions require the Town to:

(1) operate the project in a run-of river mode whereby outflow to the project equals inflow at all times, and water levels upstream of the dam are not drawn down for the purpose of generating power (condition E-10a);

(2) prior to the installation of upstream fish passage facilities at the project (discussed below for certification condition E-13),[24] release a year-round

[23] Maine DEP does not specify the monitoring duration.

[24] The New Hampshire DES does not provide a schedule for installing upstream fish

minimum bypassed reach of 35 cfs or inflow, whichever is less, to protect aquatic life in the bypassed reach when the project is generating (condition E-10b);

(3) after the installation of upstream fish passage facilities at the project, and when the project is generating, release to the bypassed reach: (1) a minimum flow of 35 cfs or inflow, whichever is less, from July 16 through April 14; and (2) an unspecified minimum flow from April 15 through July 15, the quantity of which must be determined in consultation with resource agencies (condition E-10b);

(4) when the project is not generating, release all impoundment inflow to the bypassed reach (condition E-10b);

(5) maintain the surface elevation of the impoundment at the flashboard crest elevation of 71.25 feet NGVD29, "plus any additional elevation required to pass" the minimum bypassed reach flows required by condition E-10b (condition E-10c);

(6) when drawing down the impoundment for scheduled project maintenance, lower the impoundment water level no more than 6 inches per day to protect aquatic resources in the impoundment (condition E-10e);

(7) when refilling the impoundment after a drawdown for maintenance or emergencies, release 90% of the inflow downstream to the Salmon Falls River and use the remaining 10% of inflow to refill the impoundment (condition E-10d);

(8) implement notification and reporting procedures for deviations from the certification conditions, including: (1) notify resource agencies within 24 hours after a deviation from the minimum flow or impoundment management requirements; (2) file a report with resource agencies describing the deviation, including the cause, severity, and duration of the deviation; any adverse environmental effects from the deviation; and corrective measures; and (3) file a report with the agencies by April 1 of each year demonstrating compliance with the minimum flow and impoundment management requirements; and describing any deviations and corrective measures taken to prevent the reoccurrence of the deviation (condition E-11);

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passage facilities.

(9) develop an operation compliance monitoring plan to document compliance with run-of-river operation, impoundment elevation limits, and minimum bypassed reach flow releases (condition E-12);

(10) provide upstream and downstream passage for anadromous fish and American eel in a manner that is consistent with Interior's section 18 fishway prescription (condition E-13);[25]

(11) finalize the proposed water quality plan in consultation with the New Hampshire DES, and implement the plan to improve water quality in the Salmon Falls River during low flow periods (condition E-14); and

(12) monitor DO and temperature in the impoundment, tailrace, and bypassed reach every five years, including five weeks of monitoring during "periods of relatively low flows and high temperatures" and "when the Project is, and is not, generating," in order to determine whether changes in project operation are necessary to comply with New Hampshire DES's water quality standards during the term of a subsequent license (condition E-15);

1. Run-of-River Operation

43. New Hampshire DES's certification condition E-10a requires the Town to operate the project in a run-of river mode whereby outflow from the project equals inflow to the project at all times.

44. New Hampshire DES has not demonstrated that the project is technologically capable of operating in an instantaneous run-of-river mode, with total outflow from the project equaling inflow on an instantaneous basis. The project is currently operated in a run-of-river mode using an automatic pond level control system. The pond level control system measures changes to the surface elevation of the impoundment, which provides an indirect measure of changes to inflow. As inflow increases or decreases, a certain amount of time elapses before the impoundment elevation changes, depending on the rate and magnitude of the change in inflow. Once the change in inflow affects the impoundment elevation, the pond level control system automatically adjusts turbine flow. Based on these technical limitations and the delay associated with adjusting project outflow to match inflow, it would not be possible to precisely match outflows and inflows on an instantaneous basis, as required by New Hampshire DES's certification condition E-10a. Additionally, New Hampshire DES has not described how operating the project in an

[25] New Hampshire DES's certification condition E-13 also requires the Town to comply with "any modifications made to the preliminary prescriptions that are acceptable to the FWS, including, but not limited to, any modifications made to be consistent with the Settlement Agreement by and between" the Town, GMP, and FWS.

instantaneous run-of-river mode would provide additional protection or benefits to aquatic resources compared to the existing conditions.

45. Continuing to operate the project such that the total outflow from the project approximates, rather than equals, inflow at any point in time would result in similarly stable impoundment elevations, which in turn would protect fish spawning areas and freshwater mussel beds from becoming dewatered and limit project-related erosion along the impoundment shoreline. Operating the project in this manner (i.e., a non-instantaneous run-of-river mode) would likewise equally ensure that downstream flows are similar to natural river flows. Therefore, operating the project in a non-instantaneous run-of-river mode would provide the same benefits to aquatic resources upstream and downstream of the project as New Hampshire DES's certification condition 10a.

2. Long-term Water Quality Monitoring

46. New Hampshire DES's certification condition E-15 requires the Town to monitor DO and temperature in the impoundment, tailrace, and bypassed reach every five years beginning the fifth year after license issuance and ending five years prior to the expiration of the license. New Hampshire DES cites to a 2014 study, which states that the frequency of short-term (one to three months) and medium-term (three to six months) droughts in New Hampshire are projected to increase by the end of the century.[26] New Hampshire DES states that the increase in temperatures and the frequency of low-flow conditions could result in an increase in the frequency and magnitude of low DO events at the project. Therefore, it concludes that long-term water quality monitoring is needed to determine the effects of project operation on water temperature and DO, evaluate if the frequency and magnitude of low DO events increase at the project during the license term, and determine if additional changes in project operation are necessary to comply with New Hampshire's water quality standards.

47. Monitoring water quality at the project at 5-year intervals could inform of any changes in the frequency and duration of low DO events during the license term. However, the likelihood of any project-induced change in DO levels is low, because the project will continue to operate in a run-of-river mode. For this reason, in the EA, staff did not recommend water quality monitoring at 5-year intervals during the license term.[27]

48. The 15 conditions of New Hampshire DES's certification, including the requirements to operate the project in an instantaneous run-of-river mode and conduct

[26] Wake, Cameron P., *Climate Change in Southern New Hampshire: Past, Present, and Future*, THE SUSTAINABILITY INST., 2014, https://scholars.unh.edu/sustainability/2.

[27] EA at 155.

water quality monitoring at 5-year intervals, are set forth in Appendix B of this order, and incorporated into the license by Ordering Paragraph E.

Coastal Zone Management Act

49. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),[28] the Commission cannot issue a license for a project within or affecting a state's coastal zone unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's CZMA program, or the agency's concurrence is conclusively presumed by its failure to act within six months of its receipt of the applicant's certification.

50. On January 5, 2021, the Town submitted a consistency certificate to the Maine DMR and the New Hampshire DES for compliance with the Coastal Zone Management Act. By letter dated July 1, 2021, and filed with the Commission on July 2, 2021, Maine DMR issued the Town its determination of consistency with the Maine Coastal Management Program.[29] The determination is based on compliance with the conditions included in Maine DEP's section 401 certification, which are set forth in Appendix A of this order and incorporated into the license by ordering paragraph (E).

51. By letter dated July 6, 2021, and filed with the Commission on July 9, 2021, New Hampshire DES issued the Town its determination of consistency with the New Hampshire Coastal Management Program.[30] The determination is based on compliance with the conditions included in Interior's section 18 fishway prescription, which are set forth in Appendix C of this order and incorporated into the license by ordering paragraph (F).

Section 18 Fishway Prescription

52. Section 18 of the FPA[31] provides that the Commission must require the construction, maintenance, and operation by a licensee of such fishways as may be prescribed by the Secretary of Commerce or the Secretary of the Interior, as appropriate.

53. On June 25, 2020, Interior filed a preliminary fishway prescription for the project.

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[28] 16 U.S.C. § 1456(c)(3)(A).

[29] Maine DMR July 1, 2021 Comments.

[30] New Hampshire DES July 6, 2021 Comments.

[31] 16 U.S.C. § 811.

54. On January 31, 2022, Interior filed a modified fishway prescription for the project that is consistent with the above-described Settlement Agreement. The prescription requires the Town to:

(1) provide upstream passage for American shad and river herring by installing a "technical" fishway[32] at the Rollinsford Dam and either a technical fishway or a nature-like fishway[33] in the lower section of the bypassed reach by March 15 of the fourth passage season after license issuance (condition 10.8.1);[34] unless a request is filed with the Commission within two years of license issuance to: (a) construct facilities at the South Berwick Project to trap and truck fish upstream from the South Berwick Project; and (b) implement an operation and maintenance plan that includes provisions for trapping and transporting fish upstream from the South Berwick Project to the impoundments of the Rollinsford Project, the Lower Great Falls Project No. 4451, and the Somersworth Project No. 3820 by the third year after license issuance;[35]

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[32] A "technical" fishway is a constructed chute, series of pools, or elevator-like lift designed to provide a pathway over a dam for fish migrating upstream. Interior states that a 4-foot-wide Denil fish ladder (or equivalent) installed at a slope no greater than 1:8 (vertical:horizontal) would accommodate the anticipated production potential of the Rollinsford impoundment, including 21,315 river herring, 2,731 shad, and approximately 500 resident or target species.

[33] Interior's prescription requires the nature-like fishway to be designed to pass the "minimum required flows in the bypass," including the "sum of the minimum bypass release and discharge from the technical fishway at the dam." Interior recommends a minimum bypassed reach flow of 60 cfs from April 15 through July 15 under section 10(j), and FWS's Design Criteria Manual includes a flow of 50 cfs through a technical fishway. Accordingly, the prescription effectively requires the nature-like fishway to pass 110 cfs during the upstream alosine migration period.

[34] Condition 10.6.1 of Interior's modified prescription requires the upstream fish passage facilities described in condition 10.8.1 to be installed and operational by March 15 of the third calendar year after license issuance. Based on the requirements in condition 10.8.1 and 10.8.2 to construct the fish passage facilities by the fourth calendar year after license issuance, the Commission assumes that the reference to the third calendar year in condition 10.6.1 is a typographical error.

[35] Condition 10.8.2 states that if the Commission denies a plan to construct facilities necessary to support a trap and truck operation from the South Berwick Project, the Town must implement the upstream anadromous fish passage measures outlined in condition 10.8.

(2) operate and maintain the upstream fish passage facilities annually from April 15 through July 15 (condition 10.3);

(3) conduct an upstream eel passage facility siting survey during the fourth year after license issuance, and consult with the FWS and other resource agencies to determine optimal locations for siting permanent upstream eel passage facilities (condition 10.9);

(4) install an upstream eel passage facility no later than May 1 of the fifth year after license issuance or the second passage season after completing the siting survey, whichever is later, and operate and maintain the facility from May 1 through October 31 annually (condition 10.3 and 10.9);

(5) develop a plan to provide downstream passage for American shad and river herring within three years of license issuance, including design plans for permanent downstream passage facilities, and operate and maintain the facilities from June 1 through November 15 annually (conditions 10.3 and 10.11);

(6) develop a plan to provide downstream passage for American eel within three years of license issuance, including design plans for eel passage facilities and/or operational measures, and implement the measures from August 15 through November 15 annually (conditions 10.3 and 10.10);

(7) to protect emigrating eels until permanent downstream passage facilities are operational, shut down the turbines from dusk to dawn for three consecutive nights following rain accumulations of 0.50 inch or more over a 24-hour period, from August 15 through November 15 annually (conditions 10.3 and 10.10);

(8) design upstream and downstream eel and anadromous fish passage facilities in a manner consistent with the FWS's Design Criteria Manual (conditions 10.8.1, 10.9, 10.10, and 10.11);

(9) develop a fishway operation and maintenance plan that includes provisions for: (1) operating and maintaining upstream and downstream fish passage facilities at the project; and (2) monitoring and reporting on the operation and maintenance of the facilities as they affect fish passage (condition 10.4); and

(10) develop plans for testing the effectiveness of upstream and downstream fish passage facilities for a minimum of two years after the facilities are operational (condition 10.7.1).

55. Interior's fishway prescription is attached to this order as Appendix C, and is made a requirement of this license by ordering paragraph (F).

56. By letters filed June 25, 2020 and June 29, 2020, respectively, Interior and Commerce requested that the Commission reserve authority to prescribe fishways. Consistent with Commission policy, Article 402 of this license reserves the Commission's authority to require fishways that may be prescribed by Interior or Commerce for the Rollinsford Project.

Threatened and Endangered Species

57. Section 7(a)(2) of the Endangered Species Act of 1973 (ESA)[36] requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species or result in the destruction or adverse modification of their designated critical habitat.

58. Based on the FWS's Information for Planning and Consultation (IPaC) website, the federally threatened northern long-eared bat (*Myotis septentrionalis*) has the potential to occur at the project. No critical habitat has been designated for the northern long-eared bat.[37]

59. FWS finalized an ESA section 4(d) rule for the northern long-eared bat in January 2016.[38] In the FWS's January 5, 2016 Programmatic Biological Opinion for the section 4(d) rule,[39] FWS found that incidental take of the northern long-eared bat is not prohibited unless the action affects a northern long-eared bat hibernaculum, includes tree

[36] 16 U.S.C. § 1536(a).

[37] *See* Commission staff's April 28, 2022 memorandum on FWS's Updated List of Threatened, Endangered, Candidate, and Proposed Species; *see also IPaC*, FWS, https://ipac.ecosphere.fws.gov/ (accessed Apr. 28, 2022).

[38] Endangered and Threatened Wildlife and Plants; 4(d) Rule for the Northern Long-Eared Bat., 81 Fed. Reg. 1900 (Jan. 14, 2016). Section 4(d) of the ESA directs FWS to issue regulations deemed "necessary and advisable to provide for the conservation of [threatened] species." 16 U.S.C. § 1533(d).

[39] FWS, Midwest Regional Office, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions* (Jan. 5, 2016), https://www.fws.gov/sites/default/files/documents/BOnlebFinal4d.pdf (Programmatic Biological Opinion).

removal near a hibernaculum, or includes removal of an occupied maternity roost tree or any trees within 150 feet of an occupied roost tree.[40]

60. In the EA, Commission staff determined that the northern long-eared bat could be affected by construction of the new upstream and downstream fish and eel passage facilities at the project.[41] Commission staff recommended that non-hazardous tree removal be conducted outside of the bat's active period of April 1 to October 1 to minimize the adverse effects of project maintenance and the installation of fish and eel passage facilities on the northern long-eared bat. With this measure in place, staff concluded that relicensing the project may affect the northern long-eared bat, but any incidental take that may result is not prohibited under section 4(d) of the ESA.[42] Article 405 requires the Town to limit the removal of trees greater than or equal to 3 inches diameter at breast height to the period of October 2 through March 31, which is outside of the species' active season.

[40] FWS's Programmatic Biological Opinion states that northern long-eared bats roost in cavities, underneath bark, crevices, or hollows of both live and dead trees and/or snags with a diameter of 3 inches or greater at breast height. *See* Programmatic Biological Opinion at 11, 18. Diameter "at breast height" refers to the tree diameter as measured about 4 to 4.5 feet above the ground. FWS defines "tree removal" as cutting down, harvesting, destroying, trimming, or manipulating in any other way the trees, saplings, snags, or any other form of woody vegetation likely to be used by northern long-eared bat. Hazardous trees are trees that are removed for the protection of human life and property. Removal of hazardous trees is not prohibited under the 4(d) rule. Endangered and Threatened Wildlife and Plants; 4(d) Rule for the Northern Long-Eared Bat, 81 Fed. Reg. at 1901-1902.

[41] EA at 110-111, 151.

[42] On August 23, 2021, Commission staff requested FWS's concurrence via the northern long-eared bat key within the FWS's IPaC website (https://ipac.ecosphere.fws.gov/). An official letter generated by the New England Ecological Services Field Office stated that the determination was consistent with the FWS's January 5, 2016 intra-Service programmatic biological opinion on the 4(d) rule for the northern long-eared bat and verified that the Commission's responsibilities were therefore fulfilled under ESA section 7(a)(2), with respect to the northern long-eared bat. *See* Commission staff's August 24, 2021 Memorandum on *Verification Letter for the Project Under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat.*

Historic and Cultural Resources

A. National Historic Preservation Act

61. Under section 106 of the National Historic Preservation Act (NHPA),[43] and its implementing regulations,[44] federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register, defined as historic properties, and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking. This generally requires the Commission to consult with the SHPO to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any adverse effects.

62. The project is located within the Salmon Falls Mill Historic District (District), which was listed on the National Register in 1980. The District includes four textile mill buildings and their contributing structures, including the project powerhouse, dam, and intake headworks structure.

63. In the EA,[45] Commission staff concluded that relicensing the project could have an adverse effect on contributing resources of the District. Adverse effects could occur from the installation of upstream and downstream fish and eel passage facilities at the dam, repairs which may be needed to maintain the structure and function of the contributing resources, or fixing structural damage that occurs at contributing resources during the course of project operation.

64. Commission staff issued a draft Programmatic Agreement (PA) for the project on August 23, 2021, that included stipulations for developing an HPMP to ensure that project-related adverse effects on historic properties or previously undiscovered archaeological resources would be adequately addressed over the term of a subsequent license. The New Hampshire and Maine SHPOs filed comments on the draft PA on August 26, 2021 and September 8, 2021, respectively.

65. On October 6, 2021, staff responded to the SHPOs' comments, and issued a final PA. On November 1, 2021 and December 16, 2021, respectively, the Maine and New Hampshire SHPOs signed the PA. The Town concurred on November 4, 2021. The PA requires the licensee to prepare an HPMP for the project, and upon Commission approval, implement the HPMP for the term of the subsequent license. Execution of the PA demonstrates the Commission's compliance with section 106 of the NHPA. Article 406

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[43] 54 U.S.C. § 306108.

[44] 36 C.F.R. pt. 800 (2021).

[45] EA at 121-122, 151.

requires the licensee to implement the PA and to file its HPMP for approval with the Commission within one year of license issuance.

B. Tribal Consultation

66. On August 31, 2016, the Town provided the notice of intent (NOI) and pre-application document (PAD) for the project's relicensing to the Penobscot Indian Nation, Passamaquoddy Tribe, Aroostook Band of Micmacs, and Houlton Band of Maliseet Indians (Tribes) for review and comment.

67. The Town also provided the license application to the Tribes for review and comment. On September 12, 2019, the Commission issued a public notice of the license application and solicited for additional study requests. Then, on February 28, 2020, the Commission issued a notice soliciting scoping comments. None of the Tribes filed comments or requested studies.

68. The draft PA was sent to the Tribes on August 23, 2021. None of the Tribes filed comments on the draft PA.

69. The final PA was sent to the Tribes on October 6, 2021, and the Tribes were invited to be concurring parties to the PA.[46] None of the Tribes filed a response with the Commission or elected to be a concurring party to the PA.

70. The final PA was executed on January 10, 2022, with the New Hampshire and Maine SHPOs as signatories, and the Town as a concurring party. None of the Tribes filed a response with the Commission on the executed PA.

Environmental Justice

71. The Commission follows Executive Order 12898, which directs federal agencies to identify and address "disproportionately high and adverse human health or environmental effects" of their actions on minority and low-income populations (i.e., environmental justice communities).[47] Executive Order 14008 also directs agencies to develop

[46] Under section 800.6(c)(2) of the regulations implementing section 106 of the NHPA, federal agencies are not required to invite a Tribe to become a signatory to a PA when the proposed activity is not located on tribal lands within Indian reservations. The Rollinsford Project is not located on tribal lands within an Indian reservation.

[47] Exec. Order No. 12,898, 59 Fed. Reg. 7629 (Feb. 16, 1994). While the Commission is not one of the specified agencies in Executive Order 12898, the Commission nonetheless addresses environmental justice in its analysis, in accordance with our statutory duties.

"programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts."[48] Environmental justice is "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies."[49]

72. Consistent with the Council on Environmental Quality's (CEQ)[50] and EPA's[51] guidance, Commission staff considers: (1) whether environmental justice communities (e.g., minority or low-income populations)[52] exist in the project area; (2) whether impacts on environmental justice communities are disproportionately high and adverse; and (3) what mitigation measures might be needed. Following the recommendations set forth in EPA's *Promising Practices*, the Commission uses the 50% and the meaningfully greater analysis methods to identify minority populations.[53] Using this methodology, minority populations have been defined as where either: (1) the aggregate minority population of

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[48] Exec. Order No. 14,008, 86 Fed. Reg. 7619 (Feb. 1, 2021). The term "environmental justice community" includes disadvantaged communities that have been historically marginalized and overburdened by pollution. *Id.* at 7619, 7629. The term also includes, but may not be limited to, minority populations, low-income populations, or indigenous peoples. *See* EPA, *EJ 2020 Glossary* (Sep. 7, 2021), https://www.epa.gov/environmentaljustice/ej-2020-glossary.

[49] EPA, *Learn About Environmental Justice*, https://www.epa.gov/environmentaljustice/learn-about-environmental-justice#:~:text=Environmental%20justice%20(EJ)%20is%20the,environmental%20laws%2C%20regulations%20and%20policies (last visited Mar. 4, 2022).

[50] CEQ, *Environmental Justice: Guidance Under the National Environmental Policy Act* 4 (Dec. 1997) (CEQ's *Environmental Justice Guidance*), https://www.energy.gov/sites/default/files/nepapub/nepa_documents/RedDont/G-CEQ-EJGuidance.pdf.

[51] *See generally* EPA, *Promising Practices for EJ Methodologies in NEPA Reviews* (Mar. 2016) (Promising Practices), https://www.epa.gov/sites/default/files/2016-08/documents/nepa_promising_practices_document_2016.pdf.

[52] *See generally* Exec. Order No. 12,898, 59 Fed. Reg. 7629. Minority populations are those groups that include: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic. CEQ's *Environmental Justice Guidance* at 25.

[53] *See Promising Practices* at 21-25.

the block groups in the affected area exceeds 50%; or (2) the aggregate minority population in the block group affected is 10% higher than the aggregate minority population percentage in the county.[54]

73. CEQ's *Environmental Justice Guidance* also recommends that low-income populations be identified based on the annual statistical poverty thresholds from the U.S. Census Bureau.[55] Using *Promising Practices'* low-income threshold criteria method, low-income populations are identified as block groups where the percent of low-income population in the identified block group is equal to or greater than that of the county.

74. To identity potential environmental justice communities for the analysis presented here, Commission staff used 2019 U.S. Census American Community Survey data[56] for the race, ethnicity, and poverty data at the block group level.[57] Additionally, in accordance with *Promising Practices*, staff used EJSCREEN, EPA's environmental justice mapping and screening tool, as an initial step to gather information regarding minority and low-income populations; potential environmental quality issues; environmental and demographic indicators; and other important factors.[58]

75. Once staff collected the block group level data, as discussed in further detail below, staff conducted an impacts analysis for the identified environmental justice communities and evaluated relevant health or environmental hazards; the natural physical environment; and associated social, economic, and cultural factors to determine whether impacts to environmental justice communities are disproportionately high and adverse. For this

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[54] Here, Commission staff selected "county" as the comparable reference community to ensure that affected environmental justice communities are properly identified. A reference community may vary according to the characteristics of the particular project and the surrounding communities.

[55] CEQ's *Environmental Justice Guidance* at 26.

[56] U.S. Census Bureau, American Community Survey 2019 ACS 5-Year Estimates Detailed Tables, File# B17017, Poverty Status in the Past 12 Months by Household Type by Age of Householder, https://data.census.gov/cedsci/table?q=B17017; File #B03002 Hispanic or Latino Origin By Race, https://data.census.gov/cedsci/table?q=b03002.

[57] For this project, staff chose a 1-mile radius around the project boundary as the area of study. The 1-mile radius includes all census block groups that border the Rollinsford Project in Strafford County, New Hampshire, and York County, Maine. Staff found that a 1-mile radius is the appropriate unit of geographic analysis given the location of project facilities and concentration of project-related effects on the Salmon Falls River.

[58] *See Promising Practices* at 25.

project, Commission staff determined both whether impacts were disproportionately high and adverse on environmental justice populations and also whether those impacts were significant.[59] Commission staff assessed whether impacts to an environmental justice community were disproportionately high and adverse based on whether those impacts were predominately borne by that community, consistent with EPA's recommendations in *Promising Practices*.[60]

76. Appendix D of this order provides current community data for the areas affected by the Rollinsford Project, including data for the states, counties, and affected block groups. Based on our review of the available information, our analysis found eight census block groups (out of a total of 11 affected block groups) that meet the criteria for environmental justice communities based on 2019 American Community Survey Data. Of the five block groups in Strafford County, New Hampshire, two block groups qualify as environmental justice communities with low-income populations only, and one block groups qualifies as environmental justice community with both a minority and low-income population. Of the six block groups in York County, Maine, four block groups qualify as environmental justice communities with low-income populations only, and one block group qualifies as an environmental justice community with both a minority and low-income population.

77. In the EA, Commission staff evaluated the effects of project operation on aquatic resources, terrestrial resources, federally threatened and endangered species, land use, recreation resources, cultural resources, and developmental resources, and concluded that relicensing the project with staff-recommended environmental measures would not constitute a major federal action significantly affecting the quality of the human environment. This license requires the project to continue to be operated in a run-of-river mode with a stable impoundment elevation, which will minimize the effects of the project on environmental resources in and around the impoundment and the Salmon Falls River downstream of the project (Appendix A, condition 1A; Appendix B, condition E-10a). This license also requires minimum bypassed reach flows to protect aquatic resources, which will improve angling opportunities in the bypassed reach (Appendix A,

[59] *See* EPA's *Promising Practices* at 33 (stating that "an agency may determine that impacts are disproportionately high and adverse, but not significant within the meaning of NEPA" and in other circumstances "an agency may determine that an impact is both disproportionately high and adverse and significant within the meaning of NEPA").

[60] *Id*. at 44-46 (explaining that there are various approaches to determining whether an action will cause a disproportionately high and adverse impact, and that one recommended approach is to consider whether an impact would be "predominantly borne by minority populations or low-income populations"). We recognize that EPA and CEQ are in the process of updating their guidance regarding environmental justice and we will review and incorporate that anticipated guidance in our future analysis, as appropriate.

condition 2A; Appendix B, condition E-10b; and Article 403). In addition, the Town must allow public use of the project waters and adjacent project lands for the purposes of navigation and recreation, including fishing (Article 13; Appendix A, condition 6A). Finally, the license requires the development of an HPMP to ensure that project-related adverse effects on historic properties are adequately addressed over the term of the subsequent license (Article 406). Combined, these license conditions will protect and enhance environmental conditions in the project area for the local communities, including local environmental justice communities.

78. In addition to the measures noted above conditions, the license requires the Town to install upstream eel passage facilities (Appendix A, condition 3; Appendix B, condition E-13; Appendix C, condition 10.9). The installation will occur within two environmental justice communities, Census Tract 820, Block Group 1 in Strafford County, New Hampshire; and Census Tract 350, Block Group 3 in York County, Maine. Installing upstream eel passage facilities typically consists of bolting pre-fabricated eel ramp(s) to existing structures, such as the Rollinsford Dam, which will not likely not affect the environmental justice communities because heavy machinery and excavation are not required.

79. This license also requires the installation of upstream anadromous fish passage facilities (Appendix A, condition 3; Appendix B, condition E-13; Appendix C, condition 10.8). These facilities will consist of a Denil fishway at the Rollinsford Dam and either a Denil fishway or a nature-like fishway in the lower section of the bypassed reach, which could take from 6 to 12 months to construct.[61] In addition, the license requires the installation of downstream anadromous fish and eel passage facilities (Appendix A, condition 4; Appendix B, condition E-13; Appendix C, conditions 10.10 and 10.11; Article 404). These facilities will consist of a diversionary guidance boom in the impoundment immediately upstream of the Rollinsford Dam, a surface weir at the dam, and a plunge pool downstream of the dam, which could take from 3 to 6 months to construct.

80. The upstream and downstream fish passage facilities will be installed within two environmental justice communities, Census Tract 820, Block Group 1 in Strafford County, New Hampshire; and Census Tract 350, Block Group 3 in York County, Maine. The facilities will provide passage for migratory fish, such as American shad and river herring, which will provide additional angling opportunities for local residents relative to current

[61] As discussed above, Interior's prescription requires the Town to install upstream anadromous fish passage facilities at the Rollinsford Project unless, within two years of license issuance, a request is filed to install trap and truck facilities at the South Berwick Project. To analyze the effects of the project on environmental justice communities, we assume that the upstream fish passage facilities will be constructed at the Rollinsford Project.

conditions. However, the installation of these facilities will create additional noise and traffic that will temporarily affect environmental justice communities. Several housing residences are within 500 feet of the dam.[62] Heavy machinery required for the construction of the fish passage facilities will create noise for these residences. However, the noise will be partially abated by forested areas that provide a physical separation from project-related construction. Commercial properties in the lower bypassed reach[63] also provide a physical separation between the upstream fish passage construction area and local residences, which will reduce the impact of noise on the residences.[64] Therefore, noise associated with construction would not likely significantly affect nearby residential properties in environmental justice communities. Separately, increased traffic may occur by workers commuting to or from the construction sites, and for delivery of construction equipment and materials. However, these traffic-related impacts on the local population, including environmental justice communities, will be minor and short-term, only lasting for the duration of construction.

81. With respect to visual impacts on environmental justice populations, the new fish passage facilities will be visible by anglers using the bypassed reach, and vehicles traveling on Main Street across the Salmon Falls River and the Mills at Salmon Falls buildings. The fish passage facilities would not likely be directly observable from local residences due to interceding forested areas and commercial buildings. Because the project is located in an urban setting, the fish passage facilities should not noticeably adversely affect aesthetics relative to the current environmental setting over the term of a new license.

82. In consideration of the limited scope of adverse impacts associated with the proposed project in this relicensing proceeding, and the environmental protection and enhancement measures required in this license for aquatic resources, recreation, aesthetics, and cultural resources, the Commission concludes that the project would not result in a disproportionately high and adverse impact on environmental justice populations.

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[62] The residences are located within Census Tract 350, Block Group 3 and Census Tract 820, Block Group 1.

[63] The Mills at Salmon Falls include commercial properties in Strafford County, New Hampshire.

[64] The residences are located within Census Tract 820, Block Group 1.

Recommendations of Federal and State Fish and Wildlife Agencies Pursuant to Section 10(j) of the FPA

83. Section 10(j)(1) of the FPA[65] requires the Commission, when issuing a license, to include conditions based on recommendations submitted by federal and state fish and wildlife agencies pursuant to the Fish and Wildlife Coordination Act,[66] to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project.

84. In response to the April 29, 2020 public notice that the project was ready for environmental analysis, Interior and Commerce filed a total of 10 recommendations under section 10(j).[67] Out of the 10 recommendations, one of Interior's recommendations and one of Commerce's recommendations are outside the scope of section 10(j) and are discussed in the next section.

85. The license includes four of the eight recommendations that fall within the scope of section 10(j): (1) Interior's and Commerce's recommendation to operate the project in a run-of-river mode (Appendix B, condition E-10a); (2) Interior's and Commerce's recommendation to discharge all inflow to the bypassed reach when the project is not generating (Appendix A, condition 2A; Appendix B, condition E-10b); (3) Interior's recommendation to implement an impoundment refill procedure after the impoundment is drawn down for emergencies and maintenance, whereby 90% of inflow is passed downstream, and the impoundment is refilled using the remaining 10% of inflow to the project (Appendix B, condition E-10d); and (4) Interior's and Commerce's recommendation to develop an operation compliance monitoring plan (Appendix A, condition 1B; Appendix B, condition E-12). The license also includes, in part, Interior's and Commerce's recommendations to release a minimum bypassed reach flow of 35 cfs or

[65] 16 U.S.C. § 803(j)(1).

[66] *Id.* at §§ 661 *et seq*.

[67] Interior filed seven recommendations on June 25, 2020. Commerce filed six recommendations on June 29, 2020. Three of Interior's and Commerce's recommendations are the same. When the same recommendation is made by more than one agency, it is counted only once in the total number of distinct recommendations. Interior's recommended minimum bypassed reach flow and recommendation to release 100% of inflow over the Rollinsford Dam's spillway when the project is not generating are being treated as two distinct recommendations, even though Interior grouped these recommendations under the same item number in its letter. Also, Commerce's minimum bypassed reach flow recommendations of 60 cfs from May 1 through July 15, and 35 cfs from July 16 through April 30, are being treated as a single recommendation, even though Commerce filed these recommendations under separate item numbers in its letter.

inflow, whichever is less, from July 16 through April 14, and 60 cfs or inflow, whichever is less, from April 15 through July 15, (Article 403).[68] For the reasons discussed below, the license requires Interior's and Commerce's recommended 60-cfs minimum bypassed reach flow after the installation of upstream fish passage facilities at the project, but not prior to the installation.

86. In the EA,[69] Commission staff made a preliminary determination that the following section 10(j) recommendations are inconsistent with the comprehensive planning standard of section 10(a)(1) and the public interest standard of section 4(e) of the FPA because the benefits of the recommended measures do not justify their costs: (1) Commerce's recommendation to release a minimum bypassed reach flow of 35 cfs or inflow, whichever is less, from July 16 through April 30, and 60 cfs or inflow, whichever is less, from May 1 through July 15, prior to the installation of upstream fish passage facilities; (2) Interior's recommendation to release a minimum bypassed reach flow of 35 cfs or inflow, whichever is less, from July 16 through April 14, and 60 cfs or inflow, whichever is less, from April 15 through July 15, prior to the installation of upstream fish passage facilities; and (3) Commerce's recommendation to develop a headpond refill plan to protect fish and aquatic habitat.

87. If the Commission believes that any section 10(j) recommendation may be inconsistent with the purposes and requirements of Part I of the FPA or other applicable law, section 10(j)(2) requires the Commission and the agencies to attempt to resolve any such inconsistency, giving due weight to the recommendations, expertise, and statutory responsibilities of such agencies.[70] If the Commission still does not adopt a recommendation, it must explain how the recommendation is inconsistent with Part I of the FPA or other applicable law and how the conditions imposed by the Commission adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources.

88. By letters dated August 23, 2021, Commission staff advised Interior and Commerce of the preliminary determinations of inconsistency, asked whether those agencies were satisfied with the alternative conditions set forth in the EA, and offered a meeting to attempt to resolve the apparent inconsistencies. Commerce did not respond to staff's

[68] Commerce's recommendation required a 60-cfs minimum flow release from May 1 through July 15. Article 403 requires the 60-cfs release for an additional 16 days, from April 15 through July 15, consistent with Interior's section 10(j) recommendation. *See* EA at 133-134 for additional information on the timing of the minimum bypassed reach flows.

[69] EA at 131-137, & app. D-2 – D-4.

[70] 16 U.S.C. § 803(j)(2).

August 23, 2021 letter concerning the preliminary determinations of inconsistency for Commerce's recommended minimum bypassed reach flow and headpond refill plan. Therefore, the inconsistencies could not be resolved. We address the inconsistencies pertaining to Commerce's recommended minimum bypassed reach flow and headpond refill plan below.

89. On October 7, 2021, Interior requested a 10(j) meeting to discuss staff's preliminary determination of inconsistency. Interior stated that it would file comments on the EA and the preliminary determination of inconsistency in another letter. On October 19, 2021,[71] FWS notified Commission staff by email that it was not concerned with staff's minimum flow recommendation in the EA, including the deviations that staff recommended from Interior's section 10(j) recommendation.[72] On October 29, 2021, staff issued a letter stating that, based on FWS's email, the preliminary determination of inconsistency was resolved, and there was no basis for holding a section 10(j) meeting pursuant to section 4.34(e)(4) of the Commission's regulations.[73] Therefore, the inconsistency for Interior's minimum bypassed reach flow recommendation is resolved.

90. On October 19, 2021, Interior filed comments on the EA and requested a meeting to discuss its section 10(j) recommendation to:

> Implement a protocol to avoid adverse effects on the northern long-eared bat by undertaking one of the following measures: avoid any tree removal activities associated with the operation or maintenance of the Project between April 1 and October 1, or employ a qualified biologist to conduct bat exit surveys to determine if bats are utilizing potential roost trees (i.e., trees greater than 3 inches diameter breast height) slated to be removed. If no bats

[71] *See* Commission staff's October 28, 2021 memorandum on email correspondence with Mr. Ken Hogan regarding a meeting to resolve a section 10(j) preliminary determination of inconsistency.

[72] In the EA, staff recommended Interior's recommendation in part. Staff recommended a year-round minimum bypassed reach flow of 35 cfs for two years after license issuance, until upstream fish passage facilities are constructed in the third calendar year of license issuance. Beginning on April 15 of the third year after license issuance, when the upstream fish passage facility is installed in the lower bypassed reach, staff recommended releasing a minimum flow of 60 cfs to the bypassed reach from April 15 through July 15, and 35 cfs from July 16 through April 14, consistent with Interior's section 10(j) recommendation.

[73] 18 C.F.R. § 4.34(e)(4) (2021).

are observed during the exit surveys, the tree(s) may be removed within 24 hours.

91. After receiving Interior's letter, staff issued a letter on October 29, 2021, explaining that in the EA, staff concluded that Interior's section 10(j) recommendation for protecting the northern long-eared bat fell within the scope of section 10(j) and that staff recommended the former of the two choices recommended by Interior (i.e., avoid tree removal activities from April 1 through October 1).[74] Therefore, staff made no preliminary inconsistency finding with respect to this recommended measure. However, staff convened a meeting with Interior on November 15, 2021, to discuss the additional information included in Interior's October 19, 2021 letter.[75] As discussed below, the information provided by Interior subsequent to the EA revealed an inconsistency between Interior's northern long-eared bat recommendation and the comprehensive planning standard of section 10(a)(1) and the public interest standard of section 4(e) of the FPA. Staff discussed Interior's recommendation during the November 15, 2021 meeting, but no resolution of the inconsistency could be reached. Following the meeting, Interior filed additional information on its recommendation on November 23, 2021. Staff issued a summary of the meeting on November 29, 2021. We address the inconsistency pertaining to Interior's recommendation to protect northern long-eared bats below.

A. Minimum Bypassed Reach Flows

92. The project bypasses approximately 680 feet of the Salmon Falls River. The bypassed reach includes habitat for species common to the Salmon Falls River, such as American eel, river herring, sea lamprey, brown trout, and longnose dace.[76] The Town proposes to increase the minimum flow into the bypassed reach from 10 to 35 cfs or inflow, whichever is less, by widening the notch in the flashboards. Commerce recommends that the Town release a minimum flow of 35 cfs into the bypassed reach from July 16 through April 30 and 60 cfs from May 1 through July 16.

93. In the EA, Commission staff concluded that increasing the minimum flow to 35 cfs would increase foraging and cover habitat for adult fish by 13% on average relative to the

[74] *See* EA at 150, 159, & app. D-5.

[75] *See* October 29, 2021 Notice of Technical Meeting.

[76] American shad are present downstream of the South Berwick Project, approximately 1.1 miles downstream of the Rollinsford Project, and could potentially access the Rollinsford Project tailwater and bypassed reach. However, no shad have been recorded using the upstream fishway at the South Berwick Project, and no entity has reported observing shad in the Salmon Falls River between the South Berwick Project's dam and the Rollinsford Dam.

current minimum flow of 10 cfs.[77] Commission staff concluded that increasing the minimum flow to 60 cfs would increase foraging and cover habitat for adult fish by 44% on average relative to the current minimum flow. Commission staff also concluded that a minimum flow of 60 cfs from May 1 through July 15, during the upstream American shad and river herring migration period, would provide a benefit to alosine populations by providing a 44% increase in alosine spawning and incubation habitat in the bypassed reach relative to the current 10-cfs minimum flow. However, the habitat benefits associated with the 60-cfs minimum flow would not be available to adult shad and river herring under current conditions because water velocity barriers and depth restrictions in the lower bypassed reach greatly restrict alosine passage to the upper bypassed reach. Staff concluded that the benefits associated with a 60-cfs minimum flow would not be available to adult alosines until the staff-recommended nature-like fishway is installed in the lower bypassed reach to provide shad and river herring access to spawning and incubation habitat in the upper bypassed reach.[78]

94. In the EA, staff concluded that the Town's proposed year-round minimum flow of 35 cfs would have an estimated annual loss of 420.3 MWh of energy production at an estimated annual opportunity cost of $26,600. Staff concluded that prior to installation of the upstream fish passage facilities, the incremental benefits of Commerce's recommended 60-cfs minimum flow compared to a 35-cfs minimum flow from May 1 through July 15, would not outweigh the incremental annual loss of 507.9 MWh of energy production at an estimated annual opportunity cost of $32,130.[79] Commission staff preliminarily determined that Commerce's recommended 60-cfs minimum bypassed reach flow was inconsistent with the comprehensive planning standard of section 10(a)(1) and the public interest standard of section 4(e) of the FPA prior to the installation of upstream fish passage facilities.[80] As an alternative, Commission staff recommended the following

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[77] EA at 131-136.

[78] In the EA, staff recommended installing the upstream fish passage facilities within three years of license issuance, consistent with Interior's preliminary fishway prescription.

[79] These costs are estimates of the licensee's lost opportunity costs of increasing the minimum flow from 10 to 35 cfs and from 10 to 60 cfs, based on an energy cost of $63.27/MWh. The energy cost is based on natural gas energy prices from the *Annual Energy Outlook 2022* published by the Energy Information Administration in March 2022.

[80] EA at 134-136. Staff's preliminary determination of inconsistency did not apply to Commerce's recommended flows following the installation of upstream fish passage facilities. Staff recommended a minimum flow that is consistent with Commerce's recommendation, following the installation of upstream fish passage facilities. Specifically, staff recommended releasing a 60-cfs minimum bypassed reach flow from

minimum bypassed reach flows: (1) a year-round flow of 35 cfs prior to the installation of the upstream fish passage facilities; and (2) following the installation of upstream fish passage facilities, a release of 35 cfs or inflow, whichever is less, from July 16 through April 14, and 60 cfs or inflow, whichever is less, from April 15 through July 15.

95. Because a year-round minimum flow of 35 cfs would provide a more reasonable balance between habitat enhancement and energy production prior to the installation of upstream fish passage facilities at the project, in accordance with FPA section 10(j)(2)(A), we find that Commerce's recommended 60-cfs minimum flow prior to the installation of upstream fish passage facilities is inconsistent with the comprehensive planning standard of section 10(a)(1) and the public interest standard of section 4(e) of the FPA. Therefore, the license requires a year-round minimum flow of 35 cfs to the bypassed reach prior to the installation of upstream fish passage facilities at the project (Appendix A, condition 2A; Appendix B, condition E-10b; and Article 403).

96. In accordance with section 10(j)(2)(B) of the FPA, the measures required by this license, including the 35-cfs minimum bypassed reach flow and other measures required by the license for the protection and enhancement of aquatic resources,[81] will adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources affected by the project.

B. Headpond Refill Plan

97. Periodically, the Town may need to draw down the project impoundment for maintenance, such as flashboard replacement or to respond to emergencies. During these times, run-of-river operation would be temporarily interrupted. New Hampshire DES's certification condition E-10d requires and Interior recommends under section 10(j) an impoundment refill procedure after the impoundment is drawn down for emergencies and maintenance, whereby 90% of inflow is passed downstream, and the impoundment is refilled with the remaining 10% of inflow to the project (90/10 refill procedure).

98. Commerce recommends that the Town develop a "headpond refill plan" to maintain flows downstream of the project when the impoundment is refilled after a drawdown. Commerce's recommendation does not include any specific measures.

April 15 through July 15, as recommended by Interior under section 10(j), which includes the time period in Commerce's recommendation for releasing a 60-cfs minimum flow.

[81] *E.g.*, operating the project in a run-of-river mode (Appendix B, condition E-10a), releasing all impoundment inflow to the bypassed reach when the project is not generating (Appendix A, condition 2A; Appendix B, condition E-10b), and implementing an impoundment refill procedure (Appendix B, condition E-10d).

99. In the EA, staff found that releasing 90% of the project impoundment's inflow during impoundment refilling, as required by New Hampshire DES and recommended by Interior, would minimize the length of time that the impoundment is drawn down and that flows are reduced downstream, which would help maintain the existing aquatic habitat for fish and other aquatic species. Staff concluded that implementing this procedure would have no substantial cost and recommended it.

100. With a 90/10 refill procedure in place, staff concluded that Commerce's recommended headpond refill plan would not benefit aquatic species. Therefore, staff did not recommend Commerce's plan,[82] and preliminarily determined that Commerce's recommendation was inconsistent with the comprehensive planning standard of section 10(a)(1) and the public interest standard of section 4(e) of the FPA.[83]

101. The 90/10 refill procedure is required by this license (Appendix B, condition E-10d). With this procedure in place, there are no benefits associated with Commerce's recommended plan. We conclude, in accordance with FPA section 10(j)(2)(A), that the plan is inconsistent with the comprehensive planning standard of section 10(a)(1) and the public interest standard of section 4(e) of the FPA.

102. In accordance with section 10(j)(2)(B) of the FPA, the 90/10 refill procedure will adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources affected by the project.

C. Northern Long Eared Bat Survey

103. Interior recommends protecting the northern long-eared bat by: (1) avoiding tree removal activities from April 1 through October 1, or (2) conducting bat exit surveys to verify that no bats are utilizing trees scheduled for removal within the next 24 hours.

104. In the EA, Commission staff concluded that implementing a seasonal clearing restriction would protect northern long-eared bats at no substantial cost to the Town and recommended it.[84] Although bat exit surveys could be used to determine the presence of northern long-eared bats at the project, staff concluded that its recommendation to restrict tree removal activities from April 1 through October 1 would provide a similar level of protection for the species at no cost. Therefore, staff concluded that Interior's recommendation to protect bats by conducting surveys prior to tree cutting is not necessary

[82] EA at 137.

[83] *Id*. at app. D-3 & D-4.

[84] *Id*. at 150-151.

and not worth the levelized annual cost of $1,410.[85] As discussed above,[86] staff made no preliminary inconsistency finding with respect to this recommended measure because staff interpreted Interior's recommendation as providing the Commission with the choice between two alternatives.

105. On October 19, 2021, Interior filed comments on the EA to clarify its recommendation. Interior explained that its recommended measure was meant to provide the licensee with flexibility during the term of the license by providing the licensee with the option of conducting site-specific bat surveys in lieu of implementing a seasonal restriction on tree removal. During the November 15, 2021 meeting between staff and Interior, Interior clarified that its recommendation should be considered as one recommendation that provides the licensee with flexibility during the term of the license to select between two alternatives, i.e., either avoid tree cutting from April 1 to October 1, or survey for bats to confirm that no northern long-eared bats are present prior to cutting from April 1 to October 1. Interior stated that it did not intend for the recommendation to be considered as two separate, mutually exclusive measures for the Commission to choose from in licensing the project. On November 23, 2021, Interior provided the protocols for a "bat exit survey," which are included in the FWS's *Range-Wide Indiana Bat Survey Guidelines* and described as "emergence surveys."

106. According to FWS's survey guidelines, mist-netting and acoustic surveys are typically used to identify the presence/absence of bats and bat roosts. Although emergence surveys can be used "in some limited cases"[87] to identify the presence of bats prior to tree removal, emergence surveys primarily rely on visual observations that are inherently less accurate than mist-netting and acoustic surveys.[88] At the Rollinsford Project, any tree removal would most likely occur in wooded riparian areas on the shoreline of the Salmon Falls River during the installation of fish and eel passage facilities. In this environmental

[85] *Id*. at 159.

[86] *See supra* at PP 80 – 83.

[87] *See* the attachment to Interior's November 23, 2021 letter, at 47.

[88] According to FWS's guidance, when using an emergence survey for tree removal, the following steps would be taken: (1) consult with FWS to verify that an emergence survey is an appropriate means of avoiding take; (2) hire a surveyor that is deemed qualified by the FWS to conduct the survey; (3) if no bats are observed during the survey, then remove the tree immediately, no later than the day following the survey; and (4) immediately after the tree is felled, a visual inspection of the downed tree must be completed to ensure that no bats were present, injured, or killed. FWS strongly recommends, but does not require the use of an ultrasonic bat detector and other equipment to detect bats.

setting, where trees are grouped together and parts of trees are hidden from view by other vegetation, emergence surveys could potentially fail to identify bats that are present in the area. If an emergence survey fails and an occupied maternity roost tree is removed, then the project would adversely affect the federally-listed species. We estimate that the cost of conducting Interior's recommended survey would be approximately $1,500 per survey, assuming that only one surveyor is needed to conduct the survey through visual observations and does not use additional equipment.

107. Limiting non-hazardous tree removal to the period of October 2 through March 31, with the flexibility to remove hazardous trees at any time of year for the protection of human life and property, as recommended by Commission staff in the EA, would protect the northern long-eared bat in an unambiguous manner consistent with the FWS's ESA section 4(d) rule, and at no substantial cost to the Town.

108. Because Interior's recommendation could expose northern long-eared bats to harm and would have a substantial cost for each survey conducted, we find in accordance with FPA section 10(j)(2)(A), that Interior's recommendation is inconsistent with the FPA. Because a tree-cutting restriction would protect the northern long-eared bat at a *de minimis* cost, Article 405 of this license requires the licensee to limit non-hazardous tree removal to the period of October 2 through March 31 as is expressly permitted by FWS's ESA section 4(d) rule.[89] In accordance with section 10(j)(2)(B) of the FPA, the measures required by this license will adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources affected by the project, including the seasonal clearing restriction that is required by Article 405.

Section 10(a)(1) of the FPA

109. Section 10(a)(1) of the FPA[90] requires that any project for which the Commission issues a license be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce; for the improvement and utilization of waterpower development; for the adequate protection,

[89] Tree removal is defined as cutting down, harvesting, destroying, trimming, or manipulating in any other way the non-hazardous trees, saplings, snags, or any other form of woody vegetation likely to be used by northern long-eared bats (i.e., woody vegetation greater than or equal to 3 inches diameter at breast height). Hazardous trees are trees that are removed for the protection of human life and property. Removal of hazardous trees is not prohibited under the 4(d) rule. *Endangered and Threatened Wildlife and Plants; 4(d) Rule for the Northern Long-Eared Bat*, 81 Fed. Reg. at 1901-1902.

[90] 16 U.S.C. § 803(a)(1).

mitigation, and enhancement of fish and wildlife; and for other beneficial public uses, including irrigation, flood control, water supply, recreation, and other purposes.

A. Migration Habitat Monitoring

110. Commerce filed one recommendation under section 10(j) for a post-license study to analyze the suitability of habitat in the bypassed reach for migrating fish under the minimum flow required by the license. Because the study could have been conducted during pre-licensing, and because the analyses of habitat suitability needs and effects of project operation on aquatic resources has already been assessed in the EA,[91] the recommendation is not within the scope of section 10(j).[92] Instead, this recommendation is considered under the broad public-interest standard of section 10(a)(1) of the FPA.

111. Commerce recommends that the Town "prepare a plan and implement monitoring of the suitability of upstream and downstream migration habitat for diadromous fish under the required minimum bypassed reach flows." Commerce states that the plan should be developed according to scientifically accepted practices including but not limited to radio-telemetry, paired release, and passive integrated transponder tags.

112. Commerce did not include specific methods for monitoring the suitability of minimum bypassed reach flows for migratory fish, specific performance standards for assessing when flows were unsuitable, or specific enhancement measures for improving habitat. In the EA, staff concluded that there is no basis for assessing the benefits or costs of Commerce's recommendation without specific measures to analyze.[93]

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[91] EA at 99-100.

[92] *See* 18 C.F.R. § 4.30(b)(9)(ii) (2021) ("A 'fish and wildlife recommendation' includes a request for a study which cannot be completed prior to licensing but does not include a request that the proposed project not be constructed or operated, a request for additional pre-licensing studies or analysis or, as the term is used in §§ 4.34(e)(1) and 4.34(f)(3), a recommendation for facilities, programs, or other measures to benefit recreation or tourism."). *See also Potomac Edison Co.*, 69 FERC ¶ 61,311 (1994) (explaining that "[a] typical study that cannot be completed prior to licensing is a post-construction monitoring study required for a project that is not yet constructed. Inasmuch as the three projects at issue are existing, operating projects, and the new licenses did not authorize any relevant new construction, the three studies recommended by Interior could be performed prior to relicensing as readily as after relicensing. Consequently, none of the studies qualifies as a recommendation subject to section 10(j)").

[93] EA at 157.

113. As discussed in the EA, sufficient information is available on migration habitat in the bypassed reach. The 2018 instream flow and zone of passage study that was conducted as part of relicensing, describes how habitat availability for shad and river herring larvae, juveniles, adults, and spawning and incubation changes at flows ranging from 30 to 100 cfs.[94] In addition, the Town measured water depth and velocity through several transects at four test flows, ranging from 29 to 120 cfs, to identify flows that produced depth or velocity barriers that would prevent shad and river herring from moving through the transects. Separately, the Town's 2018 upstream eel passage study collected juvenile eels migrating upstream near the project dam at the current 10-cfs minimum bypassed reach flow, which indicates that juvenile eels can reach the project dam under current operation.[95] The information collected from these studies was sufficient to assess the suitability of upstream and downstream migration habitat for diadromous fish at a range of flows, including the 35-cfs and 60-cfs minimum flows required by this license (Appendix A, condition 2A; Appendix B, condition E-10b; and Article 403).[96] Based on the lack of apparent benefits and lack of specific measures, staff did not recommend the development of Commerce's habitat monitoring plan in the EA.[97] Commerce did not file comments on the EA. Therefore, this license does not require the development of a habitat monitoring plan.

B. Post-licensing ESA Consultation

114. Interior filed one recommendation under section 10(j) that is not a specific measure to protect, mitigate damages to, or enhance fish and wildlife.[98] Consequently, this recommendation is not considered under section 10(j) of the FPA. Instead, this recommendation is considered under the broad public-interest standard of section 10(a)(1) of the FPA.

115. Interior recommends that the Town notify the resource agencies and Commission of any activity that may affect a federally listed species in a manner not considered in the subsequent license. In addition, Interior recommends that the Town be required to notify

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[94] *Id*. at 49-54.

[95] *Id*. at 59-61.

[96] *Id.* at 131-136.

[97] *Id*. at 158.

[98] Recommendations under section 10(j) must be specific measures. *See, e.g.*, *Ala. Co.*, 153 FERC ¶ 61,298, at PP 70-71 (2015) (rejecting a 10(j) recommendation as unduly vague), *order on reh'g*, 157 FERC ¶ 61,100 (2016).

Interior if the Town files an amendment or appeal of any fish and wildlife-related license conditions or a request for an extension of time to implement the articles.

116. In its October 19, 2021 comments on the EA and during the technical conference on November 15, 2021, Interior explained that a licensee is granted significant authority and discretion in its maintenance and operation of a project. Interior asserts that a license issued for a 30- to 50-year term cannot adequately predict how project maintenance or operation will affect a species or designated critical habitat so far into the future. Interior states that its recommendation is intended to require the licensee to evaluate potential activities and how an activity may affect a listed species or designated critical habitat. If, upon conclusion of that evaluation, the licensee determines the activity may affect listed species or designated critical habitat in a manner not previously considered, then Interior's recommendation would require the licensee to provide that information to the Commission and the FWS for consideration and potential initiation of the procedures outlined in the Interagency Task Force Report.

117. As discussed in the EA, if issues related to fish and wildlife species arise during the term of a subsequent license, either based on new listings or new information, standard license Article 11[99] provides that the licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate the project works, and comply with modifications required by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or state fish and wildlife agencies, after notice and opportunity for hearing. In addition, a licensee must file an application to amend the license and receive Commission authorization before substantially modifying project works or operation. Further, before filing an amendment application, the licensee must consult with any resource agency whose interests would be affected by the amendment,[100] such as the FWS if fish and wildlife species would be affected by the amendment. Because Article 11 and the Commission's regulations already provide post-license consultation procedures for federally listed species and other fish and wildlife, Interior's measure is unnecessary and so is not included as a requirement of this license.

[99] *See Standardized Conditions for Inclusion in Preliminary Permits & Licenses Issued Under Part I of the Fed. Power Act*, Order No. 540, 54 FPC 1792 (1975) (providing Form L-9, Article 11). As explained in Ordering Paragraph G, this license is subject to the articles in Form L-9, which is reproduced at the end of this order.

[100] *See* 18 C.F.R. §§ 4.38(a)(6), 4.201 (2021).

C. Water Quality Plan

118. The Town proposes to implement a water quality plan[101] to increase DO conditions in the impoundment during low flow periods. The plan includes the following provisions: (1) draw down the impoundment by 1.25 feet by releasing flow for project generation during "critical low flow periods" to "flush stagnant water from the impoundment;"[102] (2) refill the impoundment by retaining all inflow except for the proposed 35-cfs bypassed reach minimum flow; and (3) monitor water temperature and DO concentrations in the impoundment, bypassed reach, and tailrace from July 1 through September 15 for three years after license issuance to determine the effectiveness of the procedures.

119. New Hampshire DES's certification condition E-14 requires the Town to consult with New Hampshire DES within 60 days after license issuance to finalize the proposed water quality plan and implement the plan after license issuance to improve water quality in the Salmon Falls River during low flow periods. Maine DEP's certification condition 5A requires the Town to consult with it and New Hampshire DES to finalize the proposed water quality plan within 60 days of license issuance but does not require the Town to immediately implement the water quality plan. Instead, Maine DEP's certification requires the Town to monitor DO in the impoundment for two years after license issuance when inflow is less than 80 cfs for seven consecutive days between July 1 and September 15 (condition 5B). If monitoring indicates that DO is below 5.0 mg/L, then Maine DEP's certification requires the Town to implement the proposed water quality plan in the third year following license issuance (condition 5B).

120. In the EA, Commission staff concluded that because the project operates in a run-of-river mode and does not store water for generation, DO concentrations in the impoundment appear to be the result of natural biochemical processes occurring in the impoundment during periods of low inflow during the summer (i.e., when flow is less than the minimum hydraulic capacity of the project).[103] Commission staff also concluded that although the proposed plan could increase DO in the impoundment by pulling the lowest DO water in the water column from the impoundment and releasing it downstream, these benefits would be offset by adverse effects on aquatic resources in the downstream reach. During impoundment drawdowns, low DO water would be released into the Salmon Falls River downstream of the powerhouse for 48 hours, which would decrease DO in the downstream reach and in the South Berwick Project's impoundment. The drawdown and refill process

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[101] *See* Commission staff's June 22, 2021 Memorandum at Enclosure B.

[102] The Town defines "critical low flow periods" as when total inflow to the project has been less than 80 cfs for seven consecutive days during the months of July 1 through September 15.

[103] *Id*. at 41-46.

would reduce minimum bypassed reach flows, aquatic habitat availability, and attraction flows for fish passage because the facilities that release these flows from the dam would not be able to operate at their full capacity when the impoundment elevation is below 71.25 feet NGVD29. Therefore, staff concluded in the EA that the proposed plan would likely result in a net adverse effect on aquatic organisms in the Salmon Falls River.[104] Accordingly, staff did not recommend the proposed plan and New Hampshire DES's and Maine DEP's requirement to finalize and implement the proposed plan.[105]

121. As to Maine DEP's requirement to monitor water quality for two years prior to implementing the plan, staff explained that the 2018 water quality study has already documented low DO conditions in the impoundment during low flow periods between July and September, and that there would be no additional benefit from additional monitoring. Therefore, staff did not recommend Maine DEP's monitoring requirement.[106] However, New Hampshire DES's certification condition E-14 and Maine DEP's certification condition 5 are included in this license as mandatory under section 401 of the CWA.

D. Upstream Anadromous Fish Passage

122. Under current conditions, alosines can access the Salmon Falls River downstream of the project via upstream fish passage facilities located at the South Berwick Project, approximately 1.1 miles downstream of the dam. Although river herring have been observed at the Rollinsford Dam by New Hampshire FGD, data collected during a zone of passage study that was conducted in 2018 as part of relicensing, indicate that migration through the bypassed reach is restricted by high velocities and shallow depths, especially in a bedrock chute in the lower bypassed reach. In the EA, staff concluded that any fish that migrate through the bypassed reach to the dam are blocked from further passage because there are no upstream fish passage facilities at the Rollinsford Project.[107]

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[104] *Id*. at 46.

[105] *Id*. at 154-155.

[106] *Id.*

[107] *Id*. at 64-66, 142-144. In the EA, staff stated that American shad and river herring may have migrated at least as far upstream in the Salmon Falls River as Somersworth, New Hampshire, which is approximately 4 miles upstream of the Rollinsford Project, until 1847 when dams prevented anadromous fish from migrating upstream. *See* EA at 64. In its October 7, 2021 comment letter, the Town states that there is insufficient evidence to support the finding that American shad and river herring migrated to Somersworth. Regardless of the upstream extent of the historical range of alosines, the record provides evidence that alosines can migrate to the Rollinsford Dam and the project

123. The Town proposes to construct and operate a Denil fishway at the dam and excavate the lower section of the bypassed reach to provide upstream passage for American shad and river herring prior to the fourth passage season after license issuance if GMP, the licensee of the South Berwick Project, does not file a request within two years of license issuance to install, operate, and maintain a facility at the South Berwick Project to trap fish and transport them upstream to the impoundments of the Rollinsford Project, the Lower Great Falls Project No. 4451, and the Somersworth Project No. 3820.[108]

124. Interior's fishway prescription requires the Town to provide upstream passage for American shad and river herring by installing a technical fishway at the Rollinsford Dam and either a technical fishway or a nature-like fishway in the lower section of the bypassed reach by March 15 of the fourth passage season after license issuance (condition 10.8.1). However, Interior's prescription states that the fishways will be not be required at the project if a request is filed with the Commission within two years of license issuance to: (1) construct facilities at the South Berwick Project to trap and truck fish upstream from the South Berwick Project; and (2) implement an operation and maintenance plan that includes provisions for trapping and transporting fish upstream from the South Berwick Project to the impoundments of the Rollinsford Project, the Lower Great Falls Project No. 4451, and the Somersworth Project No. 3820 by the third year after license issuance (condition 10.8.2).

125. In the EA, Commission staff recommended the installation of a technical fishway at the dam and a nature-like fishway in the lower bypassed reach to provide upstream passage for shad and river herring, as conditionally proposed by the Town and required by Interior's prescription.[109] Since GMP had not submitted a request to amend the license for the South Berwick Project to provide upstream fish passage via trap and truck at the South

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is blocking access to upstream passage. For instance, in its modified prescription, Interior states that New Hampshire FGD staff observed alosines "circling in the large pool below Rollinsford Dam." *See* Interior's January 31, 2022 filing at Attachment A, page 23.

[108] If GMP files a request to install, operate, and maintain a trap and truck facility at the South Berwick Project with the Commission, and the Commission denies GMP's request, then the Town proposes to construct the Denil fishway and excavate the lower bypassed reach prior to the fourth passage season after the denial. If GMP receives authorization to install a trap and truck facility, but later discontinues the operation of the trap and truck facility during the term of a subsequent license, then the Town proposes to install a Denil fishway and excavate the lower bypassed reach four years after the cessation of the trap and truck operation. The Town defines the upstream passage season for American shad and river herring as April 15 to July 15.

[109] EA at 144.

Berwick Project, and the Town had not filed any information demonstrating that a trap and truck alternative is reasonably foreseeable, Commission staff could not evaluate the trap and truck alternative in the EA and did not recommend it.[110]

126. In its October 7, 2021 comments on the EA, the Town states that the EA should have included an analysis of the trap and truck alternative because the alternative is included in the Settlement Agreement and Interior's modified fishway prescription, which must be included in the terms of the license without modification.

127. Although the Settlement Agreement stipulates the possibility that GMP could request an amendment to the South Berwick Project to install a trap and truck facility, it does not include a definitive commitment from GMP to do so. Similarly, the prescription does not require a trap and truck facility to be installed at the South Berwick Project or for an amendment to be filed by GMP, either of which would be outside the scope of this license proceeding. Because GMP has not actually submitted a request to amend the license for the South Berwick Project to install a trap and truck facility, the measure is not reasonably foreseeable, and Commission staff's approach to not evaluate the environmental effects of the trap and truck alternative in the EA was correct.[111] Nonetheless, this license includes conditions that are consistent with the Settlement Agreement, namely the potential submittal of a license amendment request to install a trap and truck facility at the South Berwick Project, which is included in Interior's prescription condition 10.8.2, which is mandatory under section 18 of the FPA.

E. Upstream Eel Passage

1. Facility Siting

128. American eels have been documented upstream and downstream of the project. To migrate upstream past the project, juvenile eels must climb over or around Rollinsford Dam. Climbing over or around dams is a well-documented behavior for juvenile eels but causes passage delay and can increase predation.

129. The Town proposes to conduct an upstream eel passage facility siting survey, beginning the first full passage season after license issuance, to determine the optimal location for siting an upstream eel ramp. The Town proposes to install a permanent upstream eel ramp within two years of the completion of the survey.

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[110] *Id*. at 156.

[111] If GMP files a request to amend the South Berwick Project to install a trap and truck facility, Commission staff would evaluate the environmental effects of the proposal pursuant to section 380.5(b)(8) of the Commission's regulations.

130. In the EA,[112] staff concluded that the Town's proposal to begin the survey during the first passage season after license issuance would not capture potential changes to eel attraction flows in the bypassed reach that would result from the installation of Interior's prescribed and staff's recommended upstream and downstream fish passage facilities. Staff recommended conducting the survey in the fourth year after license issuance, following the installation of the upstream and downstream fish passage facilities. To accurately identify where permanent upstream passage facilities could be installed to reduce passage delay and provide eels with access to upstream habitat, this license requires the Town to conduct the survey beginning in the fourth year after license issuance, consistent with Interior's prescription condition 10.9 (Appendix C).

2. Upstream Eel Passage Facility Operation Period

131. The Town did not propose an operating schedule for the upstream eel facility. Interior's section 18 prescription conditions 10.3 and 10.9 require the Town to operate the upstream eel passage facility from May 1 through October 31.

132. In the EA, staff concluded that Interior's prescribed operating period is consistent with the upstream migration period reported for American eel in Maine and New Hampshire, and that operating the upstream passage facility from May 1 through October 31 would benefit eels by limiting the potential for the project to delay upstream eel passage.[113] Accordingly, staff recommended it.

133. In its comments on the EA, the Town states that during the 2018 eel passage study that was conducted as part of relicensing, approximately 90% of the total eel catch occurred prior to mid-August, with catch numbers quickly diminishing thereafter. The Town states that in 2020, at the West Enfield Hydroelectric Project No. 2600, located on the Penobscot River in Maine, most of the eels were collected in June and July. The Town also states that recently-issued licenses for other hydropower projects in Maine (e.g., Barker's Mill Project No. 2808, Mattaceunk Project No. 2520, American Tissue Project No. 2809, and West Buxton Project No. 2531)[114] have included shorter operational periods for upstream eel passage facilities, including June 1 through September 15 and June 1 through August 31. The Town states that eelways in Maine do not pass many eels in the

[112] EA at 140.

[113] *Id*. at 63. As explained in the EA, the cost of operating the upstream eel passage facility from May 1 to October 31, was included in the levelized annual cost of $5,480 for installing, operating, and maintaining the facility

[114] *KEI (Me.) Power Mgmt. (III) LLC*, 171 FERC ¶ 62,043 (2020); *Great Lakes Hydro Am., LLC*, 174 FERC ¶ 62,135 (2021); *KEI (Me.) Power Mgmt. (III) LLC*, 167 FERC ¶ 62,076 (2019); & *Brookfield White Pine Hydro LLC*, 162 FERC ¶ 62,108 (2018).

months of May, September, and October and that the upstream migration period of June 1 through September 15 is consistent with the FWS's American Eel Biological Species Report.

134. Operating the upstream eel passage facilities from June 1 through September 15 would provide passage for 106 days of the migration period but would not provide passage for the other 77 days of the migration period. The levelized annual cost of operating the upstream eel passage facility from June 1 through September 15 would be $590 less than the cost of operating the facility from May 1 through October 31 ($4,890 versus $5,480). Regardless of the cost however, this license requires the upstream eel passage facility to be operated from May 1 through October 31 (Appendix C, conditions 10.3 and 10.9), which is mandatory under section 18 of the FPA.

F. Downstream American Eel and Anadromous Fish Passage

1. Downstream Passage Facilities

135. As discussed in the EA, American eels have been documented upstream of the project, and downstream migrating eels would be adversely affected by project operation through turbine entrainment mortality.[115] Similarly, following the installation of the upstream fish passage facilities required by this license, shad and river herring will have access to the Salmon Falls River upstream of the project for spawning and downstream migrating juvenile and adult shad and river herring would be adversely affected by project operation through turbine entrainment mortality.[116]

136. The Town does not propose any downstream anadromous fish passage measures. However, the Town proposes to install and operate a downstream eel passage facility within four years of license issuance, including: (1) a surface weir that would be installed in the spillway located in the intake headworks structure; and (2) an approximately 185-foot-long, 2-foot-wide, 2-foot-tall, steel flume that would convey 25 cfs from the intake headworks structure to a 1,260-cubic foot plunge pool located in the bypassed reach, approximately 190 feet downstream of the project dam.

137. Interior's prescription conditions 10.10 and 10.11 require the Town to develop plans for downstream eel and alosine passage within three years of license issuance. Specifically, the prescription requires the Town to construct, operate, and maintain downstream anadromous fish and eel passage facilities that are designed in a manner that is consistent with FWS's Design Criteria Manual. Interior requires the Town to operate the passage facilities from June 1 to November 15 for anadromous fish species and eels

[115] EA at 77-80, 147.

[116] *Id*. at 77-80, 145.

(condition 10.3). Additionally, Maine DEP's and New Hampshire DES's certifications require downstream passage facilities to be constructed and operated in accordance with the schedules established by the Commission, and as prescribed by Interior. However, Interior's prescription does not include any specific design measures regarding the passage facilities, including where the facilities would be located and what type of facility is to be installed. In the EA, staff noted that without more specifics, staff was not able to assess the costs verses benefits of Interior's prescribed facility.[117]

138. As discussed in the EA,[118] the Town's proposed downstream eel passage facility would not likely be used by eels or anadromous fish for downstream passage because it would be located in the intake headworks structure. If the turbines are shutdown at night during the downstream eel passage season, as proposed by the Town, then the only flow provided to the intake headworks structure would be 35 cfs associated with the Town's proposed 25-cfs downstream eel passage facility flow and 10-cfs waste gate flow. All other flow would be discharged as spill over the dam. Based on mean inflow from August through November (ranging from 138 to 446 cfs) at the project, spillage flows at the dam would likely be the main source of attraction flow for eels migrating downstream. For example, at the historical mean flow of 392 cfs in October, most flow would pass over the dam via spill (357 cfs), and downstream migrating eels would likely be attracted to spill over the dam instead of the 25 cfs for the downstream eel passage facility. If the project is generating when eels or anadromous fish attempt downstream passage, the proximity of the intake to the downstream fish passage facility (approximately 25 feet) and attraction flow of the intake at the maximum hydraulic capacity (456 cfs) would limit the attraction of eels and anadromous fish to the downstream fish passage facility. Because the proposed downstream eel passage facility would not likely be used for downstream passage, staff concluded that the benefits of the facility do not outweigh the estimated levelized annual cost of $21,990 and did not recommend it.[119]

139. In the EA, staff concluded that the following specific measures for a surface-oriented downstream passage facility could benefit eels and anadromous fish by protecting them from turbine entrainment and providing downstream passage at the project: (1) a full-depth diversionary guidance boom placed upstream of the headgates; (2) a 3-foot-wide surface weir at the dam that has a hydraulic capacity of 35 cfs and provides a water depth of 2 feet; and (3) a 4-foot-deep plunge pool located downstream of the dam.[120] Staff estimated that installing this downstream passage facility would have a levelized annual

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[117] *Id*. at 145, 149.

[118] *Id*. at 81, 87-88.

[119] *Id*. at 145-149.

[120] *Id*. at 83-85, 145-149.

cost of $29,980. Staff concluded that the benefits of the downstream passage facility to eels and anadromous fish would be worth the cost and recommended it. Article 404 requires the Town to file a plan for installing, operating, and maintaining the staff-recommended downstream eel and anadromous fish passage facility by the third year after license issuance, as required by Interior's prescription conditions 10.10 and 10.11.

2. Permanent Nighttime Turbine Shutdowns

140. To protect downstream migrating eels, the Town proposes to implement nighttime turbine shutdowns for the duration of the license term, from September 1 through October 31, from 8:00 pm to 4:00 am for three consecutive nights following rain accumulation of 0.5 inch or more over a 24-hour period, within four years of the effective date of a subsequent license.

141. The downstream eel and fish passage facility required by Article 404 of this license will provide downstream passage for eels and prevent injury and mortality from turbine passage day and night throughout the downstream eel migration season, while allowing the project to generate. The facility will be operational within three years of license issuance. Therefore, the Town's proposal to shut down the turbines at night would not provide an additional benefit to downstream migrating eels and is not required by this license.

G. Minimum Bypassed Reach Flows

142. Maine DIFW recommends a year-round minimum flow of 82 cfs to enhance aquatic habitat in the 680-foot-long bypassed reach.

143. As discussed above,[121] staff recommended the following minimum bypassed reach flows in the EA: (1) a year-round flow of 35 cfs prior to the installation of the upstream fish passage facilities; and (2) following the installation of upstream fish passage facilities, a release of 35 cfs or inflow, whichever is less, from July 16 through April 14, and 60 cfs or inflow, whichever is less, from April 15 through July 15.

144. Maine DIFW's 82-cfs flow would increase foraging and cover habitat for adult fish by 52% relative to the current minimum flow of 10 cfs. In comparison, staff's recommended flows of 35 and 60 cfs would increase habitat by 13% and 44%, respectively. An 82-cfs minimum flow would reduce annual energy production at the project by 1,210.5 MWh relative to the current 10-cfs minimum flow, for an estimated annual opportunity cost of $76,590. In comparison, staff's recommendation to release 35 cfs from July 16 through April 14, and 60 cfs from April 15 through July 15, would

[121] *See supra* at PP 95-99.

reduce annual energy production by 210.2 MWh, for an estimated annual opportunity cost of $29,010.

145. Because staff's recommended minimum flows would be a more reasonable balance between habitat enhancement and energy production, the license does not require Maine DIFW's recommended 82-cfs minimum flow. As discussed above, Article 403 requires: (1) a year-round minimum bypassed reach flow of 35 cfs prior to the installation of the upstream fish passage facilities; and (2) following the installation of upstream fish passage facilities, a release of 35 cfs or inflow, whichever is less, from July 16 through April 14, and 60 cfs or inflow, whichever is less, from April 15 through July 15.[122] If the Town and resource agencies determine that additional flows should be released into the bypassed reach, following the consultation required Maine DEP's and New Hampshire DES's certification conditions 2A and E-10b, Article 401(f) of this license requires Commission approval prior to the implementation of any such changes.

146. Maine DEP's and New Hampshire DES's certification conditions 2A and E-10b state that the Town must consult with the agencies to determine the manner in which the minimum flow will be released from the project to the bypassed reach. In the EA, staff recommended: (1) releasing 35 cfs through a notch in the flashboards at the dam prior to the installation of the upstream fish passage facilities; and (2) following the installation of fishway facilities at the project, releasing the minimum bypassed reach flows through the fish passage facilities at the dam. Staff concluded that releasing the minimum bypassed reach flows from facilities located at the dam would ensure adequate aquatic habitat is available throughout the full length of the bypassed reach.[123] Article 403 requires the 35-cfs minimum bypassed reach flow to be released from a notch in the flashboard prior to the installation of upstream fish passage facilities; and requires the 35-cfs and 60-cfs minimum bypassed reach flows to be released from a combination of the downstream and upstream fish passage facilities located at the dam. To the extent that the Town and resource agencies determine that flows should be released from alternate locations, Article 401(f) of this license requires Commission approval prior to the implementation of any such changes.

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[122] *See id*. To the extent that upstream fish passage facilities are not installed at the project, due to the exceptions provided in Interior's prescription and Maine DEP's and New Hampshire DES's certifications, then a year-round minimum flow of 35 cfs would continue to be implemented during the license term. *See* Interior's prescription condition 10.8.2 (Appendix C), Maine DEP's certification condition 3B (Appendix A), and New Hampshire DES's certification condition E-13 (Appendix B).

[123] EA at 136.

Administrative Provisions

A. Annual Charges

147. The Commission collects annual charges from licensees for administration of the FPA. Article 201 provides for the collection of these funds for administration of the FPA. Under the regulations currently in effect,[124] projects with an authorized installed capacity of less than or equal to 1.5 MW, like this project, are not assessed an annual charge.

B. Reservation of Authority to Require Financial Assurance Measures

148. To confirm the importance of licensees maintaining sufficient financial reserves, Article 202 reserves the Commission's authority to require future measures to ensure that the licensee maintains sufficient financial reserves to carry out the terms of the license and Commission orders pertaining thereto.

C. Project Financing

149. To ensure that there are sufficient funds available for project construction, operation, and maintenance (including for the installation of fish and eel passage facilities), Article 203 requires the licensee to file for Commission approval documentation of project financing for the construction, operation, and maintenance of the project at least 90 days before starting any construction associated with the project.

D. Exhibit A Project Description

150. The Exhibit A filed on January 29, 2020, does not conform to section 4.61(c)(1)(vi) of the Commission's regulations. The Exhibit A does not identify the correct surface area of 84 acres for the impoundment.

151. Article 204 requires the licensee to file a revised Exhibit A that includes the correct impoundment surface area of 84 acres for the impoundment.

E. Exhibit F and G Drawings

152. Commission regulations require that licensees file sets of approved drawings in electronic format. Article 205 requires the filing of these drawings.

153. The Exhibit G drawings filed on August 29, 2019, do not conform to section 4.41 of the Commission's regulations, which requires licensees to file an Exhibit G map showing a project boundary that encloses all project works and other features necessary for the operation and maintenance of the project, or for other project purposes, such as recreation,

[124] 18 C.F.R. § 11.1(b) (2021).

shoreline control, or protection of environmental resources. The Exhibit G drawings include the current and proposed project boundaries. Article 206 requires the filing of revised Exhibit G drawings that only include the proposed project boundary.

F. As-Built Exhibits

154. Where new construction or modifications to the project are involved (e.g., new fish and eel passage facilities), the Commission requires licensees to file revised exhibits of project features as-built. Article 207 provides for the filing of these exhibits.

G. Review of Final Plans and Specifications

155. Article 301 requires the licensee to consult with the Commission's Division of Dam Safety and Inspections (D2SI) – New York Regional Engineer on any proposed modifications resulting from environmental requirements.

156. Article 302 requires the licensee to provide the Commission's D2SI – New York Regional Engineer with final design documents prior to construction, including plans and specifications, a supporting design report, a quality control and inspection program, a temporary construction emergency action plan, and a soil erosion and sediment control plan.

157. Article 303 requires the licensee to provide the Commission's D2SI – New York Regional Engineer with cofferdam and deep excavation construction drawings prior to the start of any construction requiring cofferdams or deep excavations.

H. Commission Approval of Resource Plans, Notification, and Filing of Amendments

158. In Appendices A, B, and C of this order, there are certain certification conditions and section 18 fishway prescription conditions that do not require the licensee to file certain plans or reports with the Commission, or that contemplate future changes to project facilities or operations without the opportunity for prior Commission review. Article 401 requires the licensee to file the plans and reports with the Commission for approval, notify the Commission of planned and unplanned deviations from the license requirements, and file amendment applications prior to making changes to project facilities or operations, as appropriate.

I. Use and Occupancy of Project Lands and Waters

159. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 407 allows the licensee to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting. Such uses must

be consistent with the purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.

State and Federal Comprehensive Plans

160. Section 10(a)(2)(A) of the FPA,[125] requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.[126] Under section 10(a)(2)(A), Commission staff identified and reviewed 21 comprehensive plans relevant to this project.[127] No conflicts were found.

Applicant's Plans and Capabilities

161. In accordance with section 10 of the FPA[128] and the Commission's regulations, Commission staff evaluated the Town's record as a licensee with respect to the following: (A) need for power; (B) safe management, operation, and maintenance of the project; and (C) conservation efforts.[129] We adopt staff's findings in each of the following areas.

A. Need for Power

162. To assess the need for power, staff looked at the needs in the operating region in which the project is located, which is the Northeast Power Coordinating Council's (NPCC) New England region of the North American Electric Reliability Corporation (NERC). NERC annually forecasts electrical supply and demand in the nation and the region for a 10-year period. NERC's most recent report indicates summer peak demand in the NPCC's New England region is projected to decrease at an annual rate of 0.1% from 2021 through 2030. Although demand is projected to decrease in the region, the project's power will continue to help meet the regional need for power.

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[125] 16 U.S.C. § 803(a)(2)(A).

[126] Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2021).

[127] The list of applicable plans can be found in Appendix E of the EA.

[128] 16 U.S.C. §§ 803(a)(2)(C), 808(a).

[129] In Order No. 513, we exempted licenses of minor projects, such as the Rollinsford Project, whose licenses waive sections 14 and 15 of the FPA, from the information requirements of 18 C.F.R. § 16.10 (2021). *See Hydroelectric Relicensing Regulations Under the Federal Power Act,* 54 Fed. Reg. 23,806 (June 2, 1989).

B. Safe Management, Operation, and Maintenance of the Project

163. Commission staff has reviewed the Town's record of management, operation, and maintenance of the Rollinsford Project pursuant to the requirements of 18 C.F.R. Part 12 (2021) and the Commission's Engineering Guidelines. We conclude that the dam and other project works are safe, and that there is no reason to believe that the Town cannot continue to safely manage, operate, and maintain these facilities under a subsequent license.

C. Conservation Efforts

164. Section 10(a)(2)(C) of the FPA[130] requires the Commission to consider the electricity consumption improvement program of the applicant, including its plans, performance, and capabilities for encouraging or assisting its customers in conserving electricity cost-effectively, and taking into account the published policies, restrictions, and requirements of state regulatory authorities. The Town sells the project's energy to the wholesale market administered by the Independent System Operator of New England.

165. We conclude that, given the limits of Town's ability to influence users of the electricity generated by the project, the Town will operate the project in a manner that is consistent with section 10(a)(2)(C) of the FPA.

Project Economics

166. In determining whether to issue a subsequent license for an existing hydroelectric project, the Commission considers a number of public interest factors, including the economic benefits of project power. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in *Mead Corporation, Publishing Paper Division*,[131] the Commission uses current costs to compare the costs of the project with the costs of the likely alternative source of power with no forecasts concerning potential future inflation, escalation, or deflation beyond the license issuance date. The basic purpose of the Commission's economic analysis is to provide a general estimate of the potential power benefits and the costs of a project, and of reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license.

[130] 16 U.S.C. § 803(a)(2)(C).

[131] 72 FERC ¶ 61,027 (1995).

167. In applying this analysis to the Rollinsford Project, Commission staff considered three options: a no-action alternative, the Town's proposal, and the project as licensed herein.[132]

168. Under the no-action alternative, the project would continue to operate as it does now. The project has an installed capacity of 1.5 MW, a capacity benefit of 1.0 MW, and generates an average of 5,837.9 MWh of electricity annually.[133] The average annual project cost is about $266,688. The alternative source of power's annual cost to produce the same amount of energy and provide the same capacity benefit is $531,504, in 2022 dollars.[134] To determine whether the proposed project is currently economically beneficial, the project's annual cost is subtracted from the alternative source of power's cost. Therefore, the project costs $264,816 less than the alternative source of power's cost.

169. As proposed by the Town, the levelized annual cost of operating the project is $423,329. The proposed project would generate an average of 5,079 MWh of energy annually and have a capacity benefit of 1.0 MW. The alternative source of power's cost to produce the same amount of energy and provide the same capacity benefit is $483,488, in 2022 dollars. Therefore, project power would cost $60,159 less than that from the alternative source.

170. As licensed herein with mandatory conditions and Commission staff's measures, the levelized annual cost of operating the project is $434,389. The proposed project would generate an average of 5,220 MWh of energy annually and have a capacity benefit of 1.0 MW. The alternative source of power's cost to produce the same amount of energy and provide the same capacity benefit is $492,410, in 2022 dollars. Therefore, the project would cost $58,022 less than the alternative source of power's cost.

171. In considering public interest factors, the Commission takes into account that hydroelectric projects offer unique operational benefits to the electric utility system (ancillary service benefits). These benefits include the ability to help maintain the stability

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[132] Details of Commission staff's economic analysis for the project as licensed herein, and for the other two alternatives, are included in section 4 of the EA.

[133] The term "capacity benefit" is used to describe the benefit a project receives for providing capacity to the grid, which may be in the form of a dependable capacity credit or credit for monthly capacity provided.

[134] The energy portion of the power cost is $63.27/MWh and is based on natural gas energy prices from the *Annual Energy Outlook 2022* published by the Energy Information Administration in March 2022. The capacity portion of the power cost is based on the annual cost of the hydro-equivalent natural gas-fired combined-cycle capacity, which staff estimates to be about $162.14/kilowatt-year.

of a power system, such as by quickly adjusting power output to respond to rapid changes in system load; and to respond rapidly to a major utility system or regional blackout by providing a source of power to help restart fossil fuel-based generating stations and put them back on line. Additionally, although staff's analysis does not explicitly account for the effects inflation may have on the future cost of electricity, the fact that hydropower generation is a renewable resource and relatively insensitive to inflation compared to fossil-fueled generators is an important economic consideration for power producers and the consumers they serve. This is one reason project economics is only one of the many public interest factors the Commission considers in determining whether, and under what conditions, to issue a license.

172. Commission staff's analysis shows that the project as licensed herein would cost less to operate than the likely alternative source of power. It is the applicant who must decide whether to accept the license and any financial risk that it entails.

COMPREHENSIVE DEVELOPMENT

173. Sections 4(e) and 10(a)(1) of the FPA[135] require the Commission to give equal consideration to the power development purposes and to the purposes of energy conservation; the protection, mitigation of damage to, and enhancement of fish and wildlife; the protection of recreational opportunities; and the preservation of other aspects of environmental quality. Any license issued must be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

174. The EA for the project contains background information, analysis of effects, and support for related license articles. Based on the record of this proceeding, including the EA and the comments thereon, licensing the Rollinsford Project as described in this order will not constitute a major federal action significantly affecting the quality of the human environment. The project will be safe if operated and maintained in accordance with the requirements of the license.

175. Based on our independent review and evaluation of the Rollinsford Project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EA, we have selected the project as licensed herein, and find that it is be best adapted to a comprehensive plan for improving or developing the Salmon Falls River.

176. We select this alternative because: (1) issuance of a subsequent license will serve to maintain a beneficial and dependable source of electric energy; (2) the required

[135] 16 U.S.C. §§ 797(e), 803(a)(1).

environmental measures will protect and enhance aquatic resources, water quality, federally listed species, and cultural resources; and (3) the 1.5 MW of electric capacity comes from a renewable resource that does not contribute to atmospheric pollution.

License Term

177. On October 19, 2017, the Commission established a 40-year default license term policy for licenses, effective as of October 26, 2017.[136] The Policy Statement provides for exceptions to the 40-year default license term under certain circumstances: (1) establishing a shorter or longer license term if necessary to coordinate license terms for projects located in the same river basin; (2) deferring to a shorter or longer license term explicitly agreed to in a generally-supported comprehensive settlement agreement; and (3) establishing a longer license term upon a showing by the license applicant that substantial voluntary measures were either previously implemented during the prior license term, or substantial new measures are expected to be implemented under the subsequent license.

178. Because none of the above exceptions apply in this case, a 40-year license for the Rollinsford Project is appropriate.

The Commission orders:

(A) The license is issued to Town of Rollinsford, New Hampshire (licensee) to operate and maintain the Rollinsford Hydroelectric Project for a period of 40 years, effective the first day of the month in which this order is issued. The license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in those lands, described in the project description and the project boundary discussion of this order.

(2) Project works consisting of: (1) a 317-foot-long, 19-foot-high concrete-masonry dam that consists of the following sections: (a) a 12-foot-long east abutment; (b) a 247-foot-long spillway with 15-inch-high flashboards and a crest elevation of 71.25 feet NGVD 29 at the top of the flashboards; (c) a 22-foot-long west abutment; and (d) a 36-foot-long concrete headgate structure with five 5.5-foot-wide, 5.5-foot-high vertical lift gates that convey flow to the intake headworks structure; (2) an impoundment with 84 surface acres of water and a gross storage capacity of 456 acre-feet at a water

[136] *Pol'y Statement on Establishing License Terms for Hydroelectric Projects*, 161 FERC ¶ 61,078 (2017) (Policy Statement).

surface elevation of 71.25 feet NGVD 29; (3) an intake headworks structure that includes: (a) an approximately 82-foot-long, 52-foot-wide bay; (b) a 22.8-foot-wide, 17.6-foot-high inclined trashrack with 2.5-inch clear bar spacing installed in front of the penstock intake; (c) an 8-foot-wide, 4.7-foot-high waste gate; (d) a 4-foot-wide, 4-foot-high inoperable sluice gate;[137] and (e) a 21.5-foot-long spillway section with a crest elevation of 73 feet NGVD 29; (4) a 600-foot-long, 10-foot-wide, 10-foot-high concrete penstock with a 9-foot-diameter steel liner installed within the lower 250 feet of the penstock that directs flow to the forebay; (5) a 30-foot-long, 40-foot-wide reinforced concrete forebay; (6) a 38-foot-long, 60-foot-wide concrete and brick masonry powerhouse containing two 0.750-MW vertical Z-type Francis turbine-generator units with a total installed capacity of 1.5 MW; (7) a 38-foot-long, 34-foot-wide, 15.5-foot-deep tailrace channel at a normal tailwater surface elevation of 24 feet NGVD 29; (8) A 100-foot-long, 4.16-kV underground transmission line connecting the turbine-generator leads to a 4.16/13.8-kV step-up transformer, where the electricity generated at the project is connected to the regional electric grid; and (9) appurtenant facilities.

The project works generally described above are more specifically shown and described by those portions of Exhibit F shown below:

Exhibit F: The following Exhibit F drawings filed on February 3, 2021:

Exhibit No.	FERC Drawing No.	Drawing Title	Filename Drawing Title[138]
F-1	P-3777-1001	Site Plan	Site Plan
F-2	P-3777-1002	Dam Plan, Elevation, and Cross Section	Dam Plan
F-3	P-3777-1003	Intake Plan, Trashrack Cross Section, and Intake Elevation	Intake Plan
F-4	P-3777-1004	Penstock Plan, Elevation, and Section	Penstock Plan
F-5	P-3777-1005	Powerhouse Ffloor Plan, Elevation, and Cross Sections	Powerhouse Plan

(3) All of the structures, fixtures, equipment, or facilities used to operate or maintain the project, all portable property that may be employed in connection with the

[137] The gate opening was sealed with a steel plate in the early 1980s.

[138] These exact drawing titles must be used in the filename when filing the electronic file format drawings required in license Article 205. Commission staff shortened the drawing titles due to filename character limits. There is no need to modify the titles as they appear on the drawings.

project, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) The Exhibit F described above is approved and made part of the license. Exhibits A and G filed as part of the application for license do not conform to Commission regulations and are not approved.

(D) The following sections of the FPA are waived and excluded from the license for this minor project:

Sections 4(b), except the second sentence; 4(e), insofar as it relates to approval of plans by the Chief of Engineers and the Secretary of the Army; 6, insofar as it relates to public notice and to the acceptance and expression in the license of terms and conditions of the FPA that are waived here; 10(c), insofar as it relates to depreciation reserves; 10(d); 10(f); 14, except insofar as the power of condemnation is reserved; 15; 16; 19; 20; and 22.

(E) This license is subject to the conditions submitted by the Maine Department of Environmental Protection and the New Hampshire Department of Environmental Services under section 401(a)(1) of the Clean Water Act, 33 U.S.C. § 1341(a)(1), as those conditions are set forth in Appendices A and B to this order, respectively.

(F) This license is subject to the conditions submitted by the Secretary of the U.S. Department of the Interior under section 18 of the FPA, as those conditions are set forth in Appendix C to this order.

(G) The license is also subject to the articles set forth in Form L-9 (Oct. 1975), entitled, "Terms and Conditions of License for Constructed Minor Project Affecting Navigable Waters of the United States" (*see* 54 F.P.C. 1792, *et seq.*), as reproduced at the end of this order, and the following additional articles:

Article 201. *Administrative Annual Charges*. The licensee must pay the United States annual charges, effective the first day of the month in which the license is issued, and as determined in accordance with the provisions of the Commission's regulations in effect from time to time, for the purposes of reimbursing the United States for the cost of administration of Part I of the Federal Power Act. The authorized installed capacity for that purpose is 1.5 megawatts (MW). Under the regulations currently in effect, projects with an authorized installed capacity of less than or equal to 1.5 MW will not be assessed an annual charge.

Article 202. *Reservation of Authority to Require Financial Assurance Measures*. The Commission reserves the right to require future measures to ensure that the licensee maintains sufficient financial reserves to carry out the terms of the license and Commission orders pertaining thereto.

Article 203. *Documentation of Project Financing.* At least 90 days before starting construction authorized by this license, the licensee must file with the Commission, for approval, the licensee's documentation for project financing. The documentation must show that the licensee has acquired the funds, or commitment for funds, necessary to construct, operate, and maintain the project in accordance with the license. The documentation must include, at a minimum, financial statements, including a balance sheet, income statement, and a statement of actual or estimated cash flows over the license term, which provide evidence that the licensee has sufficient assets, credit and projected revenues to cover project construction, operation and maintenance expenses, and any other estimated project liabilities and expenses.

The financial statements must be prepared in accordance with generally accepted accounting principles and signed by an independent certified public accountant. The licensee must not commence project construction associated with the project before the filing is approved.

Article 204. *Exhibit A Project Description*. Within 90 days of the issuance date of this license, the licensee must file, for Commission approval, a revised Exhibit A describing all principal project works necessary for operation and maintenance of the project. The revised Exhibit A must comply with section 4.61(c) of the Commission's regulations and include the correct surface area of 84 acres for the impoundment.

Article 205. *Exhibit F Drawings*. Within 45 days of the date of issuance of this order, as directed below, the licensee must file the approved exhibit drawings in electronic file format.

The licensee must prepare digital images of the approved exhibit drawings in electronic format. Prior to preparing each digital image, the licensee must add the FERC Project-Drawing Number (i.e., P-3777-1001 through P-3777-1005) in the margin below the title block of the corresponding approved drawing. The licensee must **label and file the Exhibit F drawings as Critical Energy Infrastructure Information (CEII) material under 18 CFR § 388.113.** The submission should consist of: (1) a public portion consisting of a cover letter; and (2) a CEII portion containing only the Exhibit F drawings. Each drawing must be a separate electronic file, and the file name must include: FERC Project-Drawing Number, FERC Exhibit Number, Filename Drawing Title, date of this order, and file extension in the following format [P-3777-1001, F-1, Site Plan, MM-DD-YYYY.TIFF]. All digital images of the exhibit drawings must meet the following format specification:

IMAGERY: black and white raster file
FILE TYPE: Tagged Image File Format (TIFF), CCITT Group 4

(also known as T.6 coding scheme)

RESOLUTION: 300 dots per inch (dpi) desired, (200 dpi minimum)
DRAWING SIZE: 22” x 34” (minimum), 24” x 36” (maximum)
FILE SIZE: less than 1 megabyte desired

Article 206. *Exhibit G Drawings*. Within 90 days of the issuance date of this license, the licensee must file, for Commission approval, a revised Exhibit G drawing enclosing within the project boundary all principal project works necessary for operation and maintenance of the project. The Exhibit G drawings should not include the previously licensed project boundary. The Exhibit G drawings should only include the project boundary described in the project description and the project boundary discussion of this order. The Exhibit G drawings must comply with sections 4.39 and 4.41(h) of the Commission’s regulations.

Article 207. *As-built Exhibits*. Within 90 days of completion of construction of the facilities authorized by this license, the licensee must file for Commission approval, revised Exhibits A, F, and G, as applicable, to describe and show those project facilities as built.

Article 301. *Project Modification Resulting from Environmental Requirements.* If environmental requirements under this license require modification that may affect the project works or operations, the licensee must consult with the Commission’s Division of Dam Safety and Inspections – New York Regional Engineer. Consultation must allow sufficient review time for the Commission to ensure that the proposed work does not adversely affect the project works, dam safety, or project operation.

Article 302. *Contract Plans and Specifications*. At least 60 days prior to the start of any construction, the licensee must file final design documents with the Secretary of the Commission, preferably through eFiling. The licensee must also submit two hard copies of the documents to the Division of Dam Safety and Inspections (D2SI) – New York Regional Engineer. The design documents must include: final plans and specifications, supporting design report, Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, and Soil Erosion and Sediment Control Plan. The licensee may not begin construction until the D2SI – New York Regional Engineer has reviewed and commented on the documents, determined that all preconstruction requirements have been satisfied, and authorized start of construction.

Article 303. *Cofferdam and Deep Excavation Construction Drawings*. Should construction require cofferdams or deep excavations, the licensee must: (1) have a Professional Engineer who is independent from the construction contractor, review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction; and (2) ensure that construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of any cofferdams or deep excavations, the licensee must file the approved cofferdam and deep

excavation construction drawings and specifications, and the letters of approval with the Secretary of the Commission, preferably through eFiling. The licensee must also submit two hard copies of the documents to the Commission's Division of Dam Safety and Inspections – New York Regional Engineer.

Article 401. Commission Approval, Reporting, Notification, and Filing of Amendments.

(a) *Requirements to File Plans for Commission Approval*

Various conditions of this license found in Maine Department of Environmental Protection's (Maine DEP) and New Hampshire Department of Environmental Services' (New Hampshire DES) section 401 water quality certifications (certification) (Appendices A and B, respectively) and the U.S. Department of the Interior's (Interior) section 18 fishway prescription (Appendix C) require the licensee to prepare plans in consultation with other entities for approval, and to implement specific measures without prior Commission approval. The following plans must be submitted to the Commission for approval by the deadlines specified below:

Maine DEP Certification Condition No.	**New Hampshire DES Certification Condition No.**	**Interior Section 18 Prescription Condition No.**	**Plan Name**	**Commission Due Date**
5A	E-14		Water Quality Mitigation and Enhancement Plan	September 22, 2022
1B	E-12		Operation Compliance Monitoring Plan	November 19, 2022
3E 4E		10.4, 10.6.1,10.8.2, 10.10, 10.11	Final Fishway Operation and Maintenance Plan	July 18, 2023
3D, 4D		10.7.1	Fish Passage Effectiveness Testing Plan	November 14, 2025
3C		10.6.1	Interim and Permanent Upstream Anadromous Fishway Design and Operational Plan	December 15, 2025

Maine DEP Certification Condition No.	New Hampshire DES Certification Condition No.	Interior Section 18 Prescription Condition No.	Plan Name	Commission Due Date
4C		10.6.1	Interim and Permanent Downstream Fishway Design and Operational Plan	December 1, 2024
3C		10.6.1	Interim and Permanent Upstream Eel Fishway Design and Operational Plan	March 1, 2027
	E-15		Long Term Water Quality Monitoring Plan	February 18, 2027, and every 5 years thereafter

With each plan filed with the Commission, the licensee must include documentation that it developed the plan in consultation with the U.S. Fish and Wildlife Service (FWS), Maine DEP, the Maine Department of Inland Fisheries and Wildlife (Maine DIFW), the Maine Department of Marine Resources (Maine DMR), New Hampshire DES, the New Hampshire Fish and Game Department (New Hampshire FGD), and the National Marine Fisheries Service (NMFS), and provide copies of any comments received, as well as its response to each comment. The Commission reserves the right to make changes to any plan filed. Upon Commission approval, the plan becomes a requirement of the license, and the licensee must implement the plan, including any changes required by the Commission. Any changes to the above schedule or plans require approval by the Commission before implementing the proposed change.

(b) *Requirements to File Reports and Schedules*

Certain conditions of the Maine DEP's and New Hampshire DES's certification (Appendices A and B) and Interior's section 18 fishway prescription (Appendix C) require the licensee to file reports and schedules related to compliance with the requirements of the license. Each such report and schedule must be filed with the Commission to ensure compliance with the license. These reports and schedules are listed in the following table:

Maine DEP Certification Condition No.	New Hampshire DES Certification Condition No.	Interior Section 18 Prescription Condition No.	Report Name	Commission Due Date
	E-11c		Flow and Impoundment Management Report	May 31, 2023
		10.6.1	Upstream and Downstream Anadromous Fish Implementation Schedule	May 14, 2026
		10.6.1	Downstream Eel Passage Implementation Schedule	May 14, 2026
3A		10.9b	Upstream Eel Siting Survey Results	November 30, 2026
		10.7.1	Interim Upstream and Downstream Anadromous Fish Fishway Effectiveness Monitoring Reports	April 16, 2027
		10.7.1	Interim Downstream Eel Fishway Effectiveness Monitoring Report	April 16, 2027
		10.6.1	Upstream Eel Passage Implementation Schedule	June 30, 2027

Maine DEP Certification Condition No.	New Hampshire DES Certification Condition No.	Interior Section 18 Prescription Condition No.	Report Name	Commission Due Date
	E-15		Long Term Water Quality Monitoring Report	February 29, 2028, and every 5 years thereafter
		10.7.1	Final Upstream Anadromous Fish Fishway Effectiveness Monitoring Reports	March 16, 2029
		10.7.1	Interim Upstream Eel Fishway Effectiveness Monitoring Report	April 16, 2029
		10.7.1	Final Downstream Anadromous Fish Fishway Effectiveness Monitoring Report	July 14, 2029
		10.7.1	Final Downstream Eel Fishway Effectiveness Monitoring Report	July 14, 2029
		10.7.1	Final Upstream Eel Fishway Effectiveness Monitoring Report	June 29, 2031

With each report filed with the Commission, the licensee must file documentation of any consultation with the FWS, Maine DEP, Maine DIFW, Maine DMR, New Hampshire DES, New Hampshire FGD, and NMFS, and provide copies of any comments received, as well as its response to each comment. The Commission reserves the right to require changes to project operation, facilities, or reporting requirements based on the information contained in the reports, agency comments, or any other available information.

(c) *Requirement to Notify the Commission of Planned, Temporary Modifications to Mandatory Condition Requirements*

The licensee may deviate from the mandatory conditions related to operation for short periods of time, of up to three weeks, without prior Commission approval after concurrence from the conditioning agencies. The licensee must file a report with the Secretary of the Commission as soon as possible, but no later than 14 calendar days after the onset of the deviation. Each report must include: (1) the reasons for the deviation and whether operations were modified, (2) the duration and magnitude of the deviation, (3) any environmental effects, and (4) documentation of approval from the conditioning agencies. For deviations from the mandatory conditions exceeding three weeks, the licensee must file an application and receive Commission approval prior to implementation.

(d) *Requirement to Notify the Commission of Unplanned Deviations from Mandatory Condition Requirement(s) Lasting More than 3 Hours or Resulting in Environmental Effects*

If there is any unplanned deviation from the mandatory conditions that lasts longer than 3 hours ***or*** results in visible environmental effects such as a fish kill, the licensee must file a report with the Secretary of the Commission as soon as possible, but no later than 14 calendar days after the incident. Each report must describe the incident, including: (1) the cause, (2) the duration and magnitude, (3) any pertinent operational and/or monitoring data, (4) a timeline of the incident and the licensee's response, (5) any environmental effects, (6) documentation that the respective conditioning agencies were notified and any comments received, or, affirmation that no comments were received, and (7) any measures to be implemented to prevent similar incidents in the future.

(e) *Requirement to Notify the Commission of Unplanned Deviations from Mandatory Condition Requirement(s) Lasting 3 Hours or Less with No Environmental Effects*

For unplanned deviations lasting 3 hours or less that do not result in environment effects, the licensee must file an annual report by January 31, describing each incident up to one month prior to the reporting date, including: (1) the cause of the event, (2) the duration and magnitude of the deviation, (3) any pertinent operational and/or monitoring data, (4) a timeline of the incident and the licensee's response, (5) any comments or correspondence received from the resource agencies, or confirmation that no comments were received from the resource agencies, and (6) a description of measures implemented to prevent similar deviations in the future. Any deviations that occur within the month prior to the reporting date should be included in the following year's report.

(f) *Requirement to File Amendment Applications*

Certain Maine DEP and New Hampshire DES certification conditions in Appendices A and B, and Interior fishway prescription conditions in Appendix C contemplate unspecified or conditional long-term changes to project operation or facilities for the purpose of mitigating environmental impacts. These changes may not be implemented without prior Commission authorization granted after the filing of an application to amend the license. In any amendment request, the licensee must identify related project requirements and request corresponding amendments or extensions of time as needed to maintain consistency among requirements.

Article 402. *Reservation of Authority to Prescribe Fishways*. Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or to provide for the construction, operation, and maintenance of such fishways as may be prescribed by the Secretary of the Interior or Secretary of Commerce pursuant to section 18 of the Federal Power Act.

Article 403. *Minimum Bypassed Reach Flows*. The licensee must release minimum flows from the project to the 680-foot reach of the Salmon Falls River that is bypassed by the project (bypassed reach), to protect and enhance aquatic resources and water quality, in a manner consistent with the Maine Department of Environmental Protection's (Maine DEP) certification condition 2A (Appendix A) and the New Hampshire Department of Environmental Service's (New Hampshire DES) certification condition E-10(b) (Appendix B).

As required by Maine DEP's and New Hampshire DES's certifications, prior to the installation of the upstream anadromous fish passage facilities required by the U.S. Department of the Interior's (Interior) section 18 fishway prescription condition 10.8.1 (Appendix C), the licensee must release a continuous minimum flow of 35 cubic feet per second (cfs) or inflow to the impoundment, whichever is less. The minimum flow must be released from a notch in the flashboards at the Rollinsford Project dam into the bypassed reach.

Following the installation of the upstream anadromous fish passage facilities (no earlier than four years after license issuance, as provided by Interior's condition 10.8.1 and 10.8.2), the licensee must release: (a) 35 cfs or inflow if less, from July 16 through April 14 from the downstream fish passage weir at the dam required by Article 404; and (b) 60 cfs from April 15 through July 15 from a combination of the downstream fish passage facility and upstream fish passage facility at the dam that is required by Interior's prescription condition 10.8.1.

Article 404. *Downstream American Eel and Anadromous Fish Passage Facilities*. Within one year of license issuance, the licensee must file, for Commission approval, a downstream fish passage plan that provides for the installation of downstream fish passage

facilities at the project for downstream migrating anadromous fish species and American eels. The downstream fish passage facilities must consist of: (1) a full-depth diversionary guidance boom placed upstream of the headgates; (2) a 3-foot-wide surface weir at the dam that has a hydraulic capacity of 35 cfs and provides a water depth of 2 feet; and (3) a 4-foot-deep plunge pool located downstream of the dam. The plan must be consistent with the requirements specified by Interior's prescription conditions 10.10 and 10.11 (Appendix C), and must include a construction schedule for the downstream fish passage facilities to be operational by June 1 of the third year after license issuance.

The licensee must prepare the plan after consultation with the U.S. Fish and Wildlife Service, the Maine Department of Environmental Protection, the Maine Department of Inland Fisheries and Wildlife, the Maine Department of Marine Resources, the New Hampshire Department of Environmental Services, the New Hampshire Fish and Game Department, and the National Marine Fisheries Service. The licensee must include with the plan, documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee must allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing must include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan must not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee must implement the plan, including any changes required by the Commission.

Article 405. *Seasonal Restriction on Tree Removal.* To protect the federally listed northern long-eared bat during its active season (April 1 to October 1), the licensee must limit non-hazardous tree removal to the period of October 2 through March 31. Tree removal is defined herein as cutting down, harvesting, destroying, trimming, or manipulating in any other way the non-hazardous trees, saplings, snags, or any other form of woody vegetation likely to be used by northern long-eared bats (i.e., woody vegetation greater than or equal to 3 inches diameter at breast height).

Article 406. *Programmatic Agreement and Historic Properties Management Plan*. The licensee must implement the "Programmatic Agreement Among the Federal Energy Regulatory Commission, the New Hampshire State Historic Preservation Office, and the Maine State Historic Preservation Office for Managing Historic Properties that May be Affected by Issuing a Subsequent License to the Town of Rollinsford, New Hampshire for the Continued Operation of the Rollinsford Hydroelectric Project in Strafford County, New Hampshire and York County, Maine (FERC No. 3777-011)," executed on January 10, 2022, and including but not limited to the Historic Properties Management Plan (HPMP)

for the project. Pursuant to the requirements of this Programmatic Agreement, the licensee must file, for Commission approval, a HPMP within one year of issuance of this order. The Commission reserves the authority to require changes to the HPMP at any time during the term of the license. If the Programmatic Agreement is terminated prior to Commission approval of the HPMP, the licensee must obtain approval from the Commission and the New Hampshire and Maine State Historic Preservation Officers, before engaging in any ground-disturbing activities or taking any other action that may affect any historic properties within the project's areas of potential effects.

Article 407. *Use and Occupancy*. (a) In accordance with the provisions of this article, the licensee must have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee must also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee must take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 water craft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee must require multiple use and occupancy of facilities for access to project lands or waters. The licensee must also ensure that, to the satisfaction of the Commission's authorized representative, the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee must: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the impoundment shoreline. To implement this paragraph (b), the licensee may, among other

things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kilovolts or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project impoundment. No later than January 31 of each year, the licensee must file with the Commission a copy of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed. No report filing is required if no conveyances were made under paragraph (c) during the previous calendar year.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 water craft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must file a letter with the Commission, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Commission's authorized representative, within 45 days from the

filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee must consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee must determine that the proposed use of the lands to be conveyed is not inconsistent with any approved report on recreational resources of an Exhibit E; or, if the project does not have an approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include the following covenants running with the land: (i) the use of the lands conveyed must not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee must take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee must not unduly restrict public access to project lands and waters.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project must be consolidated for consideration when revised Exhibit G drawings would be filed for approval for other purposes.

(g) The authority granted to the licensee under this article must not apply to any part of the public lands and reservations of the United States included within the project boundary.

(H) The licensee must serve copies of any Commission filing required by this order on any entity specified in the order to be consulted on matters relating to that filing. Proof of service on these entities must accompany the filing with the Commission.

(I) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the FPA, 16 U.S.C. § 825*l*, and section 385.713 of the Commission's regulations, 18 C.F.R. § 385.713 (2021). The filing of a request for rehearing does not operate as a stay of the effective date of this license or of any other date specified in this order. The licensee's failure to file a request for rehearing constitutes acceptance of this order.

By the Commission. Commissioner Danly is concurring with a separate statement attached.

(S E A L)

Kimberly D. Bose,
Secretary.

Form L-9
(October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED MINOR PROJECT AFFECTING NAVIGABLE WATERS OF THE UNITED STATES

Article 1. The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

Article 3. The project area and project works shall be in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Article 4. The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and supervision of the Regional Engineer, Federal Energy Regulatory Commission, in the

region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him such information as he may require concerning the operation and maintenance of the project, and any such alterations thereto, and shall notify him of the date upon which work with respect to any alteration will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall submit to said representative a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of any such alterations to the project. Construction of said alterations or any feature thereof shall not be initiated until the program of inspection for the alterations or any feature thereof has been approved by said representative. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights or occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices,

and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 7. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 8. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 9. The United States specifically retains and safeguards the right to use water in such amount, to be determined by the Secretary of the Army, as may be necessary for the purposes of navigation on the navigable waterway affected; and the operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Secretary of the Army may prescribe in the interest of navigation, and as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Secretary of the Army may prescribe in the interest of navigation, or as the Commission may prescribe for the other purposes hereinbefore mentioned.

Article 10. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation

and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 11. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 12. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article.
This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 13. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 14. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon the request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 15. The Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 16. Material may be dredged or excavated from, or placed as fill in, project lands and/or waters only in the prosecution of work specifically authorized under the license; in the maintenance of the project; or after obtaining Commission approval, as appropriate. Any such material shall be removed and/or deposited in such manner as to reasonably preserve the environmental values of the project and so as not to interfere with traffic on land or water. Dredging and filling in a navigable water of the United States shall also be done to the satisfaction of the District Engineer, Department of the Army, in charge of the locality.

Article 17. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 18. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 19. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

APPENDIX A

Water Quality Certificate Conditions
Issued by the Maine Department of Environmental Protection
Filed June 11, 2021

DECISION AND ORDER

THEREFORE, the Department APPROVES the water quality certification of THE TOWN OF ROLLINSFORD and CERITIFIES pursuant to Section 401 (a) of the Clean Water Act that there is a reasonable assurance that the continued operation of the ROLLINSFORD HYDROELECTRIC PROJECT, as described above, will not violate applicable Class C water quality standards and the discharge from the proposed Project will comply with water quality requirements, SUBJECT TO THE FOLLOWING CONDITIONS:

1) WATER LEVELS

A. Except as temporarily modified by 1) approved maintenance activities, 2) extreme hydrologic conditions,[1] 3) emergency electrical system conditions,[2] or 4) agreement between the Applicant, the Department, and appropriate state and/or federal agencies, daily Project impoundment water levels shall be maintained at the flashboard crest elevation of 71.25 feet NGVD 1929. Agreement among the Applicant and agencies to temporarily modify water levels, as described in 4), above, includes temporary, short-term water level

[1] For the purpose of this certification and Order, extreme hydrologic condition mean the occurrence of events beyond the Licensee's control such as, but not limited to, abnormal precipitation, extreme runoff, flood condition, ice conditions, drought, or other hydrologic conditions such that operational restrictions and requirements contained herein are impossible to achieve or are inconsistent with the safe operation of the Project.

[2] For the purpose of this certification and Order, emergency electrical system conditions mean operating emergencies beyond the Licensee's control which require changes in flow regimes to eliminate such emergencies which may in some circumstances include, but are not limited to, equipment failure or other temporary abnormal operating conditions, generating unit operation or third-party mandated interruptions under power supply emergencies, and order from local, state, or federal law enforcement or public safety authorities.

adjustments to implement a Water Quality Mitigation and Enhancement Plan as needed.[3]

B. The Applicant shall, within six months of issuance of a New License for the Project by FERC or upon such other schedule as established by FERC, submit a Final Operation Monitoring Plan for Department review and approval for providing and monitoring Project impoundment water levels required by Part A of this condition.

C. This condition is necessary to ensure that the discharge from the Project will comply with water quality requirements, including 38 M.R.S. § 465(4)(A) and (C) as discussed above at section 4(A), (D) and (E). The water levels of the impoundment, which are determined by the discharge, affect, among other things, the water quality requirements of the designated uses of fishing; recreation in and on the water; navigation; and habitat for fish and other aquatic life.

2) MINIMUM FLOWS

A. Except as temporarily modified by 1) approved maintenance activities, 2) extreme hydrological conditions (see footnote 17), 3) emergency electrical system conditions (see footnote 18), or 4) agreement between the Applicant, the Department and appropriate state and/or federal agencies, when the Project is generating power from July 16 to April 14, annually, a continuous minimum flow of 35 cfs, or inflow, whichever is less, shall be released to the bypass reach; when the Project is generating power from April 15 to July 15 prior to implementation of volitional upstream alosine passage at the Project, a continuous minimum flow of 35 cfs or inflow, whichever is less, shall be released to the bypass reach. When the Project is generating power from April 15 through July 15 after implementation of volitional upstream alosine passage at the Project, the bypass reach flow and the manner it is released to the bypass reach, shall be determined after consultation with USFWS, New Hampshire Department of Environmental Services (NHDES), NHFGD, MDMR and MDIFW and the Department. When the Project is not generating power prior to implementation of

[3] See Condition 5.

downstream fish passage facilities, 100 percent of inflow shall be passed over the spillway and into the bypass reach. When the Project is not generating power after implementation of downstream fish passage facilities, 100 percent of inflow shall be released to the bypass reach. The manner the inflow is released to be bypass reach shall be determined after consultation with USFWS, NHDES, NHFGD, MDMR, MDIFW and the Department.

B. This condition is necessary to ensure that the discharge from the Project will comply with water quality requirements, including 38 M.R.S. § 465(4)(A) and (C) as discussed above at sections 4(B), (D), and (E). The flow of the discharge affects, among other things, whether the receiving waters are of sufficient quality to support all species of indigenous fish and maintain the structure and function of the resident biological community. The flow of the discharge also affects the water quality requirements of the designated uses of fishing; recreation in and on the water; navigation; and habitat for fish and other aquatic life.

3) UPSTREAM PASSAGE

A. The Applicant shall, in accordance with the schedules established by FERC, conduct an upstream eel siting survey. Based on the results of the eel siting survey, the Applicant shall construct, operate, maintain, monitor, and periodically test the effectiveness of upstream passage facilities and, as appropriate, employ appropriate operational measures for the safe, timely and effective upstream passage of American eel, in accordance with schedules established by FERC and as prescribed by the Department of Interior USFWS in Section 11 of its June 25, 2020 fishway prescriptions and as required by Section 18 of the Federal Power Act.

B. The Applicant shall, on a schedule established by FERC and in accordance with preliminary fishway prescriptions and any modifications of such fishway prescriptions approved and agreed to by Department of Interior USFWS, construct and operate a Denil Fishway for the safe, timely and effective upstream passage of anadromous fish as described by the Department of Interior USFWS in Section 11 of its June 25, 2020 fishway prescriptions, unless an Exception for Trap and Truck Operations is requested within two years of issuance of a New License, and approved by

USFWS and by FERC in accordance with the provisions of the Modified Prescription.

C. The Applicant shall, in accordance with the schedules established by FERC, submit final design and operational plans for all interim and permanent upstream fish passage facilities and/or operational measures required by this approval. These fish passage facilities and/or operational measures shall be designed in conformance with applicable USFWS Fish Passage Engineering Design Criteria, and in consultation with MDMR, USFWS, NHFGD, NHDES and the Department which shall be provided review of the 30% and 90% design drawings.

D. The Applicant shall, in accordance with the schedules established by FERC, conduct effectiveness studies and shall design such effectiveness testing plans in consultation with USFWS, MDMR, NHFGD and other state and federal resource agencies.

E. The Applicant shall, in accordance with the schedules established by FERC, submit a final Fishway Operation and Maintenance Plan describing all operations and maintenance of the upstream fish passage facilities and/or operational measures at the Project.

F. This condition is necessary to ensure that the discharge from the Project will comply with water quality requirements, including 38 M.R.S. § 465(4)(A) and (C) as discussed above at sections 4(A), (B), (D), and (E). The nature of the Project's discharge affects, among other things, whether the receiving waters are of sufficient quality to support all species of indigenous fish, including anadromous fish and American eel, and maintain the structure and function of the resident biological community. The discharge also restricts the passage of such fish, which in turn affects water quality requirements, including the designated uses of fishing and as habitat for fish and other aquatic life.

4) DOWNSTREAM PASSAGE

A. The Applicant shall construct, operate, maintain, monitor and test the effectiveness of downstream passage facilities and, as appropriate and in coordination with USFWS, MDMR, and NHFGD and other fish resource

agencies, employ appropriate operational measures for the safe, timely and effective downstream passage of American eel, in accordance with schedules established by FERC and as prescribed in Section 11 of the Department of Interior USFWS Fishway Prescriptions, dated June 25, 2020, as required by Section 18 of the Federal Power Act.

B. The Applicant shall construct, operate, maintain, monitor and test the effectiveness of downstream passage facilities and, as appropriate and in coordination with USFWS, MDMR, and NHFGD and other fish resource agencies, employ appropriate operational measures for the safe, timely and effective downstream passage of anadromous fish, in accordance with schedules established by FERC and as prescribed in Section 11 of the Department of Interior USFWS June 25, 2020 Fishway Prescriptions, as modified pursuant to the Settlement Agreement, as required by Section 18 of the Federal Power Act.

C. The Applicant shall, in accordance with the schedules established by FERC, submit final design and operational plans for all interim and permanent downstream passage facilities and/or operational measures required by this approval. Such facilities shall be designed in consultation with MDMR, USFWS, NHFGD, NHDES and the Department, which shall be provided review of the 30% and 90% design drawings.

D. The Applicant shall, in accordance with the schedules established by FERC, conduct effectiveness studies and shall design such effectiveness studies in consultation with USFWS, MDMR, NHFGD and other state and federal resource agencies, as appropriate.

E. The Applicant shall, in accordance with the schedules established by FERC, submit a final Fishway Operation and Maintenance Plan describing all operations and maintenance of the downstream fish passage facilities and/or operational measures at the Project.

F. This condition is necessary to ensure that the discharge from the Project will comply with water quality requirements, including 38 M.R.S. § 465(4)(A) and (C) as discussed above at sections 4(A), (B), (D), and (E). The nature of the Project's discharge affects, among other things, whether the receiving waters are of sufficient quality to support all species of

indigenous fish, including anadromous fish and American eel, and maintain the structure and function of the resident biological community. The discharge also restricts the passage of such fish, which in turn affects related water quality requirements, including the designated uses of fishing and as habitat for fish and other aquatic life.

5) DISSOLVED OXYGEN

A. The Applicant shall, in consultation with NHDES and the Department and as reviewed and approved by the Department, within 60 days of the issuance of a New License for the Project by FERC submit a final Water Quality Mitigation and Enhancement Plan for the Project designed to mitigate DO conditions that can develop in the impoundment during some critical low flow periods.

B. The Applicant shall, during low flow periods between July 1 and September 15, annually, monitor DO in the impoundment following seven days of inflow less than 80 cfs for two years following issuance of a New License by FERC. If during the prescribed monitoring DO is determined to fall below 5.0 mg/L, in the third year following New License issuance and in consultation with the Department, NHDES and appropriate state and federal agencies as required in Condition 1 and 2 of this certification, the Applicant shall implement a Water Quality Mitigation and Enhancement Plan required by part A of this Condition. During implementation of the Water Quality Mitigation and Enhancement Plan, the Applicant shall release a continuous minimum flow to the Project bypass reach in compliance with Condition 2 of this certification.

C. This condition is necessary to ensure that the discharge from the Project will comply with water quality requirements, including 38 M.R.S. § 465(4)(B) as discussed above at section 4(C). Because the nature of the discharge affects, among other things, the water levels and levels of DO in the impoundment, it has a direct effect on the growth of indigenous fish. Absent this condition, the DO levels in the Project area as a result of its operations and discharge would be unable to meet statutory requirements for DO in the impoundment, which would also affect the water quality requirements of the designated uses of fishing and habitat for fish and other aquatic life and would render the impoundment of insufficient quality to

support all species of fish indigenous to the receiving waters and maintain the structure and function of the resident biological community.

6) RECREATIONAL ACCESS AND USE

A. The Applicant shall continue to provide informal access to the Project waters for the purpose of recreation in and on the water, for fishing, and for navigation to the extent possible, for the term of the New License. The Applicant shall consult with MDIFW within 6 months of issuance of a New License by FERC regarding opportunities for improvements to access streamside angling opportunities, including additional signs and foot trails to the tailrace and bypass reach.

B. This condition is necessary to ensure that the discharge from the Project will comply with water quality requirements, including 38 M.R.S. § 465(4)(A) and (C), as discussed above at section 4(D) and (E). Because the discharge affects, among other things, the water level of the impoundment and the flow downstream of the dam, it necessarily affects the water quality requirements of the designated uses of fishing; recreation in and on the water; and navigation, among others.

APPENDIX B

Water Quality Certificate Conditions
Issued by the New Hampshire Department of Environmental Service
Filed June 10, 2021

CERTIFICATION CONDITIONS

Unless otherwise authorized or directed by NHDES, the following conditions shall apply:

E-1. **Effective Date and Expiration of Certification:** This certification shall become effective on the date of issuance and shall remain effective for the term of the federal license or permit. Should the federal authority deny a license or permit, the certification becomes null and void.

E-2. **Conditions in Federal License or Permit:** Conditions of this certification shall become conditions of the federal license or permit (U.S.C. § 1314(d)).

E-3. **Compliance with Water Quality Standards:** The Activity shall not cause or contribute to a violation of New Hampshire surface water quality standards.

(For an explanation and citations, see Fact C-7 and C-8, and C-53.)

E-4. **Proposed Modifications to the Activity:** The Applicant shall consult with and receive prior written approval from NHDES regarding any proposed modifications to the Activity that could have a significant or material effect on the findings or conditions of this certification, including any changes to operation of the Activity. If necessary, to assure compliance with New Hampshire surface water quality standards and associated management objectives, the New Hampshire Department of Environmental Services (NHDES) may alter or amend this certification in accordance with condition E-5.

(For an explanation and citations, see Fact C-7 and Finding D-11.)

E-5. **Modification of Certification**: The conditions of this certification may be altered or amended at any time by NHDES to assure compliance with New Hampshire surface water quality standards and associated management objectives, when authorized by law, and, if necessary, after notice and opportunity for hearing.

(For an explanation and citations, see Fact C-7 and Finding D-11.)

E-6. **Reopening of License**: NHDES reserves the right to request, at any time, that FERC reopen the license to consider modifications to the license to assure compliance with New Hampshire surface water quality standards.

E-7. **Compliance Inspections:** In accordance with applicable laws, the Applicant shall allow NHDES to inspect the Activity and affected surface waters to monitor compliance with the conditions of this certification.

(For an explanation and citations, see Fact C-7 and Finding D-11.)

E-8. **Transfer of Certification:** Should this certification be transferred to a new owner, contact information for the new owner (including name, address, phone number and email) shall be provided to NHDES within 30 days of the transfer.

E-9. **NHDES Water Use Registration and Reporting:** The Applicant shall register, measure, and report all withdrawals and discharges with the NHDES Water Use Registration and Reporting program (WURRP) in accordance with RSA 488:3 and its supporting regulations in Env-Wq 2102 and submit, if necessary, a water conservation plan in accordance with Env-Wq 2101.24.

(For an explanation and citations, see Finding D-35.)

E-10. **Flow / Impoundment Management:** The following requirements (items a. through e.) may be temporarily modified if required by operating emergencies beyond the control of the Applicant and/or as specified below.

a. **Instantaneous Run-of-River Flow:** The Applicant shall operate the Activity in an instantaneous run-of-river mode whereby inflow to the Project equals outflow from the Project at all times and water levels above the dam are not drawn down for the purpose of generating power. Run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the Applicant or for short periods upon mutual agreement between NHDES, the New Hampshire Fish and Game Department (NHFGD), the U.S. Fish and Wildlife Service (USFWS), the Maine Department of Environmental Protection (MEDEP), the Maine Department of Marine Resources (MDMR) and the Maine Department of Inland Fisheries and Wildlife (MEDIFW).

(For an explanation and citations, see Finding D-37.)

b. **Bypass Reach Conservation Flows:** The Applicant shall comply with the following bypass reach conservation flow requirements (items 1-7).

1. Bypass reach conservation flows and the manner in which flows are released to the bypass reach, shall be determined by the USFWS in accordance with the USFWS's fish passage design guidelines [1], and after consultation with the NHDES, NHFGD, MEDEP, MEDMR and MEDIFW.
2. The method and supporting information for passing the bypass conservation flows into the bypass reach, including any future modifications, shall be included in the Flow / Impoundment Compliance Monitoring Plan (Condition E-12).
3. When the Project is not generating power prior to implementation of downstream fish passage facilities, 100 percent of inflow shall be released over the spillway and into the bypass reach.
4. When the Project is not generating power after implementation of downstream fish passage facilities, 100 percent of inflow shall be released to the bypass reach. The manner the inflow is released to they bypass reach (i.e., the amount of inflow over the spillway, through the downstream passage facilities, and/or through volitional upstream passage facilities) shall be determined in accordance with item 1 above.
5. When the Project is generating power from July 16 through April 14, a continuous conservation flow of at least 35 cfs or inflow, whichever is less, shall be released to the bypass reach.
6. When the Project is generating power from April 15 through July 15, prior to implementation of volitional upstream alosine passage at the Project, a continuous conservation flow of at least 35 cfs or inflow, whichever is less, shall be released to the bypass reach.
7. When the Project is generating power from April 15 through July 15, after implementation of volitional upstream alosine passage at the Project, the bypass reach flow and the manner it is released to the bypass reach, shall be in accordance with item 1 above.

(For an explanation and citations, see Finding D-41.)

c. **Impoundment Water Level:** The target impoundment water elevation shall be the top of the 15-inch flashboards (elevation 71.25 feet NGVD 29) plus any additional elevation required to pass the bypass reach conservation flows. The

[1] USFWS (U.S. Fish and Wildlife Service). 2019. Fish Passage Engineering Design Criteria. USFWS, Northeast Region R5, Hadley, Massachusetts. 135 pages + Appendices.

Applicant shall minimize the magnitude and frequency of fluctuations in the impoundment to the maximum extent practicable and shall not draw the water level in the impoundment down for the purpose of generating power. This requirement may be modified upon mutual agreement between NHDES, NHFGD, USFWS, MEDEP, MDMR and MEDIFW.

(For an explanation and citations, see Finding D-38.)

d. **Impoundment Refill:** When refilling the impoundment after drawdown for maintenance or emergencies, the Applicant shall release 90 percent of the inflow downstream to the Salmon Falls River and utilize the remaining 10% of inflow to refill the impoundment. This refill procedure may be modified upon mutual agreement between NHDES, NHFGD, USFWS, MEDEP, MDMR and MEDIFW.

(For an explanation and citations, see Finding D-39.)

e. **Drawdown Procedure for Scheduled Maintenance:** When drawing the water level in the impoundment down for scheduled maintenance, the Applicant shall lower the impoundment water level no more than six (6) inches per day. This drawdown procedure may be modified with prior approval of NHFGD.

(For an explanation and citations, see Finding D-40.)

E-11. **Flow/Impoundment – Notification and Annual Report:** The Applicant shall comply with the following notification and reporting requirements:

a. If the Activity causes a deviation from the flow/ impoundment management requirements in Condition E-10, the Applicant shall notify NHDES, NHFGD, USFWS, MEDEP and MEDIFW no later than 24 hours after each such incident. The notification shall include, to the extent known, an explanation as to why the deviations occurred, a description of corrective actions taken, and how long it will take until operations will comply with Condition E-10.

b. Within 45 days after each incident, the Applicant shall submit a report to NHDES, NHFGD, USFWS, MEDEP, MDMR and MEDIFW that contains, to the extent possible, the cause, severity and duration of the incident, any observed or reported adverse environmental impacts from the incident, pertinent data and a description of corrective measures.

c. By April 1 of each year (beginning the first April after the date the FERC license is reissued), the Applicant shall submit to NHDES, NHFGD, USFWS, MEDEP, MDMR and MEDIFW a summary report for the previous calendar

year with appropriate tables, graphs, text and supporting documentation that demonstrates compliance with the flow/ impoundment management requirements in Condition E-10. Where excursions occurred, the summary shall indicate when the excursion occurred, the duration of the excursion and a description of corrective actions taken to prevent such excursions from reoccurring.

(For an explanation and citations, see Finding D-11)

E-12. F**low/Impoundment Compliance Monitoring Plan (FICMP):** Within 120 days of license issuance the Applicant shall develop, file and implement a flow and impoundment level monitoring and compliance plan (FICMP) that, as a minimum, includes the following:

a. a description of the level of manual, automatic, on-site and remote operation;
b. a detailed description of how the Project will be operated under all conditions (i.e., under normal operating conditions as well as during low flow, high flow, maintenance and emergency conditions) to maintain compliance with the flow and impoundment level management requirements in Condition E-10;
c. a description of how conservation flows will be maintained during scheduled drawdowns and the minimum impoundment level that will pass the conservation flows (including calculations);
d. a description of the mechanisms and structures (i.e., type, location and accuracy of all flow and impoundment elevation monitoring equipment and gages) to be used for maintaining compliance with operational requirements;
e. set point elevations for turning turbines on and off [2];
f. procedures for maintaining and calibrating monitoring equipment;
g. rating curves and calculations for all methods of releasing flow downstream (including a working excel spreadsheet if requested by NHDES);
h. procedures for collecting and recording continuous data (i.e., no less frequent than hourly and preferably every 15 minutes) on inflow, flow releases at the project (conservation flows in the bypass reach, spillage and turbine discharge), and impoundment levels.

The FICMP, including any proposed revisions, shall be developed in consultation with NHDES, NHFGD, USFWS, MEDEP, MDMR and MEDIFW, and shall be subject to NHDES review and approval. The FICMP shall be kept up-to-date so

[2] Set point elevations for providing conservation flows should account for the accuracy of the pond level sensor equipment. For example, if the accuracy is +/- 0.01 feet, the sensor should be set 0.01 feet above the elevation determined to provide the conservation flow in order to assure that the conservation flow will be provided at all times.

that it reflects current operation. The Applicant shall implement the approved FICMP.

(For an explanation and citations, see Finding D-11 and D-42.)

E-13. **Fish Passage:** The Applicant shall comply with all of section 11 of the USFWS' "Preliminary Prescription for Fishways" (Finding D-47), (which includes prescriptions for upstream and downstream passage for anadromous fish and American eel), and any modifications made to the preliminary prescriptions that are acceptable to the USFWS, including, but not limited to, any modifications made to be consistent with the "Settlement Agreement" by and between the Town of Rollinsford, Green Mountain Power and the U.S. Department of Interior Fish and Wildlife Service (Finding D-48).

(For an explanation and citations, see Findings D-43 through D-49.)

E-14. **Water Quality Mitigation and Enhancement Plan (WQMEP):** Within 60 days of License issuance by FERC, the Applicant shall consult with NHDES regarding finalization of the draft Water Quality Mitigation and Enhancement Plan (WQMEP) received by NHDES on March 22, 2021 to implement and monitor the effectiveness of measures to improve water quality in the Salmon Falls River during low flow. The NHDES approved plan shall then be implemented.

(For an explanation and citations, Facts C-2 and C-7, and Findings D-11 and D-33.)

E-15. **Long Term Water Quality Monitoring and Reporting:** Unless otherwise authorized by NHDES, the Applicant shall conduct water quality monitoring in the Salmon Falls River every five years beginning the fifth year after the FERC license for the Project is reissued, and ending five years prior to the expiration of the reissued license. Should monitoring be conducted within the first five years after the FERC license for the Project is reissued, the Applicant may submit a written request to NHDES to delay the start date for long term monitoring under this Condition and shall comply with NHDES' written decision on the request. The purpose of the monitoring is to 1) determine the future effects of Project operation during the duration of the reissued license, both spatially and temporally (in terms of flow, impoundment elevation and power generation) on water temperature and dissolved oxygen (mg/L and percent saturation), 2) to compare results to New Hampshire surface water quality standards, and 3) to determine if additional changes in Project operation are necessary to comply with surface water quality standards.

At least 90 days prior to monitoring in each year monitoring is conducted, the Applicant shall submit a monitoring and reporting plan to NHDES for review and approval that describes, in detail, how, when and where monitoring will be conducted and results reported. The Applicant shall then implement the NHDES approved plan. Unless otherwise authorized by NHDES, the plan shall specify that monitoring that year shall last for at least five weeks and include periods of relatively low flows and high temperatures as well as times when the Project is, and is not, generating. Continuous (i.e., every 15 minutes) monitoring of temperature and dissolved oxygen (mg/L and percent saturation) shall be conducted at the deep spot of the Project impoundment, the Project tailrace and the Project bypass reach and vertical profiles for temperature and dissolved oxygen shall be conducted each week at the deep spot of the impoundment. Continuous (i.e., every 15 minutes) estimates of impoundment elevation, inflow, tailrace flow, bypass reach flow and generation shall also be provided.

By December 31st of each year that monitoring is conducted, the Applicant shall submit a report and supplemental information that clearly demonstrates via text, tables and plots, the spatial and temporal effect of project operation (in terms of inflow and flow in the bypass reach and tailrace, impoundment elevation and power generation) on surface water quality and if New Hampshire surface water quality standards are met. Results of quality assurance/quality control checks (calibration, hand-held meter checks, duplicates, etc.) and identification of any deviations from the monitoring and reporting plan shall be clearly identified. In addition to the report, water quality (including uncorrected and any corrected data), continuous impoundment elevation, and continuous flow data (including calculations) should be provided in a working MS Excel workbook or other database acceptable to NHDES. The Applicant shall also enter all data into the NHDES Environmental Monitoring Database (EMD) within 120 days of when monitoring is completed in each year monitoring is conducted.

Should monitoring indicate that water quality standard exceedances persist, the Applicant shall consult with NHDES regarding changes to Project operation to improve water quality, and then implement the NHDES approved revisions to Project operation. Any NHDES approved changes to Project operation shall be included in the Flow/Impoundment Compliance Monitoring Plan (Condition D-12) and submitted to NHDES for approval within 60 days of learning that revisions are necessary.

(For an explanation and citations, see Facts C-2 and C-7 C-3 and Findings D-11, D-33 and D-34)

APPENDIX C

U.S. Department of the Interior
Section 18 Modified Fishway Prescription
Filed January 31, 2022

9. RESERVATION OF AUTHORITY TO PRESCRIBE FISHWAYS

In order to allow for the timely implementation of fishways, including effectiveness measures, pursuant to Section 18 of the Federal Power Act, the Secretary of the Department of the Interior herein exercises their authority under said Act by reserving that authority to prescribe fishways during the term of the license and by prescribing the fishways described in the Department of the Interior's Prescription for Fishways at the Rollinsford Hydroelectric Project (FERC No. 3777).

10. MODIFIED PRESCRIPTION FOR FISHWAYS

Pursuant to Section 18 of the FPA, as amended, the Secretary of the Interior, as delegated to the Service, hereby exercises their authority to prescribe the construction, operation and maintenance of such fishways as deemed necessary, subject to the procedural provisions contained above.

The Department's Modified Prescription for Fishways is the result of consultation among the Service, NHFGD, and MEDIFW, review of the Town's Alternative Prescription, and subsequent to the Settlement Agreement. Fishways shall be constructed, operated, and maintained to provide safe, timely, and effective passage for river herring (alewife and blueback herring), American shad, and American eel at the Licensee's expense.

10.1. UPSTREAM AND DOWNSTREAM PASSAGE

The Licensee shall construct, operate, maintain, monitor, and periodically test the effectiveness of fishways for river herring, American shad, and American eel (collectively, the "target species") as described below. The fishways will be designed, constructed, maintained, and operated (which includes project operations) to safely, timely, and effectively pass the target species upstream and downstream of the Project.

10.2. DESIGN POPULATIONS

The American eel is a panmictic species; therefore, there are no subpopulations. All individuals are genetically, behaviorally, and physically representative of the entire worldwide population and offspring spawned in the Sargasso Sea have the same random

chance of ending up in any watershed between Florida and Maine. However, based on monitoring data at the downstream South Berwick eelway, we expect thousands of juvenile eels to use upstream facilities at the Rollinsford Dam. The type of eelways likely to be used at the site has been shown to be capable of passing nearly 20,000 eels;[144] therefore, the Service expects it can accommodate the annual movement of eels on the Salmon Falls River.

As noted in Section 3.4.2, the anticipated alosine population for the Rollinsford impoundment is estimated to be approximately 2,731 American shad and 21,315 river herring. A standard 4-foot-wide Denil fish ladder is estimated to have an annual biological capacity of 25,000 adult American shad, 12,000 Atlantic salmon, or 200,000 adult river herring (USFWS 2019). Given these capacities, a single 4-foot Denil ladder (or equivalent), installed at a slope of 1:8 (vertical:horizontal) or milder, should be sufficient to pass the design populations of target species. Alternatively, as discussed in the Settlement Agreement and the Town's Alternative Prescription, a properly designed interim trap and transport program could meet these capacity requirements.

10.3. FISH PASSAGE OPERATING PERIODS

Fishways shall be operational during the migration windows for target species present. The migratory season for diadromous fish has been studied for the major rivers of the Northeast (Facey and Van Den Avyle 1987, page 7; Mullen et al. 1986; Weiss-Glanz et al. 1986; Loesch 1987; ASMFC 2000, page 8; Saunders et al. 2006, page 539; ASMFC 2009, page 9; Shepard 2015; Eyler et al. 2016). The season depends on geographic location, water temperature, river flow, and other habitat cues. These dates may change based on new information, evaluation of new literature, and agency consultation. Based on data from nearby watersheds, approved fish passage protective measures shall be operational during the migration windows identified in Table 2 (below).

Table 2. Summary of migration periods for which fish passage will be provided.

Species	**Upstream Migration Period**	**Downstream Migration Period**
Alosines: American shad, River herring	April 15–July 15	June 1 – November 15
American eel	May 1–October 31	August 15 – November 15

[144] In 2016, over 18,000 juvenile eels were counted passing an eel ramp at the Holyoke Project (FERC No. 2004).

10.4. FISHWAY OPERATION AND MAINTENANCE PLAN

Within 12 months of license issuance, the Licensee will prepare and provide to the Service, the NHFGD, the MEDIFW, and NOAA Fisheries, a Fishway Operation and Maintenance Plan (FOMP) covering all operations and maintenance of the upstream and downstream fish passage facilities in operation at the time. The FOMP shall include:

a. a schedule for routine fishway maintenance to ensure the fishways are ready for operation at the start of the migration season;
b. procedures for routine upstream and downstream fishway operations;
c. procedures for monitoring and reporting on the operation and maintenance of the facilities as they affect fish passage; and
d. a provision for annual review, and if necessary, modification.

The FOMP shall be submitted to the Service for review and approval prior to submitting the FOMP to the Commission for its approval. Thereafter, the Licensee will keep the FOMP updated on an annual basis, to reflect any changes in fishway operation and maintenance planned for the year. If the Service requests a modification of the FOMP, the Licensee shall amend the FOMP within 30 days of the request and send a copy of the revised FOMP to the Service. Any modifications to the FOMP by the Licensee will require the approval of the Service prior to implementation and prior to submitting the revised FOMP to the Commission for its approval.

The Licensee shall provide information on fish passage operations and project generating operations that may affect fish passage, upon written request from the Service or other resource agencies. Such information shall be provided within 10 calendar days of the request, or upon a mutually agreed upon schedule.

10.5. INSPECTION

The Licensee shall provide access to the project site, all fish passage facilities (e.g., ladders, traps, transport equipment, and counting facilities) and to pertinent project records to Service personnel and its designated representatives, for the purpose of inspecting the fish passage facilities and to determine compliance with the Prescription.

10.6. SCHEDULING

Timely construction, operation, maintenance, and measures for upstream and downstream fish passage, including studies and evaluations, are necessary to ensure their effectiveness and to achieve restoration goals. Therefore, the Licensee shall notify, and obtain approval from, the Service for any extension to comply with prescribed conditions.

10.6.1.IMPLEMENTATION

The Licensee shall develop design plans for fishways and submit these plans to the Service and other resource agencies for review and approval during conceptual, 30 percent, and 90 percent design stages. This will ensure safe, timely, and effective fishway passage is designed and constructed on a timely schedule to meet the implementation dates indicated below. Designs shall be consistent with the 2019 Fish Passage Engineering Design Criteria Manual (USFWS 2019, entire) or updated version.

The Licensee shall adhere to the following dates for installing fishways:

a. The upstream anadromous fish systems are to be operational no later than March 15 of the third calendar year after license issuance.
b. The downstream anadromous fish and downstream eel passage system is to be operational within 3 years of license issuance.
c. The upstream eel passage systems are to be operational after the upstream anadromous fish systems are installed, within 5 years of license issuance.

For upstream and downstream anadromous fish and downstream eel passage systems, the Licensee shall adhere to the following design milestone schedule:

a. conceptual designs 15 months prior to the start of construction;
b. 30 percent design 12 months prior to the start of construction; and
c. 90 percent design and Basis of Design Report 3 months prior to the start of construction.

The Licensee shall adhere to the following design milestone schedule for the upstream eel passage system(s):

a. 30 percent designs 4 months prior to the start of construction, and following delivery of the eelway siting survey report; and
b. 90 percent designs 2 months prior to the start of construction.

Following approval by the Service and other resource agencies, the Licensee shall submit final design plans to the Commission for its approval prior to the commencement of fishway construction activities. Once the fishways are constructed, final as-built drawings that accurately reflect the Project as constructed shall be filed with the Service, the other resource agencies, and the Commission.

10.7. FISH PASSAGE EFFECTIVENESS MEASURES

Effectiveness testing of both upstream and downstream American eel and anadromous fish passage is critical to evaluating passage success, diagnosing problems, determining when fish passage modifications are needed, and what modifications are most likely to be effective over the term of the license.

10.7.1. FISHWAY EFFECTIVENESS MONITORING PLAN

The Licensee will develop a Fishway Effectiveness Monitoring Plan (FEMP) in consultation with, and requiring approval by, the Service. The FEMP will contain plans for ensuring (1) the effectiveness of the upstream anadromous, upstream eel, downstream anadromous, and downstream eel passage measures required pursuant to Sections 10.8 through 10.11; and (2) that the minimum bypass flow of 35 cfs provides safe, timely, and effective downstream passage to emigrating diadromous species (i.e., does not strand fish). The FEMP shall be submitted to the Commission, for approval, 6 months prior to the implementation dates for installing upstream anadromous fish systems specified in Section 10.6.1.

The Licensee shall begin implementing effectiveness testing measures at the start of the first migratory season after fishway(s) are operational and shall conduct quantitative fish passage effectiveness testing and evaluation for a minimum of 2 years. If the Service requests a modification of the FEMP, the Licensee shall amend the FEMP within 30 days of the request and send a copy of the revised FEMP to the Service and resource agencies. Any modifications to the FEMP by the Licensee will require approval by the Service prior to implementation.

The Licensee will submit yearly interim study reports to the Service following the conclusion of each study year. The interim reports for upstream passage studies will be submitted to the Service by February 15 following each study year. The final study report will be submitted to the Service within 6 months after the completion of the study. The final study report will include methods, data analysis, results, an assessment of any factors or potential problems hindering passage effectiveness, and provide recommended modifications to achieve safe, timely, and effective passage. In conjunction with submitting the final study report, the Licensee will also provide electronic copies of all data collected from studies to the Service.

The Licensee shall meet annually, in the late fall, with the Service and the other resource agencies to report on the occurrence of fish passage maintenance and operations, monitoring results, and review the operating plan. Any changes and planned maintenance

will be accomplished 30 days prior to the start of the next migratory season.

10.8. UPSTREAM ANADROMOUS PASSAGE

10.8.1. PERMANENT UPSTREAM FISH PASSAGE

a. The Licensee shall construct, operate, and maintain upstream fish passage facilities that pass anadromous fish species in a safe, timely and effective manner. Based on the best scientific information available at this time, one of the following types of fishway could satisfy the standard of safe, timely, and effective: (a) two technical fishways (one fishway at the dam and one fishway through the lower section of the bypass reach); or (b) one technical fishway at the dam and one nature-like fishway (NLF) through the lower section of the bypass reach. The NLF should modify the existing chute to provide a suitable zone of passage for adult alosines over the emergent bedrock adjacent to the powerhouse. At the lowest end of its operating range, the NLF should be designed to meet Service criteria for depth, velocity, and pool size (USFWS 2019) while passing the minimum required flows in the bypass (i.e., the sum of the minimum bypass release and discharge from the technical fishway at the dam); additional bedrock modifications may be necessary to extend the operating range during periods of moderate spill.
b. The size of the fishway(s) shall accommodate the anticipated production potential of the Rollinsford impoundment: 21,315 river herring, 2,731 shad, and approximately 500 resident or target species. A standard 4-foot-wide Denil fish ladder is estimated to have an annual biological capacity of 25,000 adult American shad, 12,000 Atlantic salmon, or 200,000 adult river herring (USFWS 2019). Given these capacities, a single 4-foot Denil ladder (or equivalent), installed at a slope of 1:8 (vertical:horizontal) or milder, should be sufficient to pass the design populations of target species.
c. The design elements (e.g., slope, pool/slot size, attraction water) of the fishway(s) shall ensure successful passage of river herring and American shad. The fishway shall operate for the full range of design flows based on the migratory season for each species in accordance with provisions of Section 10.3.
d. The above fishways shall be operational by March 15 of the fourth passage season after license issuance, except as provided for below in Section 10.8.2.

10.8.2. INTERIM TRAP AND TRANSPORT FISH PASSAGE

The above fishways outlined in Section 10.8.1 shall be operational by March 15 of the fourth passage season after license issuance UNLESS within two years of license issuance,

the Licensee has submitted:[145]

a. A request to the Commission for approval of plans to construct facilities necessary to support a trap and truck operation from the South Berwick Project. This facility must be designed to have the capacity necessary to accommodate the anticipated alosine population for the Rollinsford impoundment articulated in Section 10.2, so that fish are moved within 24 hours of reaching the facilities to the extent practicable, fish may pass volitionally into the South Berwick Project impoundment when trapping operations for the trap and transport program are not in progress, and shall include facilities for counting fish that pass through the fishway, whether directly into the impoundment or upstream via trap and truck. Such plans shall be approved by the Service during the conceptual, 30 percent, and 90 percent design stages, prior to submission to the Commission of the 90 percent drawings, with approval not to be unreasonably withheld.
b. For Service approval and Commission approval as necessary, a draft operations and maintenance plan for a trap and transport fish passage program, to begin in the third year after license issuance at the Project. The draft operations and maintenance plan should be provided to the Service one year before trap and transport program operations begin, and be revised, as needed, upon completion of trap construction, and include: details regarding stocking (i.e., GMP will stock over the course of the run), specifically the number and location of fish released into the Rollinsford Project, the Lower Great Falls Project (FERC Project No. 4451), and Somersworth Project (FERC Project No. 3820) impoundments. It will also include provisions for counting fish using the South Berwick Project fishway, with data reported both on a daily basis (real time, daily counts) and annually (annual count), both total and by destination.

Justification

The Salmon Falls River, in the vicinity of the Project, once supported runs of diadromous species including alosines (Odell et al. 2006; Old Berwick Historical Society 2020) and existing FMPs call for restoring access to historical spawning and rearing habitat. Currently, alosines are provided freshwater access to the Salmon Falls River via the South

[145] If the Commission denies a plan to construct facilities necessary to support a trap and truck operation from the South Berwick Project, the Licensee shall implement the upstream anadromous fish passage measures outlined in Section 10.8 items 1-3, as specified in Section 2.2 of the Settlement Agreement.

Berwick Dam at the head-of-tide. Approximately 16,418 river herring passed South Berwick in 2019, and 24,571 river herring passed South Berwick in 2018 (M. Dionne, NHFGD, personal communication, May 22, 2020).

The Upstream Zone of Passage Study (Rollinsford Final License Application, Appendix C) suggests that the areas associated with ZOP-2 and ZOP-3 "…appears to prevent the movement of River Herring and limit the movement of American Shad to the upper portion of the bypass reach, due to excessive water velocity," however alosines have been observed circling in the large pool below Rollinsford Dam (M. Dionne, NHFGD, personal communication, February 21, 2020). These observations verify alosine movement into the upper portion of the bypass reach is not prevented but impacted by this heavily modified section of the River.

The Rollinsford Dam was constructed in 1910, drastically altering the hydraulics of the River. In 1923, the powerhouse and penstock were built, diverting the natural flow around the bypass reach, focusing and returning the diverted water to the tailrace on river right. In addition to these hydrologic changes, the powerhouse itself was built upon the emergent bedrock in ZOP-2 and ZOP-3, constricting the cross-sectional area of the natural river channel. Finally, as noted in Section 1.2.4 of the Final License Application, construction included significant excavation of the tailrace area. These accumulated project effects have altered the natural stage-discharge-velocity relationships in the vicinity of the powerhouse. Prior to construction, the river flow would have engaged both banks over the natural regime of river flow conditions. Now this area experiences only minimum flow through the bedrock chute or spill conditions. More natural conditions would have been characterized by diverse hydraulics and areas of lower velocity, qualities routinely associated with favorable fish passage. To mitigate these project impacts and make the bypass reach more passable, modifications to the emergent bedrock (i.e., a NLF) or a technical fishway is needed. In the interim, however, trap and transport facilities and program, as described in Section 10.8.2, would support alosine restoration efforts in the Salmon Falls River.

Fish passage at Rollinsford, along with the implementation of passage measures at the two dams upstream of Rollinsford (which are currently undergoing relicensing) will provide approximately 13.7 river miles of available habitat to sea run migratory fish in the Salmon Falls River.

10.9. UPSTREAM AMERICAN EEL PASSAGE

a. The Licensee shall construct, operate, and maintain upstream fish passage facilities that provide safe, timely, and effective upstream passage for American eels.
b. In order to determine proper siting of the upstream eelway(s), the Licensee shall conduct an American Eel ramp siting study to be initiated in the 4th year after

license issuance. Based on results of that survey, the Licensee shall, in consultation with the Service and other resource agencies, determine optimal location(s) for siting permanent upstream eelway(s).

c. Permanent eel ladder(s) shall be operational no later than May 1 within 5 years of the effective date of the new license or the second passage season after the completing the siting survey, whichever is later.
d. The upstream facilities shall be designed in consultation with the Service and the resource agencies, and the resource agencies shall review the 30 percent and 90 percent drawings.
e. The designs shall be consistent with the Service's 2019 Fish Passage Engineering Design Criteria Manual (USFWS 2019, entire) or updated version and approved by the Service.

Justification

Dedicated upstream eel passage is necessary to provide access to rearing habitat upstream of the Project throughout the migratory eel passage season. Count data at South Berwick, as well as a study performed as part of this relicensing proceeding (Gomez and Sullivan 2019), document that eels are downstream of Rollinsford Dam. Upstream migrating juvenile eels can be effectively passed at hydroelectric projects (Solomon and Beach 2004, entire).

Because the Project includes a bypass reach that will have a continuous flow, there are two potential areas of attraction for up-migrating eels: in the vicinity of the powerhouse and at the base of the dam. Therefore, more than one eelway may be needed to provide effective passage. The most suitable locations for permanent eelways should rely on empirical data which will be collected during the siting survey.

10.10. DOWNSTREAM AMERICAN EEL PASSAGE

a. Within 3 years of license issuance, The Licensee shall construct, operate, and maintain a downstream eel passage and protection system that provides safe, timely, and effective downstream passage for American eels.
b. Upon license issuance, the Licensee shall implement, as an interim measure, targeted nighttime turbine shutdowns to protect emigrating eels. Turbine shutdowns shall occur from dusk to dawn for three consecutive nights following rain accumulations of 0.50 inch or more over a 24-hour period. Turbine shutdowns should occur during the duration of the downstream eel passage season in accordance with provisions of Section 10.3.
c. Pursuant to the conditions provided herein, the Licensee shall develop a plan to provide permanent downstream eel passage and protection, in conformance with the

Downstream Implementation Schedule specified in Section 10.6.1. The plan, including the design of permanent eel passage facilities and/or operational measures, shall be developed in consultation with, and require approval by, the Service. The designs shall be consistent with the Service's 2019 Fish Passage Engineering Design Criteria Manual (USFWS 2019, entire) or updated version. The Licensee must have the Service's prior approval before filing the final plan with the Commission.

Justification

Dedicated downstream fish passage facilities are necessary to protect diadromous species emigrating past the Project. State-led fisheries surveys as well as an upstream eel passage assessment performed at Lower Great Falls in 2020 (Gomez and Sullivan 2020) indicate that eels are present upstream of the Rollinsford Dam. The eel population inhabiting the River upstream of the Project will increase over time after the upstream eelways become operational. Absent passage and protection measures, out-migrating silver eels will be susceptible to impingement and/or entrainment. Estimated project-specific survival rates indicate eels would sustain high mortality rates should they pass through the Project's turbines (Rollinsford Final License Application, Appendix E, Fish Entrainment and Mortality Study). Facilities and/or measures to provide safe downstream passage for eels are needed as they migrate through the Project on their way back out to sea. Downstream migrating adults and juvenile diadromous fish can effectively be protected from project operation impacts that result in injury and mortality (NMFS 2012; USFWS 2019).

10.11. DOWNSTREAM ANADROMOUS FISH PASSAGE

a. Within 3 years of license issuance, the Licensee shall construct, operate, and maintain a downstream passage and protection system that provides safe, timely, and effective downstream passage for both spent adult and juvenile anadromous fish.
b. Pursuant to the conditions provided herein, the Licensee shall develop a plan to provide permanent downstream alosine passage and protection, in conformance with the Downstream Implementation Schedule specified in 10.6.1. The plan, including the design of permanent downstream passage facilities, shall be developed in consultation with, and require approval by, the Service. The designs shall be consistent with the Service's 2019 Fish Passage Engineering Design Criteria Manual (USFWS 2019, entire) or updated version. The Licensee must have the Service's prior approval before filing the final plan with the Commission.

Justification

Dedicated fish passage facilities are necessary to protect diadromous species emigrating past the Project. Downstream migrating adult and juvenile alosines are exposed to project-

related impacts (Franke et al. 1997). Estimated project-specific survival rates indicate alosines would sustain a high level of entrainment and mortality should they pass through the Project's turbines (Gomez and Sullivan 2019). Unless the Project is in spill, or fish utilize the minimum flow cutout in the flashboards as a means of passage, there is no alternative downstream route of passage. Therefore, facilities to provide safe downstream passage for alosines are needed as they emigrate through the Project on their way back out to sea. Downstream emigrating adults and juvenile diadromous fish can effectively be protected from project operation impacts that result in injury and mortality (NMFS 2012; USFWS 2019).

APPENDIX D

Current Environmental Justice Community Data											
Geographic Area	Total Population	White Alone, not Hispanic (%) [a]	African American/ Black (%) [a]	American Indian/ Alaska Native (%) [a]	Asian (%) [a]	Native HI & Other Pacific Islander (%) [a]	Some Other Race (%) [a]	Two or More Races (%) [a]	Hispanic Origin (any race) (%) [a]	Total Minority Population (%) [a]	Households in Poverty (%) [b]
New Hampshire	1,348,124	90.1%	1.4%	0.1%	2.7%	>0.1%	0.1%	1.8%	3.7%	9.9%	7.9%
Strafford County	129,124	90.6%	0.9%	>0.1%	3.3%	>0.1%	>0.1%	2.5%	2.5%	9.4%	9.9%
Census Tract 0820, Block Group 1	1,616	91.6%	3.9%	0.0%	0.0%	0.0%	0.0%	2.8%	1.6%	8.4%	10.1%
Census Tract 0820, Block Group 2	951	96.4%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	2.3%	3.6%	9.3%
Census Tract 0830.01, Block Group 5	1,758	78.3%	9.2%	0.0%	9.5%	0.0%	0.0%	0.0%	3.0%	21.7%	36.5%
Census Tract 0830.01, Block Group 6	734	92.9%	0.0%	0.0%	2.5%	0.0%	0.0%	4.6%	0.0%	7.1%	6.8%
Census Tract 0830.02, Block Group 5	656	99.5%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	15.4%

Maine	1,335,492	93.2%	1.3%	0.6%	1.1%	>0.1%	>0.1%	2.0%	1.7%	6.8%	12.2%
York County	204,316	94.2%	0.8%	0.4%	1.2%	>0.1%	>0.1%	1.5%	1.7%	5.8%	7.9%
Census Tract 0320, Block Group 1	2,185	91.2%	0.0%	0.0%	0.5%	0.9%	0.0%	3.4%	4.0%	8.8%	0.0%
Census Tract 0320, Block Group 2	2,780	99.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.5%	6.6%
Census Tract 0350, Block Group 1	2,816	88.9%	0.0%	6.4%	2.2%	0.0%	0.0%	2.5%	0.0%	11.1%	2.2%
Census Tract 0350, Block Group 2	2,233	93.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.6%	6.6%	2.0%
Census Tract 0350, Block Group 3	1,392	90.4%	3.2%	0.0%	0.5%	0.0%	0.0%	4.8%	1.1%	9.6%	16.5%
Census Tract 0350, Block Group 4	1,029	81.7%	0.0%	0.0%	7.0%	0.0%	1.7%	2.7%	6.8%	18.3%	7.1%

(Source: Staff).

[a] Percent of Total Population (Table B03002 – Hispanic or Latino Origin by Race. 2019 ACS 5-Year Estimates Detailed Tables. U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates: https://data.census.gov/cedsci/table?d=ACS%205-Year%20Estimates%20Detailed%20Tables&tid=ACSDT5Y2019.B03002). Accessed April 14, 2022.

[b] Percent of Households (Table B17017 – Poverty Status in the Past 12 Months by Household Type and Age of Householder. 2019 ACS 5-Year Estimates Detailed Tables. U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates: https://data.census.gov/cedsci/table?d=ACS%205-Year%20Estimates%20Detailed%20Tables&tid=ACSDT5Y2019.B17017). Accessed April 14, 2022.

Note: Gray shading denotes an Environmental Justice community.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

The Town of Rollinsford, New Hampshire Project No. 3777-011

(Issued June 16, 2022)

DANLY, Commissioner, *concurring*:

1. I concur with today's order[1] issuing the Town of Rollinsford a subsequent license to continue to operate and maintain the Rollinsford Project. I write separately to make two points.

2. First, I write to point out that the Commission finds certain recommendations filed by the Departments of Commerce and the Interior under section 10(j) of the Federal Power Act (FPA) to be "outside the scope" of that section and reclassifies them as having been filed under FPA section 10(a).[2] As I have previously stated,[3] I have misgivings about this practice.

3. Second, I write separately to express my concern about Article 202, which reserves authority for the Commission to impose financial assurance mechanisms without any limiting principle.[4] As I have previously stated,[5] this reservation may have the unfortunate effect of reinforcing uncertainty and limiting licensees' access to the very financing we should seek to encourage. I very much appreciate those who participated in

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[1] *Town of Rollinsford*, 179 FERC ¶ 61,203 (2022).

[2] *Id.* PP 110-17.

[3] *See, e.g.*, *Cornell Univ.*, 176 FERC ¶ 61,186 (2021) (Danly, Comm'r, concurring in part and dissenting in part at P 2).

[4] *See Town of Rollinsford*, 179 FERC ¶ 61,203 at P 148 & Ordering Para. G (listing additional license articles, including Article 202 which provides "The Commission reserves the right to require future measures to ensure that the licensee maintains sufficient financial reserves *to carry out the terms of the license and Commission orders pertaining thereto*.") (emphasis added).

[5] *See, e.g.*, *Pub. Util. Dist. No. 1 of Pend Oreille Cnty.*, 177 FERC ¶ 61,183 (2021) (Danly, Comm'r, concurring at PP 1-3).

Commission staff's technical workshop to discuss financial assurance mechanisms.[6] It is imperative that the Commission take a hard look at our financial assurance requirements and *deliberately* determine what, if any, changes or improvements should be adopted.

For these reasons, I respectfully concur.

_____

James P. Danly
Commissioner

[6] *See Transcript of the Technical Conference on Financial Assurance Measures for Hydroelectric Projects,* Docket No. RM21-9-000 (Apr. 26, 2022).