

191 FERC ¶ 62,021
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Winooski Hydroelectric Company

Project No. 6470-008

ORDER ISSUING SUBSEQUENT LICENSE

(April 9, 2025)

INTRODUCTION

1. On July 30, 2021, Winooski Hydroelectric Company (WHC) filed, pursuant to Part I of the Federal Power Act (FPA),¹ an application for a subsequent license to continue operating and maintaining the 856-kilowatt (kW) Winooski 8 Hydroelectric Project No. 6470 (Winooski 8 Project or project). The project is located on the Winooski River in the towns of East Montpelier and Berlin, in Washington County, Vermont.² The project does not occupy federal land.

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

BACKGROUND

3. The Commission issued the original license for the project on August 29, 1983, with an effective date of August 1, 1983, and an expiration date of July 31, 2023.³ Since the expiration date, WHC has operated the project pursuant to section 16.21 of the Commission's regulations, pending the disposition of its application for a subsequent license.⁴

¹ 16 U.S.C. §§ 791a-825r.

² Because the project is located on a stream over which Congress has jurisdiction under the Commerce Clause; affects interstate commerce through its connection to an interstate power grid; and involves construction after 1935, it is required to be licensed pursuant to section 23(b)(1) of the FPA. *Id.* § 817(1).

³ *Winooski Hydroelectric Co.*, 24 FERC ¶ 62,234 (1983).

⁴ 18 C.F.R. § 16.21 (2024); *See* September 14, 2023 Notice of Authorization for Continued Project Operation.

4. On October 13, 2021, the Commission issued a public notice that was published in the *Federal Register*, accepting the application for filing, and setting December 13, 2021, as the deadline for filing motions to intervene, protests, and comments.⁵ The Vermont Agency of Natural Resources (Vermont ANR) filed a timely, unopposed motion to intervene.⁶ The U.S. Department of the Interior (Interior) filed an untimely notice of intervention on behalf of its component Bureaus, the U.S. Fish and Wildlife Service (FWS) and the Bureau of Indian Affairs on December 14, 2021, which was granted.⁷ None of the intervenors oppose relicensing the project.

5. On January 4, 2023, the Commission issued a public notice that was published in the *Federal Register*, indicating the application was ready for environmental analysis, and setting March 6, 2023, as the deadline for filing comments, recommendations, terms and conditions, and fishway prescriptions, and April 19, 2023, as the deadline for filing reply comments.⁸ On January 4, 2023, Interior filed a reservation of authority to prescribe fishways. On March 3, 2023, Vermont ANR filed comments and recommendations.

6. Pursuant to the National Environmental Policy Act of 1969 (NEPA),⁹ Commission staff issued an environmental assessment (EA) on March 11, 2024, analyzing the effects of the proposed project and alternatives to it, and setting a deadline for comments of April 10, 2024. WHC filed comments supporting Commission staff's recommendations in the EA on April 9, 2024.

⁵ 86 Fed. Reg. 57,820 (Oct. 19, 2021).

⁶ Timely, unopposed motions to intervene are granted by operation of Rule 214(c)(1) of the Commission's Rules of Practice and Procedure. 18 C.F.R. § 385.214(c)(1) (2024).

⁷ See January 6, 2022 Notice Granting Late Intervention.

⁸ 88 Fed. Reg. 1,372 (Jan. 10, 2023). 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) (2024). Because the 60-day filing deadline fell on a Sunday (i.e., March 5, 2023), the filing deadline was extended until the close of business on Monday, March 6, 2023.

⁹ 42 U.S.C. §§ 4321 et seq.; see also 18 C.F.R. pt. 380 (2024) (Commission's regulations implementing NEPA). The Council on Environmental Quality's (CEQ) final rule rescinding its NEPA regulations becomes effective on April 11, 2025. 90 Fed. Reg. 10,610 (Feb. 25, 2025).

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

PROJECT DESCRIPTION AND OPERATION

A. Project Area

8. The Winooski River begins in the town of Cabot and flows in a northwesterly direction for approximately 90 miles to Lake Champlain. The Winooski River watershed has a total drainage area of about 1,080 square miles of which 199 square miles composes the project drainage area. The Winooski 8 Project is located at river mile (RM) 60 on the Winooski River in Washington County, Vermont. Major tributaries contributing flow into the Winooski River include Kingsbury Branch, Little River, Mad River, Dog River, Stevens Branch, North Branch, and Huntington River.

9. There are seven existing FERC-licensed hydroelectric projects, and three non-FERC-licensed projects located on the Winooski River and its major tributaries.¹⁰ The Winooski 8 Project is the sixth hydroelectric dam on the mainstem Winooski River upstream of Lake Champlain.

B. Project Facilities

10. The project dam is a 222.5-foot-long, 26-foot-high concrete gravity dam that consists of a 7-foot-wide gatehouse/left abutment structure, a 148-foot-long spillway section topped with 4-foot-high flashboards, a 24-foot-long crest gate, and the powerhouse which is integral to the dam. The maximum spillway crest elevation is 611 feet when the flashboards are not in place and 615 feet when the flashboards are in place. The dam creates a 4.8-acre impoundment with a storage capacity of 20 acre-feet at an elevation of 615 feet.¹¹

¹⁰ The 10 hydroelectric dams in the Winooski River basin from downstream to upstream are Chace Mill (FERC Project No. 2756, also known as Winooski 1); Gorge No. 18 (non-FERC-licensed); Essex 19 (FERC Project No. 2513); Bolton Falls (FERC Project No. 2879); Waterbury Dam (FERC Project No. 2090); Moretown No. 8 (FERC Project No. 5944); Middlesex No. 2 (non-FERC-licensed); North Branch No. 3 (FERC Project No. 5124, also known as Wrightsville); Winooski 8 (FERC Project No. 6470); and Marshfield No. 6 (non-FERC-licensed, also known as Molly's Falls). Six of the 10 dams are located on the mainstem of the Winooski River while the remaining four are located on major tributaries of the Winooski River.

¹¹ All elevations in this document are based on the National Geodetic Vertical Datum of 1929 (NGVD29).

11. From the impoundment, water passes through a 33.5-foot-wide, 28-foot-high concrete intake structure that is integral with the powerhouse. The full trash rack opening at the project intake is 26-feet-wide by 25-feet-high. There are three separate hydraulically-operated trash racks with 2-inch bar spacing for the three units. Units 1, 2 and 3 measure 6, 8, and 12-feet-wide by 25-feet-deep, respectively. The powerhouse is a 39.5-foot-long by 39.25-foot-wide reinforced concrete structure that contains three generating units: two semi-Kaplan turbine generating units (Units 2 and 3) with a combined capacity of 793 kW (capacity of Unit 2 and Unit 3 is 263 kW and 530 kW, respectively), and one fixed propeller turbine generating unit with a capacity of 63 kW (Unit 1) for a total installed capacity of 856 kW. Flows from Unit 1 discharge parallel to the dam. Units 2 and 3 discharge into a 100-foot-long, 25-foot-wide tailrace that is separated from the Winooski River by an 8-foot-high concrete wall, creating an approximate 100-foot-long bypassed reach.

12. Power from the project is transmitted to a 1,000-kilovolt-amp station transformer located at the left (north) abutment approximately 10 feet from the powerhouse. An underground transmission line runs approximately 10 feet from the station transformer to an aboveground pole owned by WHC which interconnects with Green Mountain Power's regional distribution system. Access to the powerhouse is via a 10 to 12-foot-wide, 4,100-foot-long dirt access road (i.e., PowerPlant Road) that begins at Gallison Hill Road and runs adjacent to the river before ending at the powerhouse.

13. The current project license does not require the project to provide any recreation facilities. However, there is an informal boat take-out along the shore of the project impoundment and an informal whitewater boating put-in and tailwater fishing access area located below the dam. The take-out and put-in are connected by a canoe portage that uses PowerPlant Road, a road also currently used by WHC to access the dam and powerhouse.¹² WHC owns both access locations along with PowerPlant Road, but the recreation sites are currently not maintained by WHC or other entities.

C. Project Boundary

14. The current project boundary encloses about 7.29 acres, which includes the impoundment, the dam, the powerhouse, certain transmission facilities, and other appurtenant project facilities.

15. WHC proposes to expand the project boundary to include the 4,100-foot-long PowerPlant Road used by WHC to access the dam and powerhouse; the boat take-out, boat put-in, canoe portage and trail with wooden steps leading down to the put-in; and the

¹² There is no designated parking for public use of these areas, but WHC allows parking at an informal pull-off from PowerPlant Road near the put-in that provides unimproved spaces for approximately three vehicles. EA at 42.

aboveground pole owned by WHC that interconnects the project transmission line with Green Mountain Power's regional distribution system. The proposed changes would add 3.56 acres of WHC-owned land to the project boundary for a total of 10.85 acres.

D. Current Project Operation

16. The project currently operates in an automatic run-of-river mode where outflow approximates inflow. WHC monitors impoundment levels via a water level sensor located in the forebay upstream of the trash racks and automatically adjusts flow through its turbines to maintain the project impoundment water level at an elevation of 615 feet. WHC releases a year-round minimum flow of 25 cubic feet per second (cfs), or inflow if less, into the bypassed reach through Unit 1 or via spill if Unit 1 is not operational.

17. The hydraulic operating range of the turbine units are 25 to 36 cfs for Unit 1, 20 to 139 cfs for Unit 2, and 24 to 272 cfs for Unit 3. When inflow is below the required 25-cfs minimum bypassed flow, the project shuts down and all flow is spilled over the flashboards. When inflow is at 25 cfs or above, WHC sets Unit 1 in a fixed position to discharge the required 25 cfs into the bypassed reach at the base of the dam. Once inflows reach 45 cfs, WHC starts generating using Unit 2 at 20 cfs while still maintaining 25 cfs through Unit 1. As flows increase, WHC adjusts flow through Units 2 and 3 until both are operating at their maximum capacities, at which point the total flow in the river is 436 cfs. When inflow exceeds 436 cfs, the impoundment water level rises above 615 feet and water begins spilling over the flashboards.¹³ When the water level exceeds 615.8 feet, the crest gate automatically opens (i.e., the gate is lowered) to pass up to 800 cfs of additional flow to help maintain the impoundment at an elevation of 615.8 feet.¹⁴ When the water level drops back below 615.2 feet, the crest gate automatically begins to close (i.e., it rises) as needed to maintain the impoundment level at 615 feet. Under high flow conditions when the impoundment level reaches 617 feet (i.e., 2 feet above the top of the flashboards) and inflows are approximately 2,500 cfs, the flashboards on top of the

¹³ While the maximum hydraulic capacity of the three turbines in the powerhouse is 447 cfs, WHC states that it does not operate Unit 1 at maximum hydraulic capacity, but instead, keeps Unit 1 at a fixed 25-cfs setting. Thus, under existing conditions, spill over the dam occurs once flows rise above 436 cfs (i.e., the sum of 25 cfs through Unit 1; 139 cfs through Unit 2; and 172 cfs through Unit 3) rather than once flows rise above 447 cfs. *See* Jan. 9, 2024 Telephone Memorandum.

¹⁴ WHC states the amount of flow that can pass through the crest gate varies depending on the headwater elevation. For instance, under normal pool elevation when the flashboards are in place, up to 800 cfs can pass through the gate. During flood conditions with the flashboards removed, up to 2,000 cfs can pass through the crest gate.

dam begin to fail.¹⁵ Complete flashboard failure occurs when inflows reach approximately 8,900 cfs. When the impoundment level is at 617 feet or greater, the turbine units are typically not operated due to large amounts of debris that can collect on the intake trash racks. In these instances, all flow is passed through the crest gate and over the spillway.

18. WHC regularly draws down the impoundment to an elevation of 610.8 feet (0.2 feet below the spillway crest) once or twice a year to repair/replace the flashboards. Repairing and/or replacing the flashboards usually occurs following winter ice-out in late March or April and following a high precipitation storm or flood event and takes approximately one or two days to complete. WHC draws down the impoundment by increasing generation flows above inflow rates, during a time when streamflow conditions allow, which is typically when project inflows are below 200 cfs. When the repairs are completed, WHC maintains the 25-cfs minimum flow in the bypassed reach through Unit 1 but uses the “extra” inflow to refill the impoundment before resuming typical run-of-river operation.¹⁶

19. WHC regularly dredges the area in front of the intake every three to six weeks in the winter to remove sediment and debris. WHC uses a long-reach backhoe to dredge the intake area from the riverbank. WHC states that typical dredging in front of the intake does not require the impoundment to be lowered below the flashboard crest elevation. If the impoundment has an abnormal amount of sediment deposition, WHC consults with Vermont ANR and develops a plan for dredging further into the impoundment. Typically, during these larger dredge events, the impoundment water level is lowered to approximately 610 feet, and only the exposed sediment above an elevation of 610 feet is removed using a long-reach backhoe. Drawdowns for these dredges last approximately one week and occur every three to five years, usually taking place in September or October when weather and flow conditions are typically safest to conduct the work.

20. WHC states that the only other time a drawdown occurs is to inspect the dam and crest gate, which typically occurs during September or October and is planned to coincide with the larger impoundment dredge. All dredged sediment is stored onsite, within a sand berm established between the dredged pile and the river for containment. The stored material (i.e., sand/silt) is then screened by the Road Commissioner of either the town of Plainfield or Marshfield and removed later by trucks for fill offsite.

¹⁵ WHC states that the wooden flashboards are held in place with steel pins. They do not fail all at once, but segments fall off as the inflows increase and the impoundment level fluctuates around 617.0 feet.

¹⁶ WHC states that it tries to use 10 percent of the river inflow to refill the impoundment while the remainder is passed through the turbine units.

21. The project generates an average of 3,507 megawatt-hours (MWh) per year.

E. Proposed Operation and Environmental Measures

22. To protect water quality and aquatic resources in the impoundment and downstream, WHC proposes to continue operating the project in a run-of-river mode in which, the sum of flows immediately downstream of the powerhouse tailrace approximates the sum of inflow to the project. WHC also proposes to maintain the impoundment at an elevation of 615 feet or higher as needed to provide the proposed aesthetic spill flows discussed further below. Following a reservoir drawdown, WHC would continue to store 10 percent of the inflow until the impoundment increases to the normal operating level of 615 feet.

23. To minimize adverse effects to water quality and aquatic resources in the impoundment and downstream due to routine maintenance dredges, WHC proposes to implement the draft Sediment Dredging Management Plan filed with the license application that includes provisions to: (1) notify Vermont ANR prior to conducting any dredging activity, estimate the duration of the dredge (including start and end date), and estimate river flows during the planned dredging operation; (2) conduct all dredging using a backhoe with a long-reach bucket from the shoreline rather than placing equipment in the water, and only remove sediment that is above the water line when the impoundment is drawn down to minimize the amount of sediment that is re-suspended in the water column; (3) stockpile the dredged material in an upland site, and install temporary silt fences around the stockpile to prevent runoff to the river; and (4) notify Vermont ANR upon the completion of the dredge, remove silt fences, and haul the dredge material offsite after the dredge pile has sufficient time to drain.

24. To enhance water quality and aquatic habitat in the bypassed reach and enhance aesthetics at the dam during the summer recreation season, WHC proposes to increase the minimum flow in the bypassed reach from a year-round 25 cfs to 36 cfs or inflow, if less, from November 1 to April 30 and to 41 cfs during the daytime and 36 cfs at night, or inflow if less, from May 1 to October 31. WHC would provide the 36- or 41-cfs minimum flows via a combination of discharges through Unit 1 and spill. From May 1 to October 31, WHC would provide aesthetic flows by spilling 16 cfs (i.e., equal to 1 inch of spill over the spillway crest flashboards) during the daytime and 11 cfs (equal to 0.5 inch of spill over the spillway crest flashboards) at night with the remainder of the minimum flow being provided through Unit 1.¹⁷ If inflow drops below proposed

¹⁷ WHC defines “daytime” as beginning one half hour before sunrise and extending one half hour after sunset. Thus, staff estimated in the EA that WHC would provide its daytime aesthetic spill flows (i.e., 16 cfs) during the following hours (based on Eastern Standard Time or Daylight Savings Time) per month: May (4:56am to 8:42pm); June (4:38am to 9:08pm); July (4:53am to 9:04pm); August (5:26am to

minimum flow levels during this period, WHC would prioritize maintaining aesthetic spill flows over the dam rather than discharging flows through Unit 1.¹⁸ For the remainder of the year (i.e., November 1 through April 30), WHC would provide 36 cfs or inflow, if less, through Unit 1. If Unit 1 is not operational at any point during the year, WHC would provide all minimum flows via spill.

25. To protect freshwater mussels in the impoundment during an impoundment drawdown, WHC proposes to survey for mussels during the first planned maintenance drawdown of the impoundment, identify and relocate any mussels found during the survey to deeper water, and file a summary report of the findings to Vermont ANR and the Commission within 120 days of the survey.¹⁹ If no mussels are detected, WHC would cease further mussel surveys during future drawdowns. If mussels are found during the initial survey, WHC would conduct additional surveys during maintenance drawdowns to re-locate any potentially exposed mussels to deeper water.

26. To enhance recreation, WHC proposes to: (1) install an interpretive display and overlook near the powerhouse that would describe the hydropower facility and the history of the site; (2) add gravel or similar substrate to improve the informal parking area located along PowerPlant Road near the whitewater boating put-in and tailwater fishing access area; (3) develop a map and promotional guide describing project recreation opportunities; and (4) monitor and maintain the recreation facilities associated with the project (the boating take-out, whitewater boating put-in and tailwater fishing access area, portage, trail with wooden steps leading down to the put-in, improved parking area along PowerPlant Road, and proposed interpretive display and overlook); and (5) enclose all these features within the project boundary.

27. To protect cultural resources, WHC proposes to continue to consult with the Vermont Division of Historic Preservation (Vermont SHPO)²⁰ before beginning any

8:27pm); September (6:02am to 7:32pm); and October (6:38am to 6:37pm). WHC would provide its proposed nighttime aesthetic flows (i.e., 11 cfs) the remainder of the time during these months. EA at 11-12.

¹⁸ WHC states that aesthetic spill flows cannot be provided during maintenance drawdowns of the project impoundment as all water would be passed through the powerhouse in these cases.

¹⁹ The survey would consist of lowering the impoundment to the lowest expected drawdown needed for maintenance, which staff interprets to mean that the mussel survey would coincide with lowering the impoundment to a level of 610 feet which is the water level sought when conducting a larger dredge or when inspecting the dam and crest gate. EA at 12.

²⁰ The Vermont Division of Historic Preservation is the State Historic Preservation

land-disturbing activities or alterations to known historic structures within the project boundary.

SUMMARY OF LICENSE REQUIREMENTS

28. This license, which authorizes 856 kW of renewable energy generation capacity, includes the conditions required by the Vermont Department of Environmental Conservation's (Vermont DEC)²¹ water quality certification (certification) (Appendix A), requires most of the proposed measures listed above (except where superseded by the certification conditions as described below), and requires the staff-recommended measures described below. Combined, these measures will protect aquatic resources, terrestrial resources, water quality, threatened and endangered species, recreation and aesthetic resources, and cultural resources at the project.

29. To avoid elevating turbidity levels in the Winooski River downstream of the dam and powerhouse during sensitive spawning and egg incubation periods for rainbow trout, this license requires that WHC conduct planned impoundment dredging in areas other than directly in front of the intake during the months of July, August, and September.

30. To comply with Vermont DEC certification condition B, this license requires that WHC provide 39 cfs, or inflow if less, into the bypassed reach year-round and to maintain 1.0 inch of spillage during daylight hours and 0.5-inch of spillage during nighttime hours continuously year-round over the dam unless otherwise indicated in the flow management and monitoring plan required by Vermont DEC certification condition C instead of WHC's proposed minimum and spill flows.

31. To verify compliance with the license's operational requirements, this license requires that the flow management and monitoring plan required by certification condition C include details on the flow and impoundment elevation monitoring equipment; a provision to maintain a log of project operation; specific impoundment water elevations that provide the required daytime and nighttime spill flows; protocols for reporting deviations from the operating requirements to the Commission; and WHC to file the flow management and monitoring plan, for Commission approval, prior to implementing the plan.

32. To protect freshwater mussels when drawing down the impoundment for maintenance, this license requires WHC to develop a mussel protection plan in

Office (SHPO).

²¹ Vermont DEC is a department within Vermont ANR, the administering authority for Vermont's Water Quality Certification program. Vermont DEC is responsible for issuing the certification.

consultation with Vermont ANR that contains: (1) a schedule and methods for surveying for mussels during planned drawdowns of the impoundment below an elevation of 610.7 feet²² as required by Vermont DEC certification condition H; (2) procedures for safely collecting and handling mussels found within the maintenance fluctuation zone and transporting them to deeper waters; and (3) provisions to notify the Commission of the survey results instead of basing the need for future mussel surveys on the results of the first planned drawdown.

33. To prevent maintenance debris from accumulating at the project and degrading water quality, this license requires WHC to develop a debris disposal plan.

34. To protect northern long-eared bats and tricolored bats, this license requires WHC to avoid clearing trees equal to or greater than 3 inches diameter at breast height on project land from April 15 to October 31 and if tree clearing needs to occur during this period, consult with FWS and Vermont Fish and Wildlife Department (Vermont FWD) regarding the removal. It also requires WHC to avoid trimming trees of any size during this period to protect tricolored bats.

35. To enhance recreation and public access at the project, this license requires WHC to develop a recreation management plan, consistent with Vermont DEC certification condition D, that includes: (1) a plan and schedule for maintenance and monitoring of all project recreation facilities (the boating take-out, whitewater boating put-in and tailwater fishing access area, portage route, parking area, trail with wooden steps leading down to the put-in from PowerPlant Road, interpretive display and overlook); (2) a plan and schedule for installing the interpretive display and overlook and improving the parking area; (3) a plan and schedule for installing signage directing users to the project recreation facilities; (4) a description of the type and location of the project recreation facilities; and (5) a map or site plan showing the location of the project recreation facilities in relation to the project boundary.

36. To protect historic properties, this license requires WHC to: (1) evaluate the project powerhouse and associated facilities when they become 50 years old in 2035 and develop a Historic Properties Management Plan if they are found eligible for inclusion in the National Register of Historic Places (National Register); and (2) stop all land-clearing and land-disturbing activities, consult with the Vermont SHPO, and prepare a plan to avoid or mitigate effects on cultural resources, if any unidentified cultural resources are found during the term of the license instead of WHC's proposal to consult with the

²² The water quality certification refers to a water elevation of 610.7 feet mean sea level (msl). However, on March 31, 2025, Vermont DEC clarified that all references in the certification to msl should read NGVD29. See April 1, 2025 Memorandum.

Vermont SHPO before beginning any land-disturbing activities or alterations to known historic structures within the project boundary.

WATER QUALITY CERTIFICATION

37. Under section 401(a)(1) of the Clean Water Act (CWA),²³ 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 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 for the project.²⁴

38. On March 6, 2023, WHC applied to Vermont DEC for a certification for the project. On March 6, 2023, Vermont DEC confirmed that WHC's application was received. On February 21, 2024, Vermont DEC issued a certification for the project with 12 conditions, which are set forth in Appendix A of this order and are incorporated into the license by ordering paragraph (E).

39. On March 22, 2024, WHC filed a copy of its appeal of certain water quality certification conditions. Additionally, on June 20, 2024, WHC filed a letter requesting that the Commission "stay its process for issuing a final license until this appeal is resolved." On September 23, 2024, WHC withdrew its appeal.

40. Four of the certification conditions (conditions A, J, K, and L) are general or administrative in nature and are not discussed further.

41. The remaining eight certification conditions require WHC to:

- (1) Operate the project in an instantaneous run-of-river mode where outflow from the project equals inflow except for short-term unavoidable deviations; provide 39 cfs, or inflow if less, into the bypassed reach year-round; when generating, provide 1 inch of spillage in daylight hours (defined as one half hour before sunrise to one half hour after sunset) and 0.5-inch of spillage during nighttime hours continuously year-round in the bypassed reach unless otherwise indicated in the flow management and monitoring plan; and when not generating, spill all inflow over the dam (condition B).
- (2) Develop a flow management and monitoring plan that: (1) details how the project will operate in an instantaneous run-of-river mode while managing flow

²³ 33 U.S.C. § 1341(a)(1).

²⁴ *Id.* § 1341(d).

seasonally to comply with the “conservation flow” requirements;²⁵

(2) includes a method for continuous monitoring and reporting of project flow releases upon request (i.e., conservation flow, spillage, and turbine discharge), impoundment levels, and inflows; (3) includes a provision to maintain flow data so that it is available on a “near real-time basis”; and (4) includes procedures for reporting deviations from operating requirements to Vermont DEC within 15 days of the deviation (condition C).

(3) Develop a recreation plan that provides additional details on a schedule for implementing WHC’s recreation proposal, including a maintenance schedule for recreation sites (condition D).

(4) Dispose of debris associated with project operation in accordance with state laws and regulations (condition E).

(5) Notify and receive approval from Vermont DEC prior to conducting any project maintenance or repair work that has the potential to have an adverse effect on water quality, other than those activities described in the sediment management plan (condition F).

(6) Avoid the clearing of any trees that are 3-inches diameter breast height or greater between April 15 and October 31 to avoid disturbing any roosting northern long-eared bats. If tree clearing is required within the restricted timeframe, consult with FWS and Vermont Fish and Wildlife Department (condition G).

(7) Have a mussel expert survey the impoundment and shoreline areas to locate, identify, and relocate any mussels, with a specific focus on state threatened or endangered mussels during a planned drawdown that falls below 610.7 feet and provide a summary report to Vermont ANR within 120 days of the survey (condition H).

(8) Finalize a sediment dredging management plan in consultation with, and receive approval from, Vermont ANR (condition I).

²⁵ Vermont DEC does not define the term “conservation flow” in the certification. However, staff interprets “conservation flow” to mean the certification’s 39-cfs year-round minimum bypassed reach flow requirement.

COASTAL ZONE MANAGEMENT ACT

42. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),²⁶ the Commission cannot issue a license for a project within or affecting a state's coastal zone unless the state certifying 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 receipt of the applicant's certification.

43. The State of Vermont does not have a Coastal Zone Management Program. Therefore, a CZMA consistency review is not required.

SECTION 18 FISHWAY PRESCRIPTIONS

44. Section 18 of the FPA²⁷ 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.

45. On January 4, 2023, Interior filed a letter requesting that the Commission include a reservation of authority to prescribe fishways under section 18 in any license issued for the project. Consistent with Commission policy, Article 407 of this license reserves the Commission's authority to require fishways that may be prescribed by Interior for the Winooski 8 Project.

THREATENED AND ENDANGERED SPECIES

46. Section 7(a)(2) of the Endangered Species Act of 1973 (ESA)²⁸ 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.

47. Based on the FWS's Information for Planning and Consultation (IPaC) website,²⁹ the federally endangered northern long-eared bat and the monarch butterfly, a species proposed for listing as a threatened species on December 12, 2024,³⁰ may occur near the project. In addition, Commission staff identified the federally proposed endangered

²⁶ 16 U.S.C. § 1456(c)(3)(A).

²⁷ 16 U.S.C. § 811.

²⁸ 16 U.S.C. § 1536(a).

²⁹ See IPaC, FWS, <https://ipac.ecosphere.fws.gov/> (last accessed April 1, 2025).

³⁰ 89 Fed. Reg. 100,662 (Dec. 12, 2024).

tricolored bat as a species that has the potential to occur within the project area based on its wide range.³¹ There is no proposed or designated critical habitat for either bat species or the monarch butterfly in the project area.

48. In the EA,³² Commission staff determined that the northern long-eared bat and tricolored bat could be affected by project maintenance, such as any tree removal and trimming. Commission staff recommended avoiding the trimming of trees of any size and the removal of trees with diameters equal to or greater than 3 inches at breast height from April 15 to October 31 to minimize the adverse effects of project maintenance on listed bat species.

49. With a seasonal tree removal and trimming restriction measure in place, staff concluded that relicensing the project may affect, but is not likely to adversely affect, the northern long-eared bat, and would not jeopardize the continued existence of the tricolored bat.³³ On March 13, 2024, Commission staff requested FWS's concurrence with its determination for the northern long-eared bat. On April 17, 2024, FWS concurred with staff's determination for the northern long-eared bat.³⁴ Vermont DEC's certification condition G (Appendix A) requires avoiding seasonal tree clearing between April 15 and October 31. Should tree clearing be required during the restricted time (April 15 - October 31), condition G requires WHC to consult with the FWS and Vermont FWD to protect roosting northern long-eared bats.

50. Article 408 extends the protections to include tree trimming of any size trees during the restricted time because of the variety of roosting habitat used by the tricolored bat. No further action under the ESA is required for these species.

51. Commission staff also concluded that continued operation of the project would not jeopardize the continued existence of the monarch butterfly because there is no information in the record to indicate that maintenance activities would potentially remove

³¹ The range of tricolored bats includes all, or portions of 39 states, including all of Vermont. Therefore, staff determined that tricolored bats may also occur within the project boundary. EA at 38.

³² EA at 38-42.

³³ *Id.* at 41-42.

³⁴ See April 17, 2024 FWS Letter.

or degrade monarch butterfly habitat (e.g., milkweed species).³⁵ Therefore, no further action is required under the ESA for this species.³⁶

HISTORIC AND CULTURAL RESOURCES

A. National Historic Preservation Act

52. Under section 106 of the National Historic Preservation Act (NHPA)³⁷ and its implementing regulations,³⁸ 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 (Advisory Council) 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.

53. On September 21, 2018, Commission staff designated WHC as its non-federal representative for the purposes of conducting section 106 consultation. WHC did not identify any cultural resources in, or adjacent to the project area, that are currently listed or eligible for listing on the National Register. In a letter filed on January 15, 2019, the Vermont SHPO stated that there are no known cultural resource issues at the project. The Vermont SHPO also stated that the powerhouse and associated facilities would become 50 years old during the term of the proposed license and that a provision would be needed to evaluate the hydroelectric facility in 2035 for National Register eligibility. In the EA, Commission staff concluded that relicensing the project would not affect any historic properties.³⁹ To protect any newly discovered cultural resources, Article 410 requires WHC to stop work and consult with the Vermont SHPO if previously unidentified archaeological or cultural artifacts are discovered during project-related construction,

³⁵ See EA at 42.

³⁶ For species proposed for listing, a federal agency must confer with FWS only when the agency determines that its action would likely jeopardize the continued existence of the proposed species or destroy or adversely modify proposed critical habitat. 16 U.S.C. § 1536(a)(4).

³⁷ 54 U.S.C. § 306108.

³⁸ 36 C.F.R. pt. 800 (2024).

³⁹ EA at 51.

operation or other activities that require land disturbance. Article 411 requires WHC to evaluate the hydroelectric facility in 2035 for National Register eligibility.

B. Tribal Consultation

54. On July 31, 2018, WHC provided the notice of intent (NOI) and pre-application document (PAD) for the project's relicensing to state-recognized Tribes⁴⁰ and the federally recognized Stockbridge Munsee Community, Wisconsin,⁴¹ for review and comment.

55. Commission staff initiated consultation with the Stockbridge Munsee Community, Wisconsin, and the Saint Regis Mohawk Tribe by a letter issued August 22, 2018.⁴² Staff followed up by calling and leaving messages with both Tribes multiple times.

56. WHC provided the final license application to the Tribes identified above for review and comment. The Tribes did not provide comments on the final license application.

57. The above Tribes did not respond to Commission staff's initial consultation letter or follow-up phone calls, file any comments in the record of the proceeding, or request additional studies.

RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES PURSUANT TO SECTION 10(J) OF THE FPA

56. Section 10(j)(1) of the FPA⁴³ requires the Commission, when issuing a license, to include conditions based on recommendations submitted by federal and state fish and

⁴⁰ WHC provided the documents to the Elnu Tribe of the Abenaki, Nulhegan Band of the Coosuk Abenaki Nation, Traditional Koasek Abenaki Nation of the Koas, and Abenaki Nation at Mississquoi.

⁴¹ The Stockbridge Munsee Community, Wisconsin, were formerly known as the Stockbridge-Munsee Band of Mohican Indians.

⁴² Although there are no federally recognized Tribes in Vermont, according to the U.S. Department of Housing and Development Tribal Directory Assessment Tool, the Stockbridge Munsee Community, Wisconsin, and the Saint Regis Mohawk Tribe may have ancestral interest in the project area despite where they reside today. Therefore, staff offered to consult with these Tribes.

⁴³ 16 U.S.C. § 803(j)(1).

wildlife agencies pursuant to the Fish and Wildlife Coordination Act,⁴⁴ to “adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)” affected by the project.

57. No section 10(j) recommendations were filed.

SECTION 10(a)(1) OF THE FPA

58. Section 10(a)(1) of the FPA⁴⁵ 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, mitigation, and enhancement of fish and wildlife; and for other beneficial public uses, including irrigation, flood control, water supply, recreation, and other purposes.

A. Minimum Bypassed Reach Flow and Aesthetic Spill Flows

59. Currently, most of the flow in the bypassed reach is discharged through WHC’s Unit 1, which is set to discharge 25 cfs, or inflow if less, year-round. WHC proposes to increase minimum flows in the bypassed reach through a combination of discharge through Unit 1 and spill over the dam to enhance aesthetics and aquatic habitat in the bypassed reach during the summer and fall recreation season. Specifically, WHC proposes to maintain a minimum flow of 41 cfs in the bypassed reach during daytime hours from May 1 through October 31 by discharging 25 cfs through Unit 1 while also maintaining a 1.0-inch spill (equating to 16 cfs) over the dam to enhance aesthetic views during the prime recreation season. During nighttime hours from May 1 through October 31, WHC would provide 36 cfs in the bypassed reach by discharging 25 cfs through Unit 1 while also maintaining a 0.5-inch spill (equating to 11 cfs) over the dam. If inflow drops below proposed minimum flow levels during this period, WHC would prioritize spill flows over the dam rather than discharging flows through Unit 1. During the remainder of the year (i.e., November 1 through April 30), WHC would release 36 cfs in the bypassed reach through Unit 1 (the maximum hydraulic capacity of the turbine) or via spill if Unit 1 is not operational. WHC objects to spilling water after October 31 when Unit 1 is operational because ice build-up on the flashboards prevents WHC from being able to maintain adequate spill over the dam.⁴⁶

⁴⁴ *Id.* §§ 661 *et seq.*

⁴⁵ *Id.* § 803(a)(1).

⁴⁶ EA at 24.

60. However, certification condition B (Appendix A) requires that WHC maintain a continuous year-round 39-cfs minimum flow in the bypassed reach. Condition B also requires that WHC spill 1 inch over the dam in daylight hours and 0.5 inches during nighttime hours continuously year-round in the bypass reach unless otherwise indicated in the flow management and monitoring plan (condition C). Vermont DEC reasons that a minimum flow of 39 cfs provides “high-quality aquatic habitat” by maintaining at least 80 percent of the maximum available suitable habitat for all target resident fish species and life stages and would support the aesthetics designated use year-round.

61. In the EA,⁴⁷ Commission staff did not recommend maintaining continuous spill flows over the dam year-round or releasing a minimum flow of 39 cfs year-round as required by the certification. This is because there would be very little recreational or aesthetic benefit of spilling water over the dam outside the recreation season (May through October) or at night, there would be a minor increase fish habitat during the winter and at night under Vermont DEC’s 39-cfs minimum flow but the overall benefits to resident fish would be similar to WHC’s proposed flows,⁴⁸ and there would be very little improvement in water quality at night and during late fall and winter from continuously spilling.⁴⁹ Also, staff determined that providing continuous spill flows during the winter months would likely be problematic as the impoundment is typically frozen and any associated ice formation on the flashboards and dam crest resulting from a spillage flow, could interfere with the proper operation of the dam and more frequent flashboard failures.

62. Staff estimates that WHC’s flow and spill proposal would reduce generation by approximately 120 MWh per year compared to existing conditions, while the certification requirements would reduce generation by approximately 206 MWh per year compared to existing conditions.

63. Instead of maintaining spill flows year-round, staff recommended a 1.0-inch spill (i.e., 16 cfs) be maintained during daylight hours only during the recreation season of May 1 through October 31. Further, staff recommended WHC maintain its proposed daytime minimum flow of 41 cfs in the bypassed reach from May 1 through October 31 (consisting of the aforementioned 16 cfs of spill and 25 cfs released through Unit 1) and

⁴⁷ *Id.* at 64-65.

⁴⁸ WHC’s proposed minimum and spill flow proposal would result in 77-80 percent of the maximum suitable habitat for resident fish being maintained in the bypassed reach depending on the season compared to at least 80 percent maximum suitable habitat being maintained in bypassed reach consistently throughout the year under the 39-cfs minimum flow required by the certification.

⁴⁹ EA at 26-27.

to maintain its proposed minimum flow of 36 cfs (rather than 39 cfs) the remainder of the year by releasing the full 36 cfs flow through Unit 1 (rather than having a portion of the flow be spilled) during these months. Commission staff determined that its recommendations would provide similar aquatic benefits compared to both WHC and Vermont DEC's proposals, would maintain a more aesthetically pleasing view of the dam to visitors and those boating in the river below the dam during the prime recreation season, and would avoid continuously spilling during the coldest months when icing could interfere with the proper operation of the dam and result in more frequent flashboard failures. Commission staff's recommendations would reduce generation by approximately 73 MWh per year compared to existing conditions, meaning that it would allow for 47 more MWh per year of generation compared to WHC's proposal and 133 more MWh per year of generation compared to certification condition B. Of the alternatives considered, Commission staff concluded in the EA that staff's recommended alternative strikes the appropriate balance between using flows for aesthetic and aquatic habitat benefits and using flows for project generation. However, the minimum flow and spill requirements of certification condition B are required because it is mandatory under section 401(a) of the CWA.

B. Operation Compliance Monitoring

64. WHC does not propose any formal measures for monitoring and reporting compliance with its proposed operating mode (i.e., run-of-river operation, maintaining impoundment levels, and implementing minimum flows and spill flows). WHC indicates that its automated system is capable of logging impoundment water surface elevations and powerhouse flow levels in real-time and that it could easily report the data as needed.⁵⁰ Certification condition C (Appendix A) requires that WHC include as part of a flow management and monitoring plan a method for continuous monitoring and reporting of flow releases at the project (including minimum flows, turbine discharge, and spill), impoundment levels, and inflows; that the plan include provisions for the flow data to be available on a near real-time basis; and that the plan include procedures for reporting deviations from operating requirements to Vermont DEC within 15 days of the deviation but does not require that the deviations be reported to the Commission.

65. Typically, to reduce the reporting burden, licenses require licensees to report unplanned deviations that last less than 3 hours and do not result in any observable environmental effects in a yearly report. The Commission is notified of deviations that last longer than 3 hours or result in observable environmental effects within 14 days, which does not conflict with the certification requirements. Therefore, in addition to notifying the Vermont DEC in the manner required by the certification, Commission staff

⁵⁰ See Jan. 9, 2024 Telephone Memorandum.

recommended in the EA⁵¹ that WHC notify the Commission within 14 days of deviations lasting longer than 3 hours or resulting in observable environmental effects and to include in a yearly report, deviations lasting less than 3 hours and not resulting in any observable environmental effects. Commission staff also recommended that the flow management and monitoring plan identify the specific impoundment elevations needed to maintain the certification's required spill flows, describe the flow and impoundment elevation monitoring equipment, include a provision to maintain a log of project operation, and that the plan be provided to the Commission for review and approval prior to implementation. Staff estimated that the annual levelized cost of developing the flow management and monitoring plan with the above provisions would be \$1,444 and concluded that the compliance benefits outweigh the cost.

66. Article 402 requires that WHC file the flow management and monitoring plan required by certification condition C, for Commission approval, and include staff's recommended monitoring provisions in the plan. Article 403 also requires WHC to report deviations from operating requirements to the Commission in addition to Vermont DEC.

C. Mussel Protection

67. To minimize impacts to state-listed Eastern pearlshell mussels during maintenance drawdowns of the impoundment, WHC proposes to have a mussel expert walk the impoundment shoreline to locate, identify, and relocate any mussels found during the first planned maintenance drawdown and file a summary report of the findings to Vermont ANR and the Commission within 120 days of the survey. WHC states it would draw the impoundment down to the lowest level typically needed (presumably 610 feet)⁵² when conducting the survey. If no mussels are detected, WHC would not conduct any subsequent mussel surveys during future drawdowns. If mussels are found during the initial survey, WHC would continue to survey for mussels during subsequent maintenance drawdowns.

68. Certification condition H (Appendix A) requires WHC to conduct mussel surveys during all planned drawdowns that fall below 610.7 feet to account for the possibility that

⁵¹ EA at 66.

⁵² WHC states it regularly draws down the impoundment to an elevation of 610.8 feet (i.e., 4.2 feet below the top of the flashboards) once or twice a year for one or two days to repair/replace the flashboards following a high precipitation storm or flood event and also draws the impoundment down to approximately 610 feet (i.e., 5 feet below the top of the flashboards) every 3-5 years for approximately one week in the late summer or early fall months to remove excess sediment accumulation in the impoundment. *Id.* at 9-10.

mussels may extend their geographic extent within the impoundment over the next licensing term.

69. In the EA,⁵³ Commission staff noted that WHC's mussel survey of the impoundment in August of 2019 identified one live adult Eastern pearlshell mussel (a state-listed species that is of management concern) and two large Eastern pearlshell shells in the upper reach of the impoundment within the maintenance fluctuation zone. Staff determined that given the low abundance of mussels in the project impoundment, WHC's well-established operating limits over the last 40 years, and because adult Eastern pearlshell mussels rarely move more than a few meters in their entire 100-year or more lifespan, finding additional mussels in the impoundment during future surveys is unlikely. Therefore, staff concluded in the EA⁵⁴ that the need for and benefit of requiring future surveys during every maintenance drawdown event below 610.7 feet (potentially every third year) at an estimated levelized annual cost of \$4,347 would be minimal and would not justify the cost. Staff recommended instead that the mussel protection plan include criteria for adjusting the frequency and need for surveys based on the survey results. Nevertheless, certification condition H (Appendix A), which requires that WHC continue to conduct mussel surveys during all planned drawdowns that fall below 610.7 feet, is included in the license because it is mandatory under section 401(a) of the CWA.

70. Neither WHC's proposal nor certification condition H identify specific mussel collection or handling protocols that would be followed when re-locating mussels. In the EA,⁵⁵ staff recommended including safe collection and handling protocols as part of a mussel protection plan. Article 404 requires WHC to develop a mussel protection plan in consultation with Vermont ANR, and file the plan, for Commission approval. The mussel protection plan must contain: (1) a schedule and methods for surveying for mussels during planned drawdowns of the impoundment below an elevation of 610.7 feet as required by certification condition H; (2) procedures for safely collecting and handling mussels found within the maintenance fluctuation zone and transporting them to deeper waters; and (3) provisions to notify the Commission of the mussel survey results.

D. Maintenance Dredges

71. Heavy sediment loads require WHC to regularly dredge in front of the intake and occasionally much further into the impoundment. WHC dredges directly in front of the intake over one or two days every three to six weeks in the winter and conducts a larger dredge further into the impoundment over approximately one week every three to five

⁵³ *Id.* at 22.

⁵⁴ *Id.* at 66-68.

⁵⁵ *Id.*

years (typically during lower flow months such as September or October when flow conditions are typically safest to conduct the work). To conduct the larger dredges, WHC draws the impoundment down to approximately 610 feet and removes the exposed sediment above the water line. WHC proposes to implement a draft Sediment Dredging Management Plan which would formalize WHC's standard practices for minimizing erosion and turbidity during routine dredging activities at the project. Certification condition I (Appendix A) requires that WHC finalize the Sediment Dredging Management Plan in consultation with Vermont ANR and that the plan be approved by Vermont ANR prior to implementation.

72. In the EA,⁵⁶ staff recommended scheduling the larger planned dredges (i.e., those events requiring dredging in areas other than directly in front of the intake and that require the impoundment to be drawn down) during the typically low-flow months of July, August, and September to avoid elevating turbidity levels in the Winooski River downstream of the dam and powerhouse during sensitive spawning and egg incubation periods for rainbow trout (i.e., March through May for spawning, with egg incubation extending into June) and brown trout (i.e., October through December for spawning, with egg incubation potentially extending through the winter months). Staff's recommendations are not inconsistent with the certification requirements, do not increase the project costs because they are generally consistent with WHC's current practice, and will protect trout habitat. Therefore, Article 405 requires that the finalized Sediment Dredging Management Plan include a provision to limit any planned non-emergency maintenance dredges that require the impoundment to be drawn down below the operating range limits to the period of July 1 through September 30.

E. Debris Disposal

73. Vermont DEC's certification condition E requires that "debris associated with project operations shall be disposed of in accordance with the Standards and applicable state laws and regulations." In the EA,⁵⁷ staff recommended developing a debris disposal plan in consultation with Vermont ANR that would formalize WHC's debris disposal methods, avoid misunderstandings, and guide how and when WHC is to remove and dispose of organic and inorganic debris that accumulates during project operation and maintenance. Staff estimated that developing the plan would have an estimated annual cost of \$444 and found that the operational and resource benefits would be worth the cost. Article 406 requires that WHC develop and file, for Commission approval, a debris disposal plan that is consistent with the requirements of Vermont DEC's certification condition E and includes a detailed description of procedures for collecting, managing,

⁵⁶ *Id.* at 63.

⁵⁷ *Id.* at 68.

and disposing of organic and inorganic debris at the project and an implementation schedule.

F. Recreation Management

74. The current project license does not require the project to provide any recreation facilities. However, informal parking and boating put-in and take-out sites on the project reservoir and downstream provide boating and fishing access. WHC's proposed recreation enhancements include: (1) installing an overlook and interpretive display; (2) improving the informal parking area near the put-in; (3) monitoring and maintaining the project recreation facilities; and (4) developing and providing maps and promotional guide materials describing recreation opportunities at the project. Certification condition D requires WHC to develop a recreation plan within 180 days of the effective date of the license that includes a schedule for monitoring and maintaining the proposed recreation sites.

75. In the EA,⁵⁸ Commission staff found that the parking area needs improvement and that WHC's proposed enhancements will improve public access, enhance boating and angling opportunities, increase public safety, and improve the visitor experience. Staff also recommended adding signage directing the public to the take-out, put-in, portage, and parking area consistent with the Commission's regulations.⁵⁹ Staff also found that because the recreation facilities serve a project purpose, they should be identified as project recreation facilities and maintained by WHC over the course of the license.

76. Therefore, in the EA,⁶⁰ staff recommended that the recreation plan required by certification condition D also include installing signage that, at a minimum, identifies the FERC project name and number; a statement that the project is licensed by the Commission; the licensee name and contact information; a statement acknowledging the boat launch and take-out; and permissible times and activities that the recreation facilities are open to the public.⁶¹ In the EA, staff estimated that the levelized annual cost of preparing a recreation plan that includes WHC's proposals and staff's recommended measures would be \$400 and concluded that the benefits of the plan outweigh the cost.⁶²

⁵⁸ *Id.* at 69.

⁵⁹ Section 8.2(a) of the Commission's regulations require a sign posting recreation use information at all points of public access. 18 C.F.R. § 8.2(a) (2024).

⁶⁰ EA at 69-70.

⁶¹ *Id.*

⁶² *Id.* at 70.

Therefore, Article 409 requires WHC to develop, and file for Commission approval, a recreation plan that identifies the project recreation facilities, includes a map showing the location of the recreation facilities in relation to the project boundary, and signage consistent with the Commission's regulations.

PROJECT BOUNDARY AND PROJECT FACILITIES

77. Commission regulations require that all land and water necessary for the operation and maintenance of the project be included in the project boundary. Specifically, project boundaries enclose the project works that are to be licensed and are to include "only those lands necessary for operation and maintenance of the project and for other project purposes, such as recreation, shoreline control, or protection of environmental resources."⁶³

78. WHC proposes to expand the project boundary to include PowerPlant Road which WHC uses to access the dam and powerhouse, the project recreation facilities described above, and the aboveground pole owned by WHC that interconnects the project transmission line with Green Mountain Power's regional distribution system. The proposed additions would add 3.56 acres to the project boundary for a total of 10.85 acres. WHC possesses the necessary property or easement rights to all areas associated with the proposed project boundary.⁶⁴ In the EA,⁶⁵ Commission staff recommended authorizing these proposed modifications to the project boundary because the additional lands include features that are necessary to operate and maintain the project and meet project recreation needs.

79. The Exhibit G project boundary map included in WHC's filing on May 27, 2022, accurately reflects the proposed changes to the project boundary and is incorporated into the license by Ordering Paragraph (C).

ADMINISTRATIVE PROVISIONS

A. Annual Charges

80. The Commission collects annual charges from licensees for administration of the FPA. Article 201 provides for the collection of funds for administration of the FPA.

⁶³ 18 C.F.R. § 4.41(h)(2) (2024).

⁶⁴ Application at Ex. G.

⁶⁵ EA at 60.

Under the regulations currently in effect,⁶⁶ projects with an authorized installed capacity of less than or equal to 1.5 megawatts, like this project, are not assessed an annual charge.

B. Reservation of Authority to Require Financial Assurance Measure

81. 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. Headwater Benefits

82. Some projects directly benefit from headwater improvements that were constructed by other licensees, the United States, or permittees. Article 203 requires the licensee to reimburse such entities for these benefits if they were not previously assessed and reimbursed.

D. Exhibit A Project Description

83. The Exhibit A filed on July 30, 2021, among other things, describes the project transmission interconnection point as Green Mountain Power (GMP)'s 13-kilovolt transmission line pole located approximately 20 feet from a pole owned by WHC. WHC clarified in a filing on May 27, 2022, that the pole owned by WHC interconnects with GMP's regional distribution grid, and therefore, WHC's pole serves as the project's interconnection point rather than GMP's 13-kilovolt pole. Commission staff concurs that the project transmission line ends with WHC's pole. Therefore, Article 204 requires the WHC to file a revised Exhibit A correcting the description of the project transmission line and grid interconnection point.

E. Exhibit F and G Drawings

84. The Exhibit F drawings and Exhibit G project boundary map filed on May 27, 2022, are approved, and made a part of the license by Ordering Paragraph (C). The Commission requires licensees to file sets of approved project exhibit drawings in electronic file format. Article 205 requires the filing of these drawings.

F. Modifications of Project Facilities

85. Article 301 requires WHC to coordinate with the Commission's Division of Dam Safety and Inspections (D2SI) – New York Regional Engineer on any proposed

⁶⁶ 18 C.F.R. § 11.1(b) (2024).

modifications resulting from environmental requirements that would affect project works, dam safety, or project operation.

G. Filing of Amendments

86. In Appendix A of this order, there are certain water quality certification (certification) conditions that contemplate future changes to the project facilities or operation without the opportunity for prior Commission review. Article 401 requires WHC to file amendment applications with the Commission prior to making changes to project facilities or operations, as appropriate.

H. Use and Occupancy of Project Lands and Waters

87. Requiring a licensee to obtain prior Commission approval for every use and occupancy of project land would be unduly burdensome. Therefore, Article 412 allows WHC to grant permission, without prior Commission approval, for the use and occupancy of project lands and waters 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

88. Section 10(a)(2)(A) of the FPA,⁶⁷ 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.⁶⁸ Under section 10(a)(2)(A), Commission staff identified and reviewed 15 comprehensive plans relevant to this project.⁶⁹ No conflicts were found.

APPLICANT'S PLANS AND CAPABILITIES

89. In accordance with sections 10(a)(2)(C) of the FPA⁷⁰ and the Commission's regulations, Commission staff evaluated WHC's record as a licensee with respect to the following: (A) conservation efforts; (B) safe management, operation, and maintenance of the project; and (C) need for power. As discussed below, this order adopts staff's findings in each of the areas.

⁶⁷ 16 U.S.C. § 803(a)(2)(A).

⁶⁸ Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2024).

⁶⁹ The list of applicable plans can be found in section 5.4 of the EA.

⁷⁰ 16 U.S.C. § 803(a)(2)(C).

A. Conservation Efforts

90. Section 10(a)(2)(C) of the FPA⁷¹ 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 to conserve electricity cost-effectively, taking into account the published policies, restrictions, and requirements of state regulatory authorities. WHC sells the project's energy to the wholesale energy market.

91. Given the limits of WHC's ability to influence users of the electricity generated by the project, WHC would operate the project in a manner that is consistent with section 10(a)(2)(C) of the FPA.

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

92. Commission staff reviewed WHC's record of management, operation, and maintenance of the Winooski 8 Project pursuant to the requirements of 18 C.F.R. Part 12 and the Commission's Engineering Guidelines. Commission staff concludes that the project works are in good condition, and that there is no reason to believe that WHC cannot continue to safely manage, operate, and maintain these facilities under a subsequent license.

C. Need for Power

93. 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 electric supply and demand nationally and regionally for a 10-year period. NERC's most recent report indicates the net internal demand for this region is projected to increase by about 1.32% from 2024 to 2033. Therefore, the project's power will continue to help meet the regional need for power.

PROJECT ECONOMICS

94. 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 Corp.*,⁷² the Commission uses current costs to compare the costs of the project with the costs of the likely alternative

⁷¹ *Id.*

⁷² 72 FERC ¶ 61,027 (1995).

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.

95. In applying this analysis to the Winooski 8 Hydroelectric Project, Commission staff considered three options: a no-action alternative, WHC's proposal, and the project as licensed herein.⁷³

96. Under the no-action alternative, the project would continue to operate as it does now. The project has an installed capacity of 0.856 MW, a capacity benefit of 0.42 MW,⁷⁴ and generates an average of 3,507 MWh of electricity annually. The alternative source of power's annual cost to produce the same amount of energy and provide the same capacity benefit is \$324,801, in 2023 dollars.⁷⁵ The average annual project cost is \$538,825. To determine whether the proposed project is currently economically beneficial, the project's cost is subtracted from the alternative source of power's cost. Therefore, the project costs \$214,024 more than the alternative source of power's cost.

97. As proposed by WHC, the project would have a total installed capacity of 0.856 MW, a capacity benefit of 0.39 MW, and an average annual generation of 3,387 MWh. When compared to current conditions, generation would be reduced by 120 MWh/year from maintaining daytime and nighttime aesthetic spill flows over the dam from May 1 through October 31. The alternative source of power's current cost to produce the same amount of energy and provide the same capacity benefit would be \$311,601. The total annual project cost would be \$556,545. Subtracting the total annual project cost from the alternative source of power's current cost, the project's cost to produce 3,387 MWh of

⁷³ Details of Commission staff's economic analysis for the project as licensed herein, and for the other two alternatives, are included in Appendix E of the EA.

⁷⁴ 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.

⁷⁵ The alternative source of power's cost is based on the current cost of providing the same amount of generation and capacity benefit from a natural gas-fired combined cycle plant, as reported by the most recent publication of the U.S. Energy Information Administration (EIA), *Annual Energy Outlook 2023*, for the Division 1, New England Region. The alternative source of power's cost is a combination of the cost of energy, \$71.42/MWh, and the capacity benefit which staff estimates to be \$179.08/kilowatt-year.

power and 0.856 MW of capacity would be \$244,944 more than the alternative source of power's cost.

98. As licensed herein with mandatory conditions and Commission staff's measures, the project will have an installed capacity of 0.856 MW, a capacity benefit of 0.37 MW and an average annual generation of 3,301 MWh. When compared to current conditions, generation would be reduced by 206 MWh/year from maintaining daytime and nighttime aesthetic spill flows over the dam continuously throughout the year. The alternative source of power's current cost to produce the same amount of energy and provide the same capacity benefit would be \$301,601. The total annual project cost would be \$559,227. Subtracting the total annual project cost from the alternative source of power's current cost, the project's cost to produce 3,301 MWh of power and 0.856 MW of capacity is \$257,676 more than the alternative source of power's cost.

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

100. Although the analysis shows that the project as licensed herein would cost more to operate than our estimated cost of alternative power, it is the applicant who must decide whether to accept this license and any financial risk that it entails.

101. Although Commission 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.

COMPREHENSIVE DEVELOPMENT

102. Sections 4(e) and 10(a)(1) of the FPA⁷⁶ require the Commission to give equal consideration to 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

⁷⁶ 16 U.S.C. §§ 797(e) and 803(a)(1).

judgment would 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.

103. 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 Winooski 8 Hydroelectric Project as described in this order will not constitute a major federal action significantly affecting the quality of the human environment. The project would be safe if operated and maintained in accordance with the requirements of the license.

104. Based on Commission staff's independent review and evaluation of the Winooski 8 Project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EA, the project as licensed herein is selected and found to be best adapted to a comprehensive plan for improving or developing the Winooski River.

105. This alternative is selected because: (1) issuing a subsequent license would serve to maintain a beneficial and dependable source of electric energy; (2) the required environmental measures will protect or enhance water quality, fish and wildlife resources, terrestrial resources, federally listed species, recreational and aesthetic resources, and cultural resources; and (3) the 0.856 MW of electric capacity comes from a renewable resource that does not significantly contribute to atmospheric pollution.

LICENSE TERM

106. Section 15(e) of the FPA⁷⁷ provides that any new license issued shall be for a term that the Commission determines to be in the public interest, but not less than 30 years or more than 50 years.

107. On October 19, 2017, the Commission established a 40-year default license term policy for licenses, effective as of October 26, 2017.⁷⁸ The License Term 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

⁷⁷ *Id.* § 808(e).

⁷⁸ *Policy Statement on Establishing License Terms for Hydroelectric Projects*, 161 FERC ¶ 61,078 (2017).

during the prior license term, or substantial new measures are expected to be implemented under the subsequent license.

108. Because none of the above exceptions apply in this case, a 40-year license for the Winooski 8 Project is appropriate.

The Director orders:

(A) This license is issued to Winooski Hydroelectric Company (licensee), for a period of 40 years, effective the first day of the month in which this order is issued, to operate and maintain the Winooski 8 Hydroelectric Project. This 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 shown by Exhibit G filed on May 27, 2022.

Exhibit No.	FERC Drawing No.	Drawing Title	Filename Title
G-1	P-6470-1005	Project Boundary	Project Boundary

(2) Project works consisting of: (a) 222.5-foot-long, 26-foot-high concrete gravity dam that consists of a 7-foot-wide gatehouse/left abutment structure creating a 4.8-acre impoundment with a storage capacity of 20 acre-feet at an elevation of 615 feet (with 4-foot flashboards in place); (2) a 148-foot-long spillway section topped with 4-foot-high flashboards and maximum crest elevation of 611 feet when the flashboards are not in place and 615 feet when the flashboards are in place; (3) a 24-foot-long crest gate; (4) a 39.5-foot-long and 39.25-foot-wide reinforced concrete powerhouse which is integral to the dam and contains three turbines: two semi-Kaplan turbines with a combined capacity of 793 kilowatts (kW) (capacity of unit 2 and unit 3 is 263 kW and 530 kW, respectively), and one fixed propeller turbine with a capacity of 63 kW (unit 1) for a total installed capacity of 856 kW; (4) a 33.5-foot-wide, 28-foot-high concrete intake structure that is integral with the powerhouse; (5) three separate hydraulically-operated trash racks with 2-inch bar spacing for the three units measuring 6, 8, and 12 feet wide by 25 feet deep, for units 1, 2 and 3, respectively; (6) a 100-foot-long, 25-foot-wide tailrace that is separated from the Winooski River by an 8-foot-high concrete wall, creating an approximate 100-foot-long bypassed reach; units 2 and 3 discharge into this tailrace while flows from unit 1 discharge parallel to the dam, and are used to maintain

the minimum bypass flow of 25 cfs, or inflow, whichever is less; (7) a 1,000-kilovolt-amp (kVA) station transformer located at the left (north) abutment approximately 10 feet from the powerhouse; (8) An underground transmission line running approximately 10 feet from the station transformer to an aboveground pole owned by the licensee which interconnects with Green Mountain Power's regional distribution grid system; and (9) a 10 to 12-foot-wide, 4,100-foot-long dirt access road (PowerPlant Road) that begins at Gallison Hill Road and runs adjacent to the river before ending at the project powerhouse; and (10) 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 July 30, 2021, and revised on May 27, 2022:

<u>Exhibit No.</u>	<u>FERC Drawing No.</u>	<u>Drawing Title</u>⁷⁹
F-1	P-6470-1001	Site Plan
F-2	P-6470-1002	Dam Plan and Profile
F-3	P-6470-1003	Floor Plan and Crest Gate Section
F-4	P-6470-1004	F-3 Continued and Concrete Transformer Pad Section

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

(C) The Exhibit F and G drawings described above are approved and made part of this license.

(D) The Exhibit A filed as part of the application for license on July 30, 2021, does not conform to Commission regulations and is not approved.

⁷⁹ 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.

(E) The following sections of the Federal Power Act 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.

(F) This license is subject to the conditions submitted by the Vermont Department of Environmental Conservation under section 401(a)(1) of the Clean Water Act, 33 U.S.C. § 1341(a)(1), as those conditions are set forth in Appendix A to this order.

(G) This license is also subject to the articles set forth in Form L-12, (October 1975), entitled “Terms and Conditions of License for Constructed Minor Project Affecting the Interests of Interstate or Foreign Commerce” (*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 this license is issued, and as determined in accordance with 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 0.856 megawatts (MW). Under the regulations currently in effect, projects with authorized installed capacity of less than or equal to 1.5 MW would 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. *Headwater Benefits.* If the licensee’s project was directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee must reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new license. The benefits will be assessed in accordance with Part 11, Subpart B, of the Commission’s regulations.

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 a detailed description of the project transmission facilities (i.e., the 1,000-kilovolt-amp station transformer, 10-foot-long underground line, and aboveground pole interconnecting with the regional distribution system).

Article 205. Exhibit F and G Drawings. Within 45 days of the date of issuance of this license, as directed below, the licensee must file the approved exhibit drawings and geographic information system (GIS) data in electronic file format.

a) 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-6470-1001 through P-6470-1004) 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 C.F.R. § 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, Drawing Title, date of this order, and file extension in the following format [P-6470-1001, F-1, Site Plan, MM-DD-YYYY.TIFF].

Each Exhibit G drawing that includes the project boundary must contain a minimum of three known reference points (i.e., latitude and longitude coordinates or state plane coordinates), arranged in a triangular format for GIS georeferencing the project boundary drawing to the polygon data. The licensee must identify the spatial reference for the drawing (i.e., map projection, map datum, and units of measurement) on the drawing and label each reference point. In addition, a registered land surveyor must stamp each project boundary drawing. All digital images of the exhibit drawings must meet the following format specification:

IMAGERY:	black & 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

b) Project boundary GIS data must be in a georeferenced electronic file format (such as ArcGIS shapefiles, GeoMedia files, MapInfo files, or a similar GIS format). The filing must include both polygon data and all reference points shown on the individual

project boundary drawings. Each project development must have an electronic boundary polygon data file(s). Depending on the electronic file format, the polygon and point data can be included in single files with multiple layers. The georeferenced electronic boundary data file must be positionally accurate to ± 40 feet to comply with National Map Accuracy Standards for maps at a 1:24,000 scale. The file name(s) must include: FERC Project Number, data description, date of this license, and file extension in the following format [P-6470, boundary polygon or point data, MM-DD-YYYY.SHP]. The filing must include a separate text file describing the spatial reference for the georeferenced data: map projection used (i.e., UTM, State Plane, Decimal Degrees, etc.), the map datum (i.e., North American 27, North American 83, etc.), and the units of measurement (i.e., feet, meters, miles, etc.). The text file name must include: FERC Project Number, data description, date of this license, and file extension in the following format [P-6470, project boundary metadata, MM-DD-YYYY.TXT].

Article 301. *Project Modification Resulting from Environmental Requirements.* If environmental requirements under this license require modifications 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 401. *Filing of Amendments.* Certain conditions of the Vermont Department of Environmental Conservation water quality certification in Appendix A contemplate long-term changes to project operations or facilities (i.e., conditions A and L). 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. *Flow Management and Monitoring Plan.* The flow management and monitoring plan required by Vermont Department of Environmental Conservation (Vermont DEC) water quality certification (certification) condition C (Appendix A), must be filed for Commission approval within 180 days from the effective date of the license. In addition to the requirements specified in certification condition C, the plan must also include the following additional provisions:

- (1) the specific impoundment water level elevations (in feet National Geodetic Vertical Datum of 1929) that would be maintained in order to provide 1.0 inch of spill flow over the dam during daylight hours and 0.5 inch of spill flow over the dam during nighttime hours while also providing a 39 cubic feet per second minimum flow into the bypassed reach required by Vermont DEC certification condition B;

- (2) a detailed description of how the licensee will monitor compliance with the operational requirements of Article 403 (*Project Operation*), including descriptions of the mechanisms and instrumentation or gages used (*i.e.*, type and exact locations of all flow and impoundment elevation monitoring equipment) and procedures for maintaining and calibrating all compliance monitoring equipment;
- (3) a provision to maintain a log of project operation; and
- (4) an implementation schedule.

The licensee must include with the flow management and monitoring plan documentation that the plan was approved by Vermont DEC, as required by Vermont DEC certification condition C. The licensee must allow a minimum of 30 days for Vermont DEC to comment on the plan before filing the plan with the Commission. The Commission reserves the right to require changes to the plan. The licensee must not begin implementing the plan until the Commission notifies the licensee that the plan is approved. 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 schedule or plan require approval by the Commission before implementing the proposed change.

Article 403. *Project Operation.* In addition to implementing the run-of-river operation, bypassed reach minimum flow, and aesthetic spill flow requirements of Vermont Department of Environmental Conservation (Vermont DEC) water quality certification (certification) condition B (Appendix A), the license must maintain the impoundment water level at the elevations specified in the flow management and monitoring plan required by Vermont DEC certification condition C and Article 402 (*Flow Management and Monitoring Plan*).

Reporting of Planned Deviations

Run-of-river operation, bypassed reach minimum flow, and aesthetic spill flow requirements of Vermont DEC certification condition B and impoundment level requirements of this article may be temporarily modified for short periods, of up to 3 weeks, after mutual agreement among the licensee and Vermont ANR. After concurrence from Vermont ANR and filing a report with Vermont DEC as required by Vermont DEC certification condition C, the licensee must file a report with the Secretary of the Commission as soon as possible, but no later than 14 days after the onset of the planned deviation. Each report must include: (1) the reasons for the deviation and how project operations were modified; (2) the duration and magnitude of the deviation; (3) any observed or reported environmental effects; and (4) documentation of

consultation with Vermont ANR. For planned deviations exceeding 3 weeks, the licensee must file an application for a temporary amendment of the operational requirements and receive Commission approval prior to implementation. The licensee must also comply with the approval and reporting requirements of Vermont DEC certification conditions A and C.

Reporting of Unplanned Deviations

Run-of-river operation, bypassed reach minimum flow, and aesthetic spill flow requirements of Vermont DEC water quality certification condition B and impoundment level requirements of this article may be temporarily modified if required by operating emergencies beyond the control of the licensee (*i.e.*, unplanned deviations). In addition to filing a report with Vermont DEC as required by Vermont DEC certification condition C, for any unplanned deviation from run-of-river operation, bypassed reach minimum flow, aesthetic spill flow, and impoundment level requirements that lasts longer than 3 hours or results in visible environmental effects such as a fish kill, turbidity plume, bank erosion, or downstream flooding, the licensee must notify Vermont ANR within 24 hours, and the Commission within 14 days, and file a report with the Commission as soon as possible, but no later than 30 days after each such incident. The report must include: (1) the cause of the deviation; (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 Vermont ANR, or confirmation that no comments were received from Vermont ANR; (6) documentation of any observed or reported environmental effects; and (7) a description of measures implemented to prevent similar deviations in the future.

In addition to filing a report with Vermont DEC as required by Vermont DEC certification condition C, for unplanned deviations from run-of-river operation, bypassed reach minimum flow, aesthetic spill flow, and impoundment level requirements lasting 3 hours or less that do not result in visible environmental effects, the licensee must file an annual report, by March 1, describing each incident that occurred during the prior January 1 through December 31 time period. The report must include for each 3 hours or less deviation: (1) the cause of the deviation; (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 to each deviation; (5) any comments or correspondence received from Vermont ANR, or confirmation that no comments were received from Vermont ANR; and (6) a description of measures implemented to prevent similar deviations in the future.

Article 404. Mussel Protection Plan. Within six months of license issuance, the licensee must file, for Commission approval, a mussel protection plan that includes the following:

- (1) a schedule and methods for surveying for mussels during a planned drawdown of the impoundment water level consistent with the requirements of the Vermont Department of Environmental Conservation (Vermont DEC) water quality certification (certification) condition H (Appendix A);
- (2) procedures for safely collecting and handling mussels found within the maintenance fluctuation zone and transporting them to deeper waters; and
- (3) a provision to also file with the Commission a copy of the summary survey report submitted to Vermont Agency of Natural Resources (Vermont ANR) as required by Vermont DEC's certification condition H.

The licensee must prepare the plan after consultation with the Vermont ANR. 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 Vermont ANR, and specific descriptions of how the agency's comments are accommodated by the plan. The licensee must allow a minimum of 30 days for the agency 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. Sediment Dredging Management Plan. The sediment management plan required by Vermont Department of Environmental Conservation (Vermont DEC) water quality certification (certification) condition I (Appendix A must be filed for Commission approval within 180 days of the effective date of the license. In addition to the requirements specified in certification condition I, the plan must include a provision to limit any planned non-emergency maintenance dredges that require the impoundment to be drawn down below the operating range limits required by Article 403 (*Project Operation*) to the period of July 1 through September 30 to avoid elevating turbidity levels downstream during sensitive resident trout spawning and rearing periods.

The licensee must prepare the plan after consultation with the Vermont Agency of Natural Resources (Vermont ANR). 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 Vermont ANR, and specific descriptions of how the agency's comments are accommodated by the plan. The licensee must allow a minimum of 30 days for the agency 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. The licensee must not begin implementing the plan until the Commission notifies the licensee that the plan is approved. Upon Commission approval the licensee must implement the plan, including any changes required by the Commission.

Article 406. *Debris Disposal Plan.* Within six months of license issuance, the licensee must file, for Commission approval, a debris disposal plan that is consistent with the requirements specified in the Vermont Department of Environmental Conservation (Vermont DEC) water quality certification condition E (Appendix A) and includes the following provisions:

- (1) a detailed description of the licensee's procedures for collecting, managing and disposing of organic and inorganic debris at the project; and
- (2) an implementation schedule.

The licensee must prepare the plan after consultation with the Vermont Agency of Natural Resources (Vermont ANR). 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 Vermont ANR, and specific descriptions of how the agency's comments are accommodated by the plan. The licensee must allow a minimum of 30 days for the agency 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 407. *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 pursuant to section 18 of the Federal Power Act.

Article 408. *Protection of Northern Long-Eared Bat and Tricolored Bat.* In addition to the tree clearing restrictions specified in Vermont Department of Environmental Conservation water quality certification condition G (Appendix A), the licensee must also only trim trees of any size within the project boundary between November 1 and April 14 to protect tricolored bats during their roosting season.

Article 409. Recreation Plan. The recreation plan required by the Vermont Department of Environmental Conservation (Vermont DEC) water quality certification condition D (Appendix A) must be filed for Commission approval within 180 days of the effective date of the license. In addition to the requirements specified in certification condition D, the plan must include the following:

- (1) design plans for an interpretive display and overlook to be installed near the powerhouse that would include information about the hydropower facility and the history of the site;
- (2) an estimate of the amount of gravel or similar substrate that would be added the informal parking along PowerPlant Road near the whitewater boating put-in and tailwater fishing access to improve parking;
- (3) a provision for installing signage directing users to the project recreation facilities. At a minimum, the sign should include: the FERC project name and number; a statement that the project is licensed by the Commission; the licensee name and contact information; a statement identifying the boat launch and take-out; and permissible times and activities that the facilities would be open to the public to improve public enjoyment and use of the facilities;
- (4) a provision to develop maps and promotional guide materials describing project recreation opportunities;
- (5) a maintenance and monitoring plan and schedule for all recreation facilities including the boating take-out, whitewater boating put-in and tailwater fishing access area, portage route, parking area, and proposed interpretive display and overlook;
- (6) an implementation schedule for completing the above improvements within 2 years of license issuance; and
- (7) a description of the type and location of the project recreation facilities and a map or site plan showing the location of the project recreation facilities in relation to the project boundary. The plan must identify the following facilities as project facilities: the boating take-out, whitewater boating put-in and tailwater fishing access area, portage route, parking area, trail with wooden steps leading down to the put-in from PowerPlant Road, and interpretive display and overlook.

The licensee must prepare the plan after consultation with the Vermont Agency of Natural Resources (Vermont ANR). 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 Vermont ANR, and specific descriptions of how the agency's comments are accommodated by the plan. The licensee must allow a minimum of 30 days for the agency 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. The licensee must not begin implementing the plan until the Commission notifies the licensee that the plan is approved. Upon Commission approval the licensee must implement the plan, including any changes required by the Commission.

Article 410. Protection of Previously Undiscovered Cultural Resources. If the licensee discovers any previously unidentified cultural resources during the course of constructing, maintaining, or developing project works or other facilities at the project, the licensee must stop all land-clearing and land-disturbing activities in the vicinity of the resource and consult with the Vermont State Historic Preservation Office (Vermont SHPO) to determine the need for any cultural resource studies or measures. If no studies or measures are needed, the licensee must file with the Commission documentation of its consultation with the Vermont SHPO.

The licensee must not resume land-clearing or land-disturbing activities in the vicinity of a cultural resource discovered during construction, maintenance, or removal of project facilities, until informed by the Commission that the requirements of this article have been fulfilled.

If a project modification is determined to affect a historic property, the licensee must file, for Commission approval, a historic properties management plan (HPMP) prepared by a qualified cultural resource specialist after consultation with the Vermont SHPO. In developing the HPMP, the licensee must use the Advisory Council on Historic Preservation and the Commission's Guidelines for the Development of Historic Properties Management Plans for FERC Hydroelectric Projects, dated May 20, 2002. The HPMP must include the following items: (1) a description of each historic property; (2) a description of the potential effect on each historic property; (3) proposed measures for avoiding or mitigating adverse effects; (4) documentation of the nature and extent of consultation; and (5) a schedule for implementing mitigation and conducting additional studies.

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

Article 411. Evaluation for National Register of Historic Places Eligibility. The licensee shall evaluate the hydroelectric facilities for National Register of Historic Places (National Register) eligibility when they reach 50 years of age, which will be in 2035. The licensee must file, by January 1, 2036, a report of its findings on whether the powerhouse and any other appurtenant facilities are eligible for inclusion in the National Register. The report shall be prepared by a qualified cultural resource specialist after consultation with the Vermont State Historic Preservation Office (Vermont SHPO) and include documentation of consultation with the Vermont SHPO.

If the hydroelectric facilities are determined eligible for listing in the National Register, the licensee must file, for Commission approval, a historic properties management plan (HPMP) prepared by a qualified cultural resource specialist after having consulted with the Vermont SHPO. In developing the HPMP, the licensee must use the Advisory Council on Historic Preservation and Commission's *Guidelines for the Development of Historic Properties Management Plans for FERC Hydroelectric Projects* (dated May 20, 2002). The HPMP must include the following items: (1) a description of each discovered property, indicating whether it is listed on or eligible to be listed on the National Register; (2) a description of the potential effect on each discovered property; (3) proposed measures for avoiding or mitigating effects; (4) documentation of the nature and extent of consultation with the Vermont SHPO; and (5) a schedule for mitigating effects and conducting additional studies. The Commission may require changes to the plan.

Article 412. 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, to the satisfaction of the Commission's authorized representative, that 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-kV 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 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 would protect the scenic, recreational, and environmental values of the project; and (iii) the grantee must not unduly restrict public access to project lands or 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.

(G) 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.

(H) 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. § 825I, and section 385.713 of the Commission's regulations, 18 C.F.R. § 385.713 (2024). 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.

for
Terry Turpin
Director
Office of Energy Projects

Form L-12
(October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

**TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED
MINOR PROJECT AFFECTING THE INTERESTS OF
INTERSTATE OR FOREIGN COMMERCE**

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 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 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 Commission may prescribe for the 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. 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 17. 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 18. 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 Vermont Department of Environmental Conservation (Issued February 21, 2024)

Decision and Certification

The Department has examined the Project application and other information deemed relevant by the Department in order to issue a decision on this certification application pursuant to the Department's responsibilities under Section 401 of the federal Clean Water Act and 10 V.S.A. § 1253(h). After examination of these materials, the Department certifies that there is reasonable assurance that operation of the Project in accordance with the following conditions will not violate Standards; will not have a significant impact on use of the affected waters by aquatic biota, fish or wildlife, including their growth, reproduction, and habitat; will not impair the viability of the existing populations; will not result in a significant degradation of any use of the waters for recreation, fishing, water supply or commercial enterprises that depend directly on the existing level of water quality; and will be in compliance with sections 301, 302, 303, 306, and 307 of the Federal Clean Water Act, 33 U.S.C. section 1341, and other appropriate requirements of state law:

- A. Compliance with Conditions.** The Applicant shall operate and maintain this Project consistent with the findings and conditions of this certification. The Applicant shall not make any changes to the Project or its operations that would have a significant or material effect on the findings, conclusions or conditions of this Certification without approval of the Department.

See finding 122 for a statement of necessity. 10 V.S.A. § 1258 & Vt. Code R. 12 030 026 § 29A-101.

- B. Flow Management.** The Project shall be operated in instantaneous run-of-river mode. Instantaneous run-of-river operation means no utilization of impoundment storage and that outflow from the facility is equal to inflow to the impoundment on an instantaneous basis except for short term, unavoidable deviations.

The Applicant shall provide 39 cfs, or inflow if less, into the bypassed reach year-round. This flow shall not be interrupted. When generating, the Project shall spill 1 inch in daylight hours and 0.5 inches during nighttime hours continuously year-round in the bypass reach unless otherwise indicated in the flow management and monitoring plan (condition C). Daylight hours are

defined as one half hour before sunrise to one half hour after sunset. When the Project is not operating, all flow shall be spilled at the dam.

See findings 125, 130-134, 139, 149-155 for a statement of necessity. 10 V.S.A. § 1258 & Vt. Code R. 12 030 026 § 29A-304 & § 29A-306 (b)(3)(B) & § 306 (c)(3)(B)(i).

- C. **Flow Management and Monitoring Plan.** Within 180 days of the effective date of the FERC license, the Applicant shall develop a flow management and monitoring plan detailing how the Project will operate in instantaneous run-of-river mode and manage flow seasonally to comply with the conservation flow requirements. The plan will also include a method for continuous monitoring and reporting (to allow records to be furnished upon request) of flow releases at the Project (conservation flow, spillage, and turbine discharge), impoundment levels and inflows. The plan shall include provisions for the flow data to be available on a near real-time basis.

The plan will include procedures for reporting deviations from prescribed operating conditions to the Department. Reports shall be made within 15 days after a deviation and will include, if possible, the causes, severity and duration of the deviation, observed or reported adverse environmental impacts from the incident, pertinent data, and measures to be taken to avoid recurrences.

The plan shall be subject to Department approval. The Department reserves the right to review and approve any material changes made to the plan.

See finding 121 for a statement of necessity. 10 V.S.A. § 1258 & Vt. Code R. 12 030 026 § 29A-304 & § 29A-306(b).

- D. **Recreation.** In accordance with the Applicant's proposal, within 180 days of the effective date of the FERC license, the licensee shall develop a recreation plan providing additional details on a schedule for implementing the Applicant's recreation proposal. This plan shall include the frequency at which recreational sites for which the Applicant has agreed to maintain will be checked for maintenance needs.

See findings 104-107 and 145-147 for a statement of necessity. 10 V.S.A. § 1258 & Vt. Code R. 12 030 026 § 29A-103(b)(1)(G).

- E. **Debris Disposal.** Debris associated with project operations shall be disposed of in accordance with the Standards and applicable state laws and regulations.

See findings 10, 108, 109, and 148 for a statement of necessity. 10 V.S.A. § 1258

& Vt. Code R. 12 030 026 § 29A-303(1).

- F. **Maintenance and Repair Work.** The licensee shall consult with the Vermont Department of Environmental Conservation prior to conducting Project maintenance or repair work that has the potential to have an adverse effect on water quality, other than those activities described in the sediment management plan. Such maintenance and repair work shall be subject to review and approval by the Department.

See findings 95, 121, 139, and 143 for a statement of necessity. 10 V.S.A § 1258 & Vt. Code R. 12 0330 026 § 29A-103(a), § 29A-306(b) and § 29A-304(b).

- G. **Threatened and Endangered Species.** For activities requiring the clearing of trees 3-inches diameter breast height or greater, the licensee shall abide by seasonal tree clearing restrictions and only clear trees between November 1st-April 14th to avoid any roost disruption of the Northern long-eared bat. Should tree clearing be required during the restricted time period (April 15th- October 31st), otherwise shall consult with the USFWS and VTFWD regarding removal.

See findings 99 and 141 for a statement of necessity. 10 V.S.A. § 5403.

- H. **Mussel Plan.** The licensee shall have a mussel expert survey the impoundment and shoreline areas to locate, identify, and relocate any mussels, with a specific focus on state threatened or endangered mussels, during a planned drawdown that falls below 610.7 feet msl. A summary of the report shall be provided to the Agency of Natural Resources within 120 days of the survey.

See findings 45, 66, 101-102, and 142-144 for a statement of necessity. 10 V.S.A § 5403.

- I. **Sediment Management.** The licensee shall finalize within 180 days of the effective date of the FERC license the sediment dredging management plan in consultation with, and approval from, the Agency.

See finding 46, 47, 91-94, and 136-138 for a statement of necessity. 10 V.S.A § 5403.

- J. **Compliance Inspection by Department.** The Applicant shall allow the Department to inspect the Project area at any time to monitor compliance with certification conditions.

See finding 122 for a statement of necessity. 10 V.S.A § 1258 & Vt. Code R. 12 0330 026 § 29A-104(a).

- K. **Posting of Certification.** A copy of the certification shall be prominently posed within the Project powerhouse.

See finding 122 for a statement of necessity. 10 V.S.A § 1258 & Vt. Code R. 12 0330 026 § 29A-104(a).

- L. **Modification of Certification.** The Department may request, at any time, that FERC reopen the license to consider modifications to the license as necessary to assure compliance with Vermont Water Quality Standards.

See finding 122 for a statement of necessity. 10 V.S.A § 1258 & Vt. Code R. 12 0330 026 § 29A-104(a).