181 FERC ¶ 62,006
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Green Mountain Power Corporation Project No. 2879-012

ORDER ISSUING NEW LICENSE

(October 5, 2022)

INTRODUCTION

1. On January 30, 2020, Green Mountain Power Corporation (GMP) filed pursuant to Part I of the Federal Power Act (FPA),[1] an application for a new license to continue operation and maintenance of the Bolton Falls Hydroelectric Project No. 2879 (Bolton Falls Project, or project). The 7.50-megawatt (MW) project is located on the Winooski River near the town of Duxbury in Washington County, Vermont.[2] The project does not occupy federal land.

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

[1] 16 U.S.C. §§ 791(a)–825(r).

[2] The project is subject to the Commission's mandatory licensing jurisdiction under section 23(b)(1) of the FPA because the project is located on a non-navigable stream over which Congress has jurisdiction under the Commerce Clause, affects interstate commerce through a connection to the interstate grid, and involved construction after 1935 (*e.g.*, adding a new powerhouse and new generators which increased the project's capacity). See 16 U.S.C. § 817(1). From river mile 17.6 to its confluence with Lake Champlain, the Winooski River is a navigable water of the United States within the meaning of section 3(8) of the FPA (16 U.S.C. §796(8). The project, located at river mile 43, occupies a non-navigable segment of the Winooski River.

BACKGROUND

3. The Commission issued the original license for the project on February 5, 1982, and the license expired on January 31, 2022.[3] Since then, GMP has operated the project under an annual license pending the disposition of its new license application.[4]

4. On December 1, 2020, the Commission issued a public notice accepting the application for filing, indicating that the application was ready for environmental analysis, and setting February 1, 2021, as the deadline for filing motions to intervene, protests, comments, recommendations, preliminary terms and conditions, and preliminary fishway prescriptions.[5] The U.S. Department of the Interior (Interior) filed a reservation of authority to prescribe fishways on January 26, 2021. The Vermont Agency of Natural Resources (Vermont ANR) filed a timely motion to intervene, comments, and recommendations on February 1, 2021.[6]

5. On August 13, 2021, Commission staff issued a draft environmental assessment (EA) analyzing the effects of the proposed project and alternatives to it, and setting a deadline for comments of September 12, 2021. Vermont ANR filed comments on the draft EA on September 13, 2021. The Vermont State Historic Preservation Office (Vermont SHPO) filed comments on the draft EA on October 15, 2021. On January 19, 2022, the Vermont Department of Environmental Conservation (Vermont DEC) issued a water quality certification for the project with 10 conditions. Commission staff issued a final EA on April 21, 2022.

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[3] *Green Mountain Power Corporation*, 18 FERC ¶ 62,156 (1982).

[4] *See* 16 U.S.C. § 808(a)(1); *see also* Commission staff's February 3, 2022, Notice of Authorization for Continued Project Operation.

[5] 85 Fed. Reg. 78,847 (January 7, 2020). The Commission's Rules of Practice and Procedure provide that if a filing deadline falls on a Saturday, Sunday, holiday, or other day when the Commission is closed for business, the filing deadline does not end until the close of business on the next business day. 18 C.F.R. § 385.2007(a)(2). Because the 60-day filing deadline fell on a Saturday (*i.e.*, January 30, 2021), the filing deadline was extended until the close of business on Monday, February 1, 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) (2021).

6. The intervention, comments, recommendations, and Vermont DEC's water quality certification conditions have been fully considered in determining whether, and under what conditions, to issue this license.

PROJECT DESCRIPTION AND OPERATION

A. Project Area

7. The Winooski River begins in the town of Cabot, Vermont and flows northwest for approximately 90 miles where it empties into Lake Champlain approximately 5 miles north of downtown Burlington, Vermont. The Winooski River watershed has a total drainage area of about 1,080 square miles.

8. The Bolton Falls Project is one of ten hydroelectric dams in the Winooski River basin, seven of which are FERC-licensed.[7] The drainage area at the project is about 821 square miles.

B. Project Facilities

9. Bolton Falls Dam is a 92-foot-high, 275-foot-long timber crib dam with a maximum crest elevation of 397 feet when the 5-foot-high rubber bladder atop the dam is inflated, and 392 feet when the rubber bladder is deflated.[8] The dam includes a 196-foot-long concrete spillway with a crest elevation of 392 feet. At a normal full pool elevation of 397 feet, the impoundment has a surface area of 59 acres, a storage capacity of 300 acre-feet, and impounds about 2.1 miles of the Winooski River.

10. The project includes a forebay with two concrete intakes. Each intake is equipped with 27-foot-wide, 43-foot-high angled trash racks with a 3-inch clear spacing between the bars. Two 10-foot diameter, 120-foot-long steel penstocks encased in concrete extend from each intake through the dam to the generating units. The powerhouse is 73 feet

[7] The 10 hydroelectric dams in the Winooski River basin from downstream to upstream include the following: 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 mainstem of the Winooski River while the remaining 4 are located on major tributaries of the Winooski River.

[8] Unless otherwise stated, all elevations in this order are referenced to National Geodetic Vertical Datum of 1929 (NGVD 29).

long and 57 feet wide and contains two horizontal, 3,750-kilowatt Kaplan turbines for a total installed capacity of 7,500 kilowatts. The project tailrace is approximately 90 feet wide and 60 feet long and discharges to the Winooski River about 150 feet downstream of the dam, creating a 150-foot-long bypassed reach.[9] The project also includes a 75-foot-long, 36-inch diameter bypass pipe that can discharge up to 114 cubic feet per second (cfs).

11. Project power is transmitted through an approximately 130-foot long, 5-kilovolt underground transmission line that connects to an adjacent switchyard that steps up the voltage to 34.5 kilovolts. From the switchyard, a 600-foot-long, 34.5-kilovolt overhead transmission line connects to a second switchyard that interconnects with the regional grid.

12. Recreation facilities at the project include a day use area (Day Use Area) below the dam and a canoe portage with a put-in and take-out area. Ordering Paragraph (B)(2) provides a more detailed description of the project's facilities.

C. Project Boundary

13. The current project boundary encompasses 93.4 acres and extends about 2.1 miles upstream and about 0.10 miles downstream from the dam. The project boundary generally follows the impoundment at its normal full pond elevation of 397.00 feet, and encloses the dam, powerhouse, transmission line, substations, Day Use Area, some of the portage trail, and the portage take-out and put-in.

14. As discussed below, the licensee proposes to modify the project boundary to include existing project features not currently encompassed by the project boundary and to remove lands that no longer serve a project purpose.

D. Current Project Operation

15. The current license allows GMP to operate the project on a peaking basis and fluctuate the reservoir level between 391.00 and 397.00 feet while discharging through the powerhouse a minimum flow of 300 cfs[10] or inflow, whichever is less, downstream into the Winooski River. However, GMP voluntarily operates the project in a run-of-

[9] The bypassed reach consists of a large deep pool that remains wetted under all operating conditions from a combination of spill, leakage through the dam, and backwatered powerhouse outflow.

[10] When the project is not generating, GMP releases the 300-cfs minimum flow by spilling the required minimum flow over the dam into the bypassed reach.

river mode with project outflows approximating inflows to the impoundment at any given point in time.

16. A pond level sensor installed in the headpond near the powerhouse intake monitors water levels. The sensor's readings are used to adjust flows through the powerhouse via the turbine wicket gates to maintain the project impoundment water level at the 397.00-foot elevation. An air compressor system located on the intake structure inflates the rubber bladder and automatically begins to deflate when the impoundment rises more than a foot above the top of the bladder. The bladder system can also be manually controlled to lower the impoundment when necessary to facilitate project maintenance.

17. The maximum combined hydraulic capacity of the two project turbines is 2,400 cfs. Inflow to the impoundment that exceeds the maximum hydraulic capacity passes over the spillway. When inflow drops below 365 cfs (the lowest flow that GMP can operate one of its turbines), the turbine wicket gates are closed to prevent flow through the intake system and all flow is spilled over the dam into the bypassed reach. The 36-inch-diameter bypass pipe can discharge approximately 114 cfs at a pond elevation of 397.00 feet but is generally only used when the project impoundment is drawn down for maintenance purposes.

E. Proposed Operation and Environmental Measures

18. To protect aquatic resources, GMP proposes to continue to operate the project in a run-of-river mode.

19. To enhance aesthetics at the dam and enhance aquatic habitat and water quality in the bypassed reach, GMP proposes to release a 75-cfs minimum flow or inflow, whichever is less, into the bypassed reach via spill during daylight hours from April 1 through December 15. During the remainder of the year, flows into the bypassed reach would continue to consist of leakage, except when inflows exceed the hydraulic capacity of the project and the excess flows are spilled over the dam.

20. To enhance recreation, GMP proposes to implement a Recreation Management Plan filed in the license application that includes: (1) improving the Day Use Area by adding picnic tables[11] and an information kiosk, and relocating the primary parking area out of the floodplain to the existing informal lot; (2) improving the informal parking lot

[11] In its additional information response filed on June 1, 2020, GMP states that one of the two picnic tables would be accessible to persons with disabilities. GMP also states that the proposed portage take-out would be a concrete level slab, instead of a concrete ramp, to prevent a slipping hazard and that the landing would be 12 feet wide instead of 20 feet wide.

by laying gravel and designating parking spaces; (3) improving the portage take-out and trail by clearing vegetation, grading the take-out, installing steps, and adding signage; and (4) maintaining and monitoring the recreation facilities over the course of the new license.

21. To protect creeping lovegrass, a state-designated rare plant, GMP proposes in its Recreation Plan to place large boulders and new signs at the western end of the grassy picnic area to redirect users away from areas that contain the plant.

22. To protect cultural resources, GMP proposes to implement a Historic Properties Management Plan (HPMP), filed on March 31, 2022.

SUMMARY OF LICENSE REQUIREMENTS

23. This license, which authorizes the continued provision of 7.50 MW of renewable energy generation capacity, requires most of the proposed measures listed above, the conditions required by the Vermont DEC[12] water quality certification (Appendix A), and the staff-recommended measures described below. Combined, these measures will protect aquatic and terrestrial resources, water quality, threatened and endangered species, recreation and aesthetic resources, and cultural resources at the project.

24. Vermont DEC water quality certification condition B requires GMP to provide a continuous 100-cfs minimum spill flow or inflow, whichever is less, into the bypassed reach throughout the year. To monitor compliance with the required 100-cfs spill, the license requires GMP to include the specific impoundment water elevation that provides the required 100-cfs minimum spill flow in the flow management plan required by water quality certification condition C, maintain that impoundment level when operating in a run-of-river mode, and to file the flow management plan with the Commission for approval prior to implementing the plan. To protect sensitive life stages of Eastern pearlshell mussels located in the project impoundment, the license limits any planned, non-emergency maintenance activities by GMP which will draw down the impoundment below the required water level to the period between November 1 and August 15.

25. To verify compliance with the license's operational requirements, the license requires that the flow management plan required by water quality certification condition C include additional details on the flow and impoundment elevation monitoring equipment, that the plan include a provision to maintain a log of project operation, and that the licensee report deviations from the operating requirements to the Commission.

[12] Vermont DEC is a department within Vermont ANR, the administrating authority for Vermont's Water Quality Certification program. Vermont DEC is responsible for issuing the water quality certificate.

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

27. To enhance recreation and public access, the license requires GMP to include in the Recreation Management Plan required by water quality certification condition E: (1) a provision to upgrade the access road between the parking area and Day Use Area; (2) a discussion on how the needs of persons with disabilities were considered in the preparation of the plan; and (3) a conceptual plan for the proposed improvements to the portage take-out.

WATER QUALITY CERTIFICATION

28. Under section 401(a)(1) of the Clean Water Act (CWA),[13] the Commission may not issue a license authorizing the construction or operation of a hydroelectric project unless the state water quality certifying agency has either issued a water quality certification (certification) for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year. Section 401(d) of the CWA provides that the certification must become a condition of any federal license for the project.[14]

29. On January 22, 2021, GMP applied to the Vermont DEC for a water quality certification for the project, which Vermont DEC received on the same day. On January 19, 2022, Vermont DEC issued a certification for the project with 10 conditions, which are set forth in Appendix A of this order and are incorporated into the license by Ordering Paragraph (F).

30. Four of the certification conditions (conditions A, H, I, and J) are general or administrative in nature and are not discussed further.

31. The remaining six certification conditions require GMP to:

(1) Operate the project in an instantaneous run-of-river mode where outflow from the project equals inflow except for short-term deviations such as during impoundment re-filling following planned or unplanned maintenance activities, spill 100 cfs continuously year-round into the bypassed reach when generating, and spill all inflow over the dam when not generating (condition B).

[13] 33 U.S.C. § 1341(a)(1).

[14] *Id.* § 1341(d).

(2) Develop and submit for Vermont DEC approval a flow management plan that (a) details how the project will operate in an instantaneous run-of-river mode while also implementing spill flow requirements; (b) includes a method for continuous monitoring and reporting of flow releases at the project (conservation flow,[15] spillage, and turbine discharge), impoundment levels, and inflows; (c) includes a provision to maintain flow data so that it is available upon request on a "near real-time basis"; and (d) includes procedures for reporting deviations from operating requirements to Vermont DEC within 15 days of the deviation (condition C).

(3) Prior to the next replacement of trash racks at the project, consult with the Vermont Fish and Wildlife Department (Vermont FWD) on the trash rack design and placement to determine the appropriate bar clearance spacing and location and file the trash rack design information with Vermont DEC for approval (condition D).

(4) Develop in consultation with relevant stakeholders[16] a plan and implementation schedule for recreation enhancements and submit the plan and schedule for review and approval by Vermont ANR prior to implementation (condition E).

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

(6) Develop a water level management plan for review and approval by Vermont ANR prior to submitting the plan to the Commission that includes provisions[17] for (a) protecting freshwater mussels from being dewatered

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[15] Vermont DEC does not define the term "conservation flow" in the water quality certification. However, staff assumed in the final EA that the term "conservation flow" refers to the certification requirement that GMP maintain a flow of 100 cfs year-round into the bypassed reach via spill over the dam. Final EA at 12.

[16] Vermont DEC does not specify in its water quality certification which "relevant stakeholders" the licensee needs to consult with in developing the recreation management plan and implementation schedule.

[17] Vermont DEC does not specify in the water quality certification what individual measures should be included in the required water level management plan; however, the agency's comments on the draft EA filed on September 13, 2021, indicated that the plan should include provisions for protecting mussels, such as avoiding maintenance drawdowns during the mussel breeding season, conducting drawdowns on "cool and overcast days," limiting the duration of the drawdown "as much as possible," and "a

when drawdowns are needed for planned maintenance activities at the project, (b) protecting aquatic biota and wildlife in wetlands during maintenance-related drawdowns, and (c) notifying and receiving approval from Vermont DEC prior to conducting any project maintenance or repair work (including drawdowns below the normal operating range) if said work may have a material adverse effect on water quality or cause less than full support of an existing use or a beneficial value or use of State of Vermont waters (condition G).

32. As discussed below, in the Final EA, Commission staff did not recommend some of the water quality certification conditions.

Instantaneous Run-of-River Operation

33. In the final EA,[18] staff did not recommend that the project be required to operate in an instantaneous run-of-river mode where outflow equals, rather than approximates, inflow (condition B). There is no indication that the project is technologically or mechanically capable of operating under conditions where outflow from the project equals inflow on an instantaneous basis such that a perfectly stable reservoir elevation would be maintained at all times.[19] Further, staff found no evidence in the record to suggest that the project's current run-of-river operations in which total outflows approximate total inflows are adversely affecting environmental resources.

34. Staff found that continuing to operate the project in a run-of-river mode where outflows approximate inflows would continue to protect fish spawning areas and freshwater mussel beds from becoming dewatered, and ensure that downstream flows are similar to natural river flows.[20] Therefore, operating the project in a run of river mode such that downstream flows approximate inflow would provide the same benefit to aquatic resources upstream and downstream of the project as operating the project in instantaneous run-of-river mode as required by Vermont DEC certification condition B.

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protective drawdown rate."

[18] Final EA at 72.

[19] Because of the inherent lag times associated with the passive release of stream flows from an elevation-stabilized impoundment (*e.g.* when units, gates, or spillway mechanisms are raised and lowered to manage impoundment water levels), precise and consistent instantaneous matching of outflows to inflows at the project at best, is extremely difficult. More typically, outflow from the project approximates inflow at any given point in time.

[20] Final EA at 23.

Nonetheless, condition B is included in this license, because it is mandatory under section 401(a) of the CWA.

Minimum Flow

35. In the final EA,[21] staff did not recommend maintaining a continuous, year-round 100-cfs spill flow over the dam to enhance aesthetics and protect aquatic habitat in the bypassed reach (condition B). With regard to aesthetics, staff determined that while maintaining a spill flow of 100 cfs over the dam would improve the visual appearance of the dam compared to existing conditions when only leakage flows[22] are visible for the majority of the year, there would be little to no aesthetic benefit from spilling these flows during nighttime hours throughout the year or during daytime hours from November through March[23] when recreational use of project land and waters is expected to be low to non-existent.[24] With regard to aquatic habitat protection, spilling 100 cfs over the dam would increase the wetted area with active circulation immediately below the dam from 25 percent under current operation to 83 percent.[25] This could benefit aquatic habitat in the bypassed reach through improved water quality during the summer and early fall months, when the pool habitat below the dam typically consists of warm, stagnant water with occasional periods when dissolved oxygen concentrations are poor. However, the benefits to water quality and aquatic habitat from continuously spilling 100 cfs flow over the dam would be marginal during the late fall and winter months, because water quality conditions, particularly dissolved oxygen concentrations, already tend to be good at this

[21] Final EA at 66-67.

[22] GMP states that leakage occurs from two openings located at the base of the dam and ranges from 0 to 16 cfs depending on ambient conditions.

[23] GMP defines "nighttime hours" as one half-hour after sunset to one half-hour before sunrise based on the middle date of each month. Therefore, GMP proposes to spill flows during the following daylight hours (based on Eastern Standard Time or Daylight Savings Time) per month: April (5:40am to 8:06pm); May (4:56am to 8:42pm); June (4:38am to 9:08pm); July (4:53am to 9:04pm); August (5:26am to 8:27pm); September (6:02am to 7:32pm); October (6:38am to 6:37pm); November (6:19am to 4:54pm); and December (6:53am to 4:42pm).

[24] The Day Use Area from which views of the dam and the spill are most visible is only open to the public during the day. Also, visitor usage from November through March is likely low to non-existent due to the colder temperatures and icy, snowy weather conditions during these months. Final EA at 49 and 66-67.

[25] Final EA at 29.

time of year with little to no need for improvement.[26] Further, should the impoundment freeze, ice formations on the inflatable rubber dam crest from the spillage flow could interfere with the proper operation of the rubber dam. Staff estimates that maintaining a continuous 100-cfs spill flow over the dam would reduce generation by approximately 2,070 megawatt-hours (MWh) per year, resulting in an annual lost opportunity cost of $79,112.

36. Instead of releasing 100 cfs year-round, staff recommended releasing 75 cfs over the dam during daylight hours from April 1 through October 31.[27] Staff's recommended flow would provide "good aesthetic value"[28] according to GMP's aesthetic study and would increase the percent of the reach showing active circulation from 25 percent under existing conditions to 75 percent during daylight hours during the summer and fall when water temperatures are highest and dissolved oxygen concentration lowest. Staff found that this flow would adequately protect aquatic habitat, improve the visual appearance of flow over the dam when visitors to the Day Use Area are present, and would avoid spilling during the coldest months when icing problems may occur. Releasing staff's recommended spill flow would reduce generation by approximately 535 MWh per year, resulting in a levelized annual lost opportunity cost of $20,489. Staff found that the marginal improvements to aquatic habitat from Vermont DEC's required flow would not be worth the cost and therefore, did not recommend the higher flow. However, condition B, rather than staff's recommended measure, is included in this license, because condition B is mandatory under section 401(a) of the CWA.

Flow Release Monitoring

37. Vermont DEC certification condition C requires GMP to develop a flow management plan that includes monitoring flow releases and generation and making the data available on a "near-real time" basis. In the final EA,[29] staff did not recommend that GMP monitor inflows, outflows, and spill over the dam on a "near-real time basis."[30]

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[26] Final EA at 18-19 and 66-67.

[27] Final EA at 65.

[28] Final EA at 48.

[29] Final EA at 69-70.

[30] Vermont DEC does not indicate in the water quality certification the frequency of monitoring that would be needed to satisfy its condition that data be "available on a near-real time basis." However, staff assumed in the final EA this could be achieved via continuous monitoring and reporting at 15-minute intervals which would require GMP to install and operate at least two stream gages that are capable of continuously monitoring

Staff determined that GMP's existing automated impoundment level monitoring and control system, which is capable of logging impoundment water surface elevations and powerhouse flow levels at 15-minute intervals, is sufficient to monitor water levels, generation, and run-of-river operation where outflows approximate inflows. Staff determined that to comply with Vermont DEC's reporting requirements, GMP would need to install at least two new gages capable of continuously monitoring stream levels and transmitting the data in real-time. Staff estimated this would increase GMP's levelized annual monitoring costs by $41,648. Because GMP's existing monitoring and control system would achieve the same compliance objectives at a lower cost, staff concluded that the benefits of the real-time flow monitoring would not be worth the higher costs. However, condition C is included in this license, because it is mandatory under section 401(a) of the CWA.

38. GMP states that its proposed spill flow of 75 cfs over the dam requires maintaining the reservoir at an elevation of 397.25 feet. To monitor compliance with the required 100-cfs spill, Article 402 requires GMP to identify the specific impoundment water level elevation (in feet U.S. Geological Survey Datum) needed to provide the 100-cfs minimum spill flow required by Vermont DEC certification condition B.

Trash Rack Replacement

39. In the final EA,[31] staff did not recommend requiring GMP to consult with Vermont FWD on a new trash rack design with "appropriate" bar clearance spacing when the time comes for the current trashracks to be replaced (condition D). Staff's analysis in the final EA[32] found that the current trashrack design presents a low risk of impingement for adult and juvenile resident fish and that most fish expected to encounter the trash racks are capable of overcoming the maximum approach and pass-through velocities at the trash rack and swim away before becoming entrained. Staff also determined that fish species and life-stages with a greater likelihood of entrainment are expected to experience high turbine survival (greater than 90 percent) through the project's Kaplan turbines due to their small size.[33] Further, nothing in the record suggests entrainment is adversely affecting resident fish populations residing in the project impoundment or that the trash racks would need to be modified or replaced. However, condition D is included in this license, because it is mandatory under section 401(a) of the CWA.

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stream flows and transmitting the data in real-time. Final EA at 30.

[31] Final EA at 72-73.

[32] Final EA at 33-35 and 72-73.

[33] Final EA at 34-35 and 73.

Water Level Management Plan

40. In the final EA,[34] staff did not recommend developing a water level management plan for the purpose of, among other things, protecting freshwater mussels from being dewatered and aquatic biota and wildlife in wetlands from being impacted by maintenance-related drawdowns (condition G). Vermont DEC does not describe in its certification what measures would satisfy this requirement; however, in its comments on the draft EA,[35] Vermont DEC suggests that the plan could include provisions to avoid maintenance drawdowns during the mussel breeding season, conduct drawdowns on "cool and overcast days," limit the duration of the drawdown "as much as possible," and include "a protective drawdown rate." These provisions are discussed further below.

Mussel Protection Measures

41. GMP periodically (up to 10 times annually) draws the impoundment down five feet (down to an elevation of 392 feet from 397 feet) to maintain the dam and its flow regulating equipment (*i.e.*, repair the rubber bladder, remove large woody debris, repair the intake and headgate infrastructure, etc.). GMP conducts these maintenance activities during the summer and fall when flow and temperature conditions make it easier to perform the work. GMP's mussel surveys found that half (21 of 42) of the state-listed threatened Eastern pearlshell mussels found in the impoundment are located at depths of five feet or less.

42. Including a license requirement to avoid drawing down the impoundment for planned maintenance during the mussel breeding season (August 16 to October 31) would limit dewatering of sensitive reproductive or larval mussel life stages, and provide GMP nine months to conduct planned drawdowns, including during the low flow months of June, July and the first half of August.[36] Therefore, Article 403 requires GMP to limit any planned, non-emergency maintenance activities that will require the impoundment to be drawn down below the reservoir elevation limits specified in this license to the period between November 1 and August 15 to protect Eastern pearlshell mussels.

43. Staff determined that planning maintenance drawdowns around short-term weather conditions (*i.e.*, cloudy days) and limiting the duration of a drawdown would be impracticable and difficult to enforce. Moreover, restricting the rate at which GMP draws down the impoundment water level to perform maintenance would likely be ineffective due to the sedentary nature and low mobility of Eastern pearlshell mussels

[34] Final EA at 67-68.

[35] See Vermont DEC's comment letter filed September 13, 2021.

[36] Final EA at 68.

located in the impoundment.[37] Thus, staff did not recommend requiring these other mussel protection measures.

Other Aquatic Biota and Wildlife

44. With respect to protecting aquatic biota and wildlife in wetlands from maintenance-related drawdowns, staff found in the final EA[38] that avoiding planned maintenance drawdowns during the late summer and early fall – the seasons when inflows to the impoundment are typically at their lowest – would reduce potential effects on wetland habitats used by wildlife. A license requirement to avoid drawing down the impoundment for planned maintenance during the mussel breeding season (August 16 to October 31) would achieve these same objectives without the need to develop a plan. Therefore, staff did not recommend that a water level management plan be developed. However, condition G is included in this license, because it is mandatory under section 401(a) of the CWA.

Vermont DEC Approval of Repairs

45. In the final EA,[39] staff did not recommend GMP obtain Vermont DEC approval prior to unplanned emergency maintenance repairs (condition G). Requiring such approvals before commencing work could limit GMP's ability to complete needed repairs in a timely fashion. However, condition G is included in this license, because it is mandatory under section 401(a) of the CWA.

COASTAL ZONE MANAGEMENT ACT

46. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),[40] the Commission cannot issue a license for a project within or affecting a state's coastal zone unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's CZMA program, or the agency's concurrence is conclusively presumed by its failure to act within six months of its receipt of the applicant's certification.

[37] Eastern pearlshell mussels spend their lives situated in the bottom substrates of streams or lakes rarely moving more than a few meters in a lifetime. Final EA at 22.

[38] Final EA at 40 and 68.

[39] Final EA at 68.

[40] 16 U.S.C. § 1456(c)(3)(A).

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

SECTION 18 FISHWAY PRESCRIPTIONS

48. Section 18 of the FPA[41] 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.

49. On January 26, 2021, 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 405 of this license reserves the Commission's authority to require fishways that may be prescribed by Interior for the Bolton Falls Project.

THREATENED AND ENDANGERED SPECIES

50. Section 7(a)(2) of the Endangered Species Act of 1973 (ESA)[42] 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.

51. Based on the U.S. Fish and Wildlife Service's (FWS) Information for Planning and Consultation (IPaC) website, the threatened northern long-eared bat (*Myotis septentrionalis*) has the potential to occur in the project area.[43] There is no proposed or designated critical habitat for the bat in the project area.

52. FWS finalized an ESA section 4(d) rule for the northern long-eared bat in January 2016.[44] In the FWS's January 5, 2016 Programmatic Biological Opinion for the

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[41] 16 U.S.C. § 811.

[42] 16 U.S.C. § 1536(a).

[43] *See* Commission staff's September 12, 2022 memorandum on FWS's Updated List of Threatened, Endangered, Candidate, and Proposed Species, as accessed through the *IPaC* database (https://ecos.fws.gov/ipac/) on September 12, 2022.

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

section 4(d) rule,[45] FWS found that incidental take of the northern long-eared bat is not prohibited unless the action affects a northern long-eared bat hibernaculum, includes tree removal near a hibernaculum, or includes removal of an occupied maternity roost tree or any trees within 150 feet of an occupied roost tree.[46]

53. To protect the northern long-eared bat, GMP states that maintenance activities at the Bolton Falls Project during the term of a new license would require only periodic mowing and tree trimming, but nothing in the record suggests that it would require any tree removal or that any tree removal that might occur at the project would have the potential to affect northern long-eared bat maternity roost habitat. In the final EA,[47] Commission staff concluded that although relicensing the project may affect the northern long-eared bat, it would not result in the prohibited incidental take of this species under the final ESA section 4(d) rule. The FWS concurred with staff's determination on September 12, 2022.[48] Therefore, no further action under the ESA is required for this species.

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

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

[47] EA at 42.

[48] On September 12, 2022, Commission staff requested FWS's concurrence via the northern long-eared bat key within the FWS's IPaC website (https://ipac.ecosphere.fws.gov/). An official letter generated by the New England Ecological Services Field Office stated that the determination was consistent with the FWS's January 5, 2016 intra-Service programmatic biological opinion on the 4(d) rule for the northern long-eared bat and verified that the Commission's responsibilities were therefore fulfilled under ESA section 7(a)(2), with respect to the northern long-eared bat.

54. FWS proposed on September 14, 2022 to list the tricolored bat (*Perimyotis subflavus*) as endangered[49] based upon the range-wide impacts of white-nose syndrome which have caused estimated declines of more than 90 percent in affected colonies. Critical habitat is not being proposed for the species.

55. Tricolored bats are known to occur in 39 states including Vermont.[50] During spring, summer, and fall, tricolored bats roost primarily among leaf clusters of live or recently dead trees, and form summer maternity colonies where young are born.[51]

56. Project maintenance activities that may affect the tricolored bat are the same as those noted above for the northern-long eared bat. However, because project maintenance is not expected to require the removal of any trees that could affect the bat or its habitat, relicensing the Bolton Falls Project is not likely to jeopardize the continued existence of the tricolored bat.

HISTORIC AND CULTURAL RESOURCES

A. National Historic Preservation Act

57. Under section 106 of the National Historic Preservation Act (NHPA)[52] and its implementing regulations,[53] federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register of Historic Places (National Register), defined as historic properties, and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the

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See Commission staff's September 12, 2022 Memorandum on *Verification Letter for the Project Under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat.*

[49] 87 Fed. Reg. 56,381 (2022).

[50] FWS, Environmental Conservation Online System (ECOS), https://ecos.fws.gov/ecp/species/10515.

[51] FWS. 2021. Species Status Assessment Report for the Tricolored Bat (*Perimyotis subflavus*), Version 1.1. December 2021. Hadley, MA., https://www.fws.gov/sites/default/files/documents/Tricolored_Bat_SSA.pdf.

[52] Section 106 of the National Historic Preservation Act of 1966, as amended, 54 U.S.C. § 306108, Pub. L. No. 113-287, 128 Stat. 3188 (2014). (The National Historic Preservation Act was recodified in Title 54 in December 2014).

[53] 36 C.F.R. Part 800 (2017).

undertaking. This generally requires the Commission to consult with the State Historic Preservation Officer (SHPO) to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any adverse effects.

58. The Bolton Falls Dam is the only historic architectural resource within the project's area of potential effect (APE) that is eligible for listing in the National Register. Three pre-Contact era Native-American archaeological sites within the project's APE are eligible for listing in the National Register. GMP filed a Historic Properties Management Plan on March 31, 2022 that includes a process and procedures to address any potential adverse effects to the Bolton Falls Dam, the three archaeological sites, and any other historic properties that may be found at the project for the term of a new license. The mitigation measures proposed in the HPMP should minimize impacts to archaeological resources from ongoing maintenance activities and recreation.

59. To satisfy its responsibilities under section 106 of the NHPA, the Commission executed a Programmatic Agreement (PA) with the Vermont SHPO. GMP was invited to concur with the stipulations of the PA. The Vermont SHPO signed the PA on May 25, 2022. GMP concurred with the PA on May 27, 2022. A copy of the executed PA was issued on June 1, 2022. The PA requires the licensee to implement the HPMP filed on March 31, 2022. Execution of the PA demonstrates the Commission's compliance with section 106 of the NHPA. Article 407 requires the licensee to implement the PA and the HPMP.

B. Tribal Consultation

60. For the Bolton Falls Project relicensing, Commission staff contacted the Stockbridge-Munsee Band of Mohican Indians and the Saint Regis Mohawk Tribe, by letters issued February 16, 2017 and April 24, 2017, respectively.

61. Staff followed up with each Tribe by calling the Stockbridge-Munsee Band of Mohican Indians on March 21, and April 20, 2017, and the Saint Regis Mohawk Tribe on June 1, 2017. The Stockbridge-Munsee Band of Mohican Indians did not respond to Commission staff's inquiries. The Saint Regis Mohawk Tribe cultural staff member indicated during the June 1 call that the Tribe did not have any questions or concerns about the project.

62. The HPMP, which the licensee is required to implement through Article 407, requires the licensee to notify the Tribes of any activities, other than exempt activities, conducted under the HPMP that might affect cultural resources.

ENVIRONMENTAL JUSTICE

63. In conducting NEPA reviews of proposed hydropower projects, the Commission follows Executive Order 12898, which directs federal agencies to identify and address

"disproportionately high and adverse human health or environmental effects" of their actions on minority and low-income populations (*i.e.*, environmental justice communities).[54] Executive Order 14008 also directs agencies to develop "programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts."[55] Environmental justice is "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies."[56]

64. Consistent with the Council on Environmental Quality (CEQ)[57] and the

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

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

[56] EPA, *Learn About Environmental Justice*, https://www.epa.gov/environmentaljustice/learn-about-environmental-justice#:~:text=Environmental%20justice%20(EJ)%20is%20the,environmental%20laws%2C%20regulations%20and%20policies. Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies. *Id.* Meaningful involvement of potentially affected environmental justice community residents means: (1) people have an opportunity to participate in decisions about activities that may affect their environment and/or health; (2) the public's contributions can influence the regulatory agency's decision; (3) community concerns will be considered in the decision-making process; and (4) decision makers will seek out and facilitate the involvement of those potentially affected. *Id.*

[57] CEQ, *Environmental Justice: Guidance Under the National Environmental Policy Act* 4 (Dec. 1997) (CEQ's *Environmental Justice Guidance*), https://www.energy.gov/sites/default/files/nepapub/nepa_documents/RedDont/G-CEQ-EJGuidance.pdf. CEQ offers recommendations on how federal agencies can provide opportunities for effective community participation in the NEPA process, including identifying potential effects and mitigation measures in consultation with affected

Environmental Protection Agency (EPA)[58] guidance, Commission staff identified one environmental justice community within a 1-mile radius of the project boundary and considered how the community may be affected by noise, visual, and traffic impacts of the construction of new recreation facilities, corresponding changes in recreational activity, and the effects of project operation and recreation on subsistence fishing.

65. In the final EA,[59] staff found that the construction activities associated with improving the Day Use Area, portage take-out, and portage trail would be of short duration and minor in scope and would not create substantial noise or excessive construction traffic or affect visual resources within the identified environmental justice community. Although recreation use at the Bolton Falls Project could increase with the planned public access improvements, the site is remote and unlikely to attract long-term and sustained increases in traffic or impacts to recreational fishing opportunities that would adversely affect the identified community. Therefore, relicensing the project as conditioned in this license would not result in a disproportionately high and adverse impact on the environmental justice community present within the project area.

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

66. Section 10(j)(1) of the FPA[60] requires the Commission, when issuing a license, to include conditions based on recommendations submitted by federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act,[61] to

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communities and improving the accessibility of public meetings, crucial documents, and notices. There were opportunities for public involvement during the Commission's prefiling and environmental review processes, though the record does not demonstrate that these opportunities were targeted at engaging environmental justice communities. For assistance with interventions, comments, requests for rehearing, or other filings, and for information about any applicable deadlines for such filings, members of the public are encouraged to contact OPP directly at 202-502-6592 or OPP@ferc.gov for further information.

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

[59] Final EA at 59.

[60] 16 U.S.C. § 803(j)(1).

[61] 16 U.S.C. §§ 661 *et seq*.

"adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project.

67. No section 10(j) recommendations were filed with the Commission for the Bolton Falls Project.

SECTION 10(a)(1) OF THE FPA

68. Section 10(a)(1) of the FPA[62] 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. Operation Compliance Monitoring

69. GMP does not propose any specific measures for monitoring and reporting compliance with its proposed operating mode (*i.e.*, run-of-river operation, maintaining impoundment levels, spill flows) but would continue to use its automated monitoring and control system to continuously monitor impoundment levels and adjust powerhouse flows and the rubber bladder to maintain the impoundment at the desired elevation. As discussed earlier, condition C of the water quality certification requires that GMP develop a flow management plan to monitor flow releases and generation and make the data available on a "near-real time" basis and to report deviations from operating requirements to Vermont DEC. In the final EA,[63] staff also recommended that GMP develop an operation compliance monitoring plan that describes the mechanisms and structures to be used (*i.e.*, type and exact locations of all flow and impoundment elevation monitoring equipment and gages) to monitor impoundment elevations, spill flows, and generation, and procedures for maintaining and calibrating monitoring equipment. Commission staff also recommended procedures for reporting deviations to both the Vermont DEC and the Commission. Staff estimated that developing the plan would have an estimated annual levelized cost of $1,344 and concluded that the operational and resource benefits would be worth the cost. Because Vermont DEC's flow management plan and staff's recommended operation compliance monitoring plan essentially serve the same purpose, Article 402 does not require a separate operation compliance monitoring plan to implement staff's recommendation but instead requires that GMP include in Vermont DEC's flow management plan, staff's recommended monitoring provisions.

[62] 16 U.S.C. § 803(a)(1).

[63] Final EA at 69-70.

Article 402 also requires GMP to report deviations from operating requirements to the Commission in addition to Vermont DEC.

B. Debris Disposal

70. Vermont DEC certification condition F requires that "debris associated with Project operations shall be disposed of in accordance with state laws and regulations." In the final EA,[64] staff recommended that GMP develop a debris disposal plan in consultation with Vermont DEC and Vermont FWD to avoid misunderstandings with project personnel, guide how and when GMP removes and disposes of debris, and to comply with the water quality certification. Staff estimated that developing the plan would have an estimated annual levelized cost of $334 and found that the operational and resource benefits would be worth the cost. Article 404 requires that GMP develop and file for Commission approval a debris disposal plan that is consistent with the requirements of Vermont DEC certification condition F and includes a detailed description of procedures for collecting, managing, and disposing of organic and inorganic debris at the project and an implementation schedule.

C. Recreation Plan

71. GMP filed a proposed Recreation Management Plan with the license application. The water quality certification does not specifically reference the proposed Recreation Management Plan but instead more generally requires that GMP develop in consultation with "relevant stakeholders" a plan and implementation schedule for recreation enhancements and submit the plan and schedule for review and approval by Vermont ANR prior to implementation (condition E).

72. In the EA,[65] staff recommended a Recreation Management Plan for the project that includes all of the provisions proposed by GMP along with some additional provisions. Those additional provisions are discussed below.

73. GMP's proposed plan includes a provision to relocate the existing Day Use gravel parking lot to the informal lot because floods that occur to varying degrees approximately 3 to 5 times per year cause erosion and deposition of litter that increase its maintenance

[64] Final EA at 70.

[65] EA at 64-65 and 70-71.

costs.[66] In the final EA,[67] staff determined that GMP's proposal to relocate the parking area to the informal parking area and improve the informal parking area would reduce GMP's maintenance requirements, but could also pose a challenge for persons with disabilities wanting to use the facilities in the Day Use Area because the informal parking area would require walking an additional 400 feet along the existing gravel access road that contains difficult grades for those with limited mobility. This could discourage the use of the Day Use Area and would be contrary to the purpose of adding a picnic table designed for persons with disabilities to the Day Use Area. Staff determined that modifying the access road to reduce the slope from the informal parking lot to the Day Use Area would provide better access for persons with disabilities. Staff estimated that improving the access road would add $9,354 in additional annual levelized costs compared to GMP's proposal, but that the improvements were worth the cost. Therefore, Article 406 requires that the Recreation Management Plan developed pursuant to condition E of the water quality certification include a provision to improve the existing access road to provide better access from the informal parking area for persons with disabilities.

74. GMP proposes in the Recreation Management Plan to improve the portage take-out and trail by clearing vegetation, grading the take-out, installing steps, and adding signage. However, the Recreation Management Plan does not include GMP's other proposal to add a 12-foot-wide concrete level slab to the take-out to avoid a slipping hazard made in its June 1, 2020 additional information filing. In addition, the plan does not include GMP's proposal to make one of the two picnic tables for the Day Use Area accessible to persons with disabilities, also included in its June 1, 2020 additional information response. Staff recommended both of these measures in the EA.[68] Therefore, Article 406 requires GMP to include these proposed measures as provisions of the Recreation Management Plan developed pursuant to the water quality certification's condition E.

[66] Damages from flooding include erosion of the gravel parking lot and littering of the parking area and Day Use Area with debris. Occasionally, during more extreme flooding events, signage at the Day Use Area is damaged or lost. Depending on the degree of damage for any given flood, GMP states that work crews spend between 5 to 40 hours cleaning and repairing the Day Use Area parking lot and annual costs for these activities range from approximately $10,000 to $30,000. Final EA at 45-46.

[67] Final EA at 70-71.

[68] EA at 64-65.

75. Vermont DEC water quality certification condition E requires that the licensee consult with "relevant stakeholders" but does not identify them. In the EA,[69] staff recommended that the Recreation Management Plan be developed in consultation with Vermont ANR. Therefore, Article 406 requires that the consulted stakeholders, at a minimum, include Vermont ANR.

PROJECT BOUNDARY

76. 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."[70]

77. GMP proposes to add 3.5 acres of land to the project to enclose the roads used to access project facilities and 4.1 acres of land needed to enclose the entire portage trail. GMP also proposes to remove from the project boundary 4.2 acres of land south of the portage trail, 2.9 acres of land south of Power Plant Road, and 2.1 acres of the Winooski River and shoreline downstream of the project tailrace because they do not support project recreation facilities, are not necessary for project operation and maintenance, and are outside of the influence of project operation. Based on new survey information, GMP also proposes to adjust the boundary along the impoundment to more accurately enclose the shoreline along the 397.00-foot contour elevation.

78. As noted in the Final EA,[71] the additional lands GMP proposes to bring into the project boundary include features that are necessary to operate and maintain the project and therefore should be enclosed within the project boundary. In addition, the land and water proposed to be removed are not affected by project operation and do not serve any project purpose; therefore, these lands and water should be removed from the project boundary.

79. The Exhibit G project boundary map included in GMP's filing on June 1, 2020[72] accurately reflects the proposed changes to the project boundary and is incorporated into the license by Ordering Paragraph (C).

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[69] EA at 72.

[70] 18 C.F.R. § 4.41(h)(2) (2021).

[71] Final EA at 65.

[72] GMP originally filed an Exhibit G with its license application on January 30,

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.

B. Reservation of Authority to Require Financial Assurance Measures

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. Exhibit F and G Drawings

82. The Commission requires licensees to file sets of approved project drawings in electronic file format. Article 203 requires the filing of these drawings.

D. Amortization Reserve

83. The Commission requires that for new major licenses, non-municipal licensees must set up and maintain an amortization reserve account upon license issuance. Article 204 requires the establishment of the account.[73]

E. Headwater Benefits

84. Some projects directly benefit from headwater improvements that were constructed by other licensees, the United States, or permittees. Article 205 requires the licensee to reimburse such entities for these benefits if they were not previously assessed and reimbursed.

F. Modifications of Project Facilities

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

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2020; however, Commission staff informed GMP in a letter issued March 3, 2020, that the files could not be opened and requested GMP to refile them. GMP re-filed its Exhibit G files on June 1, 2020.

[73] See 18 C.F.R. § 11.3 (2021).

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

G. Commission Approval of Resource Plans and Filing of Amendments

86. In Appendix A of this order, there are certain certification conditions that do not require the licensee to file certain plans with the Commission, or that contemplate future changes to the project facilities or operation without the opportunity for prior Commission review. Article 401 requires the licensee to file the plans with the Commission for approval and 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 408 allows the licensees to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting. Such uses must be consistent with the purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.

STATE AND FEDERAL COMPREHENSIVE PLANS

88. Section 10(a)(2)(A) of the FPA,[74] 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.[75] Under section 10(a)(2)(A), Commission staff identified and reviewed 15 comprehensive plans relevant to this project.[76] No conflicts were found.

APPLICANT'S PLANS AND CAPABILITIES

89. In accordance with sections 10(a)(2)(C) and 15(a) of the FPA,[77] Commission staff evaluated GMP's record as a licensee with respect to the following: (A) conservation efforts; (B) compliance history and ability to comply with a new license; (C) safe management, operation, and maintenance of the project; (D) ability to provide efficient

[74] 16 U.S.C. § 803(a)(2)(A).

[75] Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19.

[76] The list of applicable plans can be found in section 5.4 of the final EA.

[77] 16 U.S.C. §§ 803(a)(2)(C); 808(a).

and reliable electric service; (E) need for power; (F) transmission services; (G) cost-effectiveness of plans; and (H) actions affecting the public. As discussed below, this order adopts staff's findings in each of the areas.

A. Conservation Efforts

90. Section 10(a)(2)(C) of the FPA[78] requires the Commission to consider the applicant's electricity consumption improvement program, 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. GMP coordinates its project operation with ISO New England to supply its energy to GMP's retail customers.

91. The Commission concludes that, given the limits of GMP's ability to influence users of the electricity generated by the project, GMP will operate the project in a manner that is consistent with section 10(a)(2)(C) of the FPA.

B. Compliance History and Ability to Comply with the New License

92. Based on a review of GMP's compliance with the terms and conditions of the existing license, GMP's overall record of making timely filings and compliance with its license is satisfactory. Therefore, GMP can satisfy the conditions of a new license.

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

93. Commission staff has reviewed GMP's record of management, operation, and maintenance of the Bolton Falls Project pursuant to the requirements of 18 C.F.R. Part 12, the Commission's Engineering Guidelines, and the periodic Dam Safety Surveillance and Monitoring Reports. The Commission concludes that the project works are in good condition, and that there is no reason to believe that GMP cannot continue to safely manage, operate, and maintain these facilities under a new license.

D. Ability to Provide Efficient and Reliable Electric Service

94. Commission staff has reviewed GMP's plans and its ability to operate and maintain the project in a manner most likely to provide efficient and reliable electric service. Staff's review indicates that GMP maintains formal procedures for assuring satisfactory operation of the generating units and associated equipment to ensure they continue to perform in an optimal manner and to minimize effects on energy production.

[78] *Id*. § 803(a)(2)(C).

Therefore, GMP is capable of operating the project to provide efficient and reliable electric service in the future.

E. Need for Power

95. To assess the need for power, staff looked at the needs in the operating region in which the project is located, which is the Northeast Power Coordinating Council's (NPCC) New England region of the North American Electric Reliability Corporation (NERC). NERC annually forecasts electrical supply and demand in the nation and the region for a 10-year period. NERC's most recent report indicates annual peak demand growth rate in the NPCC's New England region is projected to increase 0.1 percent from 2021 through 2030. The power from the proposed project would help meet a need for power in the New England region in both short and long-term.

F. Transmission Services

96. Power generated by the project's two turbine units is transmitted through an approximately 130-foot long, 5-kilovolt underground transmission line that connects to an adjacent switchyard which steps up the voltage to 34.5 kilovolts. From the adjacent switchyard, a 600-foot-long, 34.5-kilovolt overhead transmission line connects to a second switchyard that interconnects with the regional grid. GMP does not propose, and the license does not require, any changes that would affect this project's or other transmission services in the region.

G. Cost Effectiveness of Plans

97. GMP proposes modifications to project facilities and environmental measures to enhance environmental resources affected by the project. Based on GMP's record as an existing licensee, these plans are likely to be carried out in a cost-effective manner.

H. Actions Affecting the Public

98. GMP provided opportunities for public involvement in the development of its application for a new license for the Bolton Falls Project. The project provides ample opportunities for the public to use the project area for recreation such as fishing, swimming, and canoeing.

PROJECT ECONOMICS

99. In determining whether to issue a new 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.*,[79] the Commission uses current costs to compare the costs of the project with the costs of the likely alternative source of power with no forecasts concerning potential future inflation, escalation, or deflation beyond the license issuance date. The basic purpose of the Commission's economic analysis is to provide a general estimate of the potential power benefits and the costs of a project, and of reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license.

100. In applying this analysis to the Bolton Falls Project, Commission staff considered three options: a no-action alternative, GMP's proposal, and the project as licensed herein.[80] Under the no-action alternative, the project would continue to operate as it does now. The project has an installed capacity of 7.50 MW, a capacity benefit of 6.25 MW, and generates an average of 26,301 MWh of electricity annually.[81] The average annual project cost is $480,513. The alternative source of power's annual cost to produce the same amount of energy and provide the same capacity benefit is $2,677,439 in 2022 dollars.[82] 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 $2,196,926, or $83.53/MWh, less than the alternative source of power's cost.

101. As proposed by GMP, the project would have an installed capacity of 7.50 MW, a capacity benefit of 8.90 MW, and generate an average of 25,660 MWh of energy annually. The levelized annual cost of operating the project as proposed by GMP would be $541,716, or $21.11/MWh. The alternative source of power's cost to produce the same amount of energy and provide the same capacity benefit is $2,536,356 in 2022

[79] 72 FERC ¶ 61,027 (1995).

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

[81] 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.

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

dollars. Subtracting the total annual project cost from the alternative source of power's current cost, the project's cost to produce power and capacity would be $1,994,640, or $77.73/MWH, less than the alternative source of power's cost.

102. As licensed herein with mandatory conditions and Commission staff's measures, the project will have an installed capacity of 7.50 MW, a capacity benefit of 4.37 MW, and generate an average of 24,231 MWh of energy annually. The levelized annual cost of operating the project will be $643,389, or $26.55/MWH. The alternative source of power's cost to produce the same amount of energy and provide the same capacity benefit is $2,243,269 in 2022 dollars. Therefore, the project as licensed herein will cost $1,599,880, or $66.03/MWh, less than the alternative source of power's cost.

103. 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.

104. 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

105. Sections 4(e) and 10(a)(1) of the FPA[83] 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 judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

106. The Final EA for the project contains background information, analysis of effects, and support for related license articles. Based on the record of this proceeding, including

[83] 16 U.S.C. §§ 797(e) and 803(a)(1).

the EA and the comments thereon, licensing the Bolton Falls Project as described in this order will not constitute a major federal action significantly affecting the quality of the human environment. The project will be safe if operated and maintained in accordance with the requirements of the license.

107. Based on Commission staff's independent review and evaluation of the Bolton Falls Project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the Final 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.

108. This alternative is selected because: (1) issuing a new license will 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, recreational and aesthetic resources, and cultural resources; and (3) the 7.50 MW of electric capacity comes from a renewable resource that does not significantly contribute to atmospheric pollution.

LICENSE TERM

109. Section 15(e) of the FPA[84] 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.

110. On October 19, 2017, the Commission established a 40-year default license term policy for licenses, effective as of October 26, 2017.[85] 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 during the prior license term, or substantial new measures are expected to be implemented under the new license.

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

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[84] 16 U.S.C. § 808(e).

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

The Director orders:

(A) This license is issued to Green Mountain Power Corporation (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 Bolton Falls 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 these lands, enclosed by the project boundary shown by the Exhibit G filed on June 1, 2020.

Exhibit	FERC Drawing No.	Drawing Title	Filename Title[86]
G-1	P-2879-1001	Exhibit G-1	Project Boundary Map
G-2	P-2879-1002	Exhibit G-2	Project Boundary Map

(2) Project works consisting of: (a) a 2.1-mile-long impoundment with a storage capacity of 300 acre-feet at a normal full pool elevation of 397 feet[87]; (b) a 92-foot-high, 275-foot-long timber crib dam with a maximum crest elevation of 397 feet when the 5-foot-high rubber bladder atop the dam is inflated and a maximum elevation of 392 feet when the rubber bladder is deflated; (c) a 196-foot-long concrete spillway with a crest elevation of 392 feet; (d) a forebay with two concrete intakes, each fitted with 27-foot-wide, 43-foot-high trash racks; (e) two 10-foot diameter, 120-foot-long steel penstocks encased in concrete; (f) a 73-foot-long, 57-foot-wide powerhouse containing two horizontal, 3,750-kilowatt Kaplan turbines for a total installed capacity of 7,500 kilowatts; (g) a 75-foot-long, 36-inch diameter bypass pipe located on the left side of the spillway base (when looking downstream); (h) a 130-foot long, 5-kilovolt underground transmission line that connects to an adjacent switchyard; (i) a 600-foot-long, 34.5-

[86] This exact drawing title must be used in the filename when filing the electronic file format drawings required in license Article 203. There is no need to modify the titles as they appear on the drawings.

[87] Unless otherwise noted, all elevations are referenced to the National Geodetic Vertical Datum of 1929.

kilovolt overhead transmission line connecting to a second switchyard that interconnects with the regional grid; and (j) appurtenant facilities.

Other project facilities include: (a) a Day-Use Recreation Area below the dam that contains a picnic area, parking lot, and canoe put-in; (b) a canoe take-out on the impoundment; (c) a portage trail connecting the take-out and put-in; (d) an access road used by GMP to access project facilities below the dam and by the public to access the Day Use Area from River Road; and (e) an access road used by GMP to access the project dam and canoe take-out from River Road.

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

Exhibit A: Pages A-1 to A-3, sections A.1 through A.8, filed on January 30, 2020.

Exhibit F: The following Exhibit F drawings filed on January 30, 2020:

Exhibit Drawing	**FERC Drawing No.**	**Drawing Title**	**Filename Drawing Title[88]**
F-1	P-2879-1003	Site Plan	Site Plan
F-2	P-2879-1004	Dam Section	Dam Section
F-3	P-2879-1005	Power Intake Plan	Intake Plan
F-4	P-2879-1006	Intake Profile	Intake Profile
F-5	P-2879-1007	Penstock Plan	Penstock Plan
F-6	P-2879-1008	Penstock and Unit No. 1 Profile	Penstock Unit 1 Profile
F-7	P-2879-1009	Powerhouse General Arrangement	Powerhouse Arrangement
F-8	P-2879-1010	Powerhouse Section Through Unit 2	Powerhouse Through Unit 2

[88] These exact drawing titles must be used in the filename when filing the electronic file format drawings required in license Article 203. 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.

(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 Exhibits A, F, and G described above are approved and made part of this license.

(D) 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.

(E) This license is also subject to the articles set forth in Form L-10, (October 1975), entitled "Terms and Conditions of License for Constructed Major 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 7.50 megawatts.

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. *Exhibit Drawings*. Within 45 days of the issuance date 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-2879-1001 through P-2879-1010) in the margin below the title block of the corresponding approved drawing. The licensee must label and file the Exhibit F drawings as **Critical Energy Infrastructure Information (CEII) material under 18 CFR § 388.113** (The submission should consist of: 1) a public portion consisting of a cover letter, the Exhibit G drawings, and GIS data, and 2) a CEII portion containing only the Exhibit F drawings). Each drawing must be a separate electronic file, and the file name must include: FERC Project-Drawing Number, FERC Exhibit Number, Filename Title, date of this order, and file extension in the following

format [P-2879-1003, 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 in order to comply with National Map Accuracy Standards for maps at a 1:24,000 scale. The file names(s) must include: FERC Project Number, data description, date of this order, and file extension in the following format [P-2879, 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 order, and file extension in the following format [P-2879, project boundary metadata, MM-DD-YYYY.TXT].

Article 204. *Amortization Reserve*. Pursuant to section 10(d) of the Federal Power Act, a specified reasonable rate of return upon the net investment in the project must be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. The licensee must set aside in a project amortization reserve account at the end of each fiscal year one half of the project surplus earnings, if any, in excess of the specified rate of return per annum on the net investment. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year, the licensee must deduct the amount of that

deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The licensee must set aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The licensee must maintain the amounts established in the project amortization reserve account until further order of the Commission.

The specified reasonable rate of return used in computing amortization reserves must be calculated annually based on current capital ratios developed from an average of 13 monthly balances of amounts properly included in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rate for such ratios must be the weighted average cost of long-term debt and preferred stock for the year, and the cost of common equity must be the interest rate on 10-year government bonds (reported as the Treasury Department's 10-year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 205. *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 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. *Commission Approval and Filing of Amendments*

(a) Requirement to File Plans for Commission Approval.

Certain conditions of the Vermont Department of Environmental Conservation (Vermont DEC) Clean Water Act section 401 water quality certification (certification) in Appendix A require the licensee to prepare plans in consultation with other entities for approval, and to implement specific measures without prior Commission approval. The following plans must be submitted to the Commission for approval by the deadline specified:

Vermont DEC Certification Condition	Plan Name	Commission Due Date
C	Flow Management Plan	May 16, 2023
E	Recreation Management Plan and Implementation Schedule	May 16, 2023
G	Water Level Management Plan	May 16, 2023

The licensee must include with the flow management plan and the water level management plan documentation that the plan has been approved by Vermont DEC as required by Vermont DEC certification conditions C and G (Appendix A). The license must include with the recreation management plan documentation that the plan and its implementation schedule have been approved by Vermont's Agency of Natural Resources as required by Vermont DEC certification condition E (Appendix A). The Commission reserves the right to make changes to any plan filed. Upon Commission approval, the plan becomes a requirement of the license, and the licensee must implement the plan, including any changes required by the Commission. Any changes to the above schedule or plans require approval by the Commission before implementing the proposed change.

(b) Requirement to File Amendment Applications.

Certain conditions of the Vermont DEC certification in Appendix A contemplate long-term changes to project operations or facilities (*e.g.*, conditions A, D, and J). 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 Plan*. The flow management plan required by Vermont Department of Environmental Conservation (Vermont DEC) water quality certification (certification) condition C (Appendix A) must include the following additional provisions:

(1) the specific impoundment water level elevation (in feet U.S. Geological Survey Datum) needed to provide a 100 cubic feet second (cfs) minimum spill flow into the bypassed reach required by Vermont DEC certification condition B (Appendix A);

(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.

As required by Vermont DEC water quality certification condition E (Appendix A), the licensee must prepare the plan after consultation with Vermont DEC and obtain Vermont DEC approval as required by the certification and Article 401.

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 403. *Project Operation*. In addition to implementing the run-of-river operation and minimum spill flow requirements of Vermont Department of Environmental Conservation (Vermont DEC) Clean Water Act section 401 water quality certification (certification) condition B (Appendix A), the licensee must:

(1) maintain the impoundment water level at the elevation(s) specified in the flow management plan required by Vermont DEC water quality certification condition C (Appendix A) and Article 402 (*Flow Management Plan*); and

(2) limit any planned, non-emergency maintenance activities that will require the impoundment to be drawn down below the limits specified in item 1 to the period between November 1 and August 15 to protect Eastern pearlshell mussels in the project impoundment.

Reporting of Planned Deviations

Run-of-river operation and spill flow requirements of Vermont DEC certification condition B (Appendix A) 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 DEC and Vermont Fish and Wildlife Department (collectively, resource agencies). After concurrence from the resource agencies and filing a report with Vermont DEC as required by Vermont DEC certification conditions C and G (Appendix A), 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 how potential effects were evaluated, and (4) documentation of consultation with the resource agencies. For planned deviations exceeding 3 weeks, the licensee must file a report with Vermont DEC and receive approval from Vermont DEC as required by Vermont DEC certification conditions C and G (Appendix A) and must file an application for a temporary amendment of the operational requirements and receive Commission approval prior to implementation.

Reporting of Unplanned Deviations

Run-of-river operation and spill flow requirements of Vermont DEC water quality certification condition B (Appendix A) 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 (Appendix A), for any unplanned deviation from run-of-river operation, spill flow, or 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 the resource agencies within 24 hours, and the Commission within 14 days, and file a report 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 the resource agencies, or confirmation that no comments were received from the resource agencies, (6) documentation of any observed or reported environmental effects and how potential effects were evaluated, 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 (Appendix A), for unplanned deviations from run-of-river operation, spill flow, or 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

the resource agencies, or confirmation that no comments were received from the resource agencies, and (6) a description of measures implemented to prevent similar deviations in the future.

Article 404. *Debris Disposal Plan*. Within six months of license issuance, the licensee must file with the Commission for approval, a debris disposal plan that is consistent with the requirements specified in Vermont Department of Environmental Conservation (Vermont DEC) water quality certification condition F (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 DEC and the Vermont Fish and Wildlife Department (collectively, agencies). The licensee must include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee must allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing must include the licensee's reasons, based on project specific information.

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

Article 405. *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 406. *Final Recreation Management Plan.* The final Recreation Management Plan required by the Vermont Department of Environmental Conservation (Vermont DEC) water quality certification condition E (Appendix A) must include the provisions included in the Recreation Management Plan in Appendix H of the license application, filed on January 30, 2020, and the following:

(1) A provision to install and maintain a picnic table that is accessible to persons with disabilities;

(2) A provision to install a 12-foot-wide concrete level slab at the portage take-out;

(3) Design drawings for improving the slope of the existing access road to enhance access for persons with disabilities; and

(4) An implementation schedule for completing the above improvements within 2 years of license issuance.

The licensee must develop the plan after consultation with, at a minimum, 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 the consulted entities, and specific descriptions of how the consulted entities' comments are accommodated by the plan. The licensee must allow a minimum of 30 days for the consulted entities 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. *Programmatic Agreement and Historic Properties Management Plan.* The licensee must implement the "Programmatic Agreement Between the Federal Energy Regulatory Commission and the Vermont State Historic Preservation Officer for Managing Historic Properties that May be Affected by Issuance of a New License to Green Mountain Power for the Continued Operation of the Bolton Falls Hydroelectric Project in Washington County, Vermont (FERC No. 2879-012)," executed on May 25, 2022, and including but not limited to the approved Historic Properties Management Plan (HPMP) for the project. In the event that the Programmatic Agreement is terminated, the licensee must continue to implement the provisions of its approved HPMP.

The Commission reserves the authority to require changes to the HPMP at any time during the term of the license.

Article 408. *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 will 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.

(F) 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.

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

for
Terry Turpin
Director
Office of Energy Projects

Form L-10
(October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED MAJOR PROJECT AFFECTING 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. In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is

transferred to a new licensee or to a nonpower licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

Article 7. The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Federal Power Act and the Commission's Rules and Regulations thereunder.

Article 8. 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 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 9. 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 10. 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 11. Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.

Article 12. 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 13. 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 14. In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference.

Article 15. 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 16. 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 17. The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable modifications of the project, as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary

of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

Article 18. 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 19. 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 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 20. 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 21. 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 22. 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 23. 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 January 19, 2022)

Decision and Certification

The Department has examined the Project application and other pertinent 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. After examination of these materials, the Department certifies that there is reasonable assurance that operation of the Project, when done 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 113 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 with outflow equal to inflow on an instantaneous basis. 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 deviations, as further described in Finding 70 and incorporated by reference. When generating, the Project shall spill 100 cfs continuously year-round in the bypass reach unless otherwise indicated in the flow management and monitoring plan (Condition C). When the Project is not operation, all flow shall be spilled at the dam.

   See finding 70, 71, 74, 76, and 123-127 for a statement of necessity. 10 V.S.A. § 1258 & Vt. Code R. 12 030 026 § 29A-304 & § 29A-306 (b) & § 306

(c)(3)(B)(i).

C. **Flow Management and Monitoring Plan.** The licensee shall develop within 180 days of the effective date of the FERC license, a flow management plan detailing how the Project will operate in a true run-of-river mode and seasonal flow management to comply with the conservation flow. 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 113 and 127 for a statement of necessity. 10 V.S.A. § 1258 & Vt. Code R. 12 030 026 § 29A-304 & § 29A-306(b).

D. **Trashracks**. Prior to the next replacement of the trashracks at the Project, the Applicant shall consult with the Fish and Wildlife Department with respect to the trashrack design and placement, to determine the appropriate bar clearance spacing and location. The Applicant shall file the trashrack design information with the Department of Environmental Conservation for approval prior to commencement of work.

See finding 57-63, and 119 for a statement of necessity. 10 V.S.A. § 1258 & Vt. Code R. 12 030 026 § 29A-306(a).

E. **Recreational Facilities**. The Applicant shall develop within 180 days of the effective date of the FERC license, a plan and implementation schedule for recreation enhancements. The plan and schedule shall be developed in consultation with relevant stakeholders and shall be subject to approval by the Agency prior to implementation.

See finding 90, 102, 105, 134, 138, and 139 for a statement of necessity. 10 V.S.A § 5403 & 10.V.S.A. § 1258 & Vt. Code R. 12 030 026 § 29A-103(b)(1)(G).

F. **Debris Disposal**. Debris associated with Project operations shall be disposed of in accordance with state laws and regulations.

See finding 107 and 140 for a statement of necessity. 10 V.S.A. § 1258 & Vt. Code R. 12 030 026 § 29A-303(1).

G. **Maintenance Plan and Repair Work**. The licensee shall develop within 180 days of the effective date of the FERC license, a water level management plan for when drawdowns are needed for planned maintenance activities at the Project. The plan shall include provisions that will be taken to protect freshwater mussels from being dewatered during these activities, and will protect aquatic biota and wildlife in wetlands impacted by maintenance-related drawdowns. The plans shall be subject to review and approval by the Agency prior to being submitted to FERC. Additionally, any Project maintenance or repair work, including drawdowns below the normal operating range to facilitate repair/maintenance work, shall be filed with the Department for prior review and approval, if said work may have a material adverse effect on water quality or cause less-than-full support of an existing use or a beneficial value or use of State waters.

See finding 80, 80, 87, 88, 129 and 133 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).

H. **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 113 for a statement of necessity. 10 V.S.A § 1258 & Vt. Code R. 12 0330 026 § § 29A-104(a).

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

See finding 113 for a statement of necessity. 10 V.S.A § 1258 & Vt. Code R. 12 0330 026 § 29A-104(a).

J. **Modification of Certification**. The conditions of this certification may be altered or amended by the Department to assure compliance with the Vermont Water Quality Standards and to respond to any chances in classification of management objectives for the waters affected by the Project, when authorized by law, and, if necessary, after notice and opportunity for hearing.

See finding 113 for a statement of necessity. 10 V.S.A § 1258 & Vt. Code R. 12

0330 026 § 29A-104(a).