

176 FERC ¶ 61,186
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

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

Cornell University

Project No. 3251-010

ORDER ISSUING NEW LICENSE

(Issued September 23, 2021)

INTRODUCTION

1. On June 28, 2019, Cornell University (Cornell) filed, pursuant to sections 4(e) and 15 of the Federal Power Act (FPA),¹ an application for a new license to continue operating and maintaining the Cornell University Hydroelectric Project No. 3251 (Cornell Project or project). The 1.718-megawatt (MW) project is located on Fall Creek within the Cornell campus in the City of Ithaca, Tompkins County, New York.² The project does not occupy federal land.
2. As discussed below, this order issues a new license for the project.

BACKGROUND

3. The Commission issued an original license for the project on July 28, 1981, with an effective date of July 1, 1981.³ The license expired on June 30, 2021, and since then,

¹ 16 U.S.C. §§ 797(e), 808.

² Fall Creek is a tributary of Cayuga Lake, which flows into the Seneca River, which flows into the Oswego River, which is a navigable waterway. Since the project is located on a stream over which Congress has jurisdiction under the Commerce Clause, affects interstate commerce through its connection to an interstate power grid, and was constructed after 1935, it is required to be licensed pursuant to section 23(b)(1) of the FPA. *See* 16 U.S.C. § 817(1).

³ *Cornell Univ.*, 16 FERC ¶ 62,114 (1981).

the project has continued operating under an annual license.⁴ On June 29, 1995, the Commission issued an order amending the license to accurately reflect the installed capacity of the project, thereby changing its designation from a minor project to a major project.⁵

4. On November 22, 2019, the Commission issued a public notice that was published in the *Federal Register* accepting the application for filing and setting January 21, 2020, as the deadline for filing motions to intervene and protests.⁶ The U.S. Department of the Interior (Interior), on behalf of its component bureaus, the U.S. Fish and Wildlife Service (FWS) and Bureau of Indian Affairs, and the New York State Department of Environmental Conservation (New York DEC) filed timely notices of intervention.⁷ Neither of the intervenors oppose relicensing the project.

5. On January 23, 2020, the Commission issued a public notice that was published in the *Federal Register* indicating the application was ready for environmental analysis, and setting March 23, 2020, as the deadline for filing comments, recommendations, terms and conditions, and fishway prescriptions.⁸ Interior filed comments, section 10(j) recommendations, and a reservation of authority to prescribe fishways. Cornell filed reply comments on May 7, 2020, clarifying its proposed operation and environmental measures.

6. On November 30, 2020, Commission staff issued an environmental assessment (EA), analyzing the effects of the proposed project and alternatives to it. FWS, New York DEC, and Cornell filed comments on the EA.

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

⁴ 16 U.S.C. § 808(a)(1); *see also* Commission staff's July 13, 2021 Notice of Authorization for Continued Project Operation at 1.

⁵ *Cornell Univ.*, 71 FERC ¶ 62,222, *order on reh'g*, 73 FERC ¶ 61,148 (1995) (increasing the authorized capacity of the project above the 2,000-horsepower limit [1,500 kW equivalent] for minor projects).

⁶ 84 Fed. Reg. 65,803 (Nov. 29, 2019).

⁷ Under Rule 214(a)(2) of the Commission's Rules of Practice and Procedure, Interior and New York DEC became parties to the proceeding upon timely filing of their notices of intervention. 18 C.F.R. § 385.214(a)(2) (2020).

⁸ 85 Fed. Reg. 5412 (Jan. 30, 2020).

PROJECT DESCRIPTION

A. Project Area

8. The mainstem of Fall Creek originates at Lake Como in Cayuga County, New York, and flows about 33 miles in a westerly direction before emptying into Cayuga Lake. From the Cornell Project, located 1.8 miles upstream of Cayuga Lake, Fall Creek descends over 400 feet through the Fall Creek Gorge, past steep-sided gorge walls and waterfalls, ranging from 30 to 156 feet high. The Fall Creek watershed encompasses about 128 square miles of primarily agricultural and forest land.

B. Project Facilities

9. The Cornell Project includes Beebe Lake dam, which is a 304-foot-long reinforced-concrete gravity dam with a non-overflow section containing two 5-foot-wide stoplog gates (minimum flow weirs) and three overflow sections with a crest elevation of 780.7 feet.⁹ Water from the 16-acre project impoundment (Beebe Lake) passes a steel vertical-slide gate along the north bank and trash racks of 0.914-inch clear bar spacing before descending an approximately 1,700-foot-long buried penstock to the project powerhouse. The powerhouse is a 79-foot-long, 29-foot-wide stone masonry structure containing two Ossberger crossflow turbine-generator units. Water exits the powerhouse on the north side of Fall Creek directly below the powerhouse, creating an approximately 1,800-foot-long bypassed reach. A 385-foot-long, 2.4-kilovolt (kV) single transmission line connects to Cornell's distribution system. A more detailed project description is contained in Ordering Paragraph (B)(2).

C. Project Boundary

10. The current project boundary comprises 20.07 acres and encloses the dam, impoundment (to a contour elevation of 780.7 feet), penstock, powerhouse, transmission line corridor, and appurtenant facilities.

11. Cornell proposes to expand the current project boundary by 0.41 acre to include an existing chilled water plant forebay and an associated outlet drain valve,¹⁰ the

⁹ All elevations in this order are referenced to above mean sea level.

¹⁰ The chilled water plant was formerly part of Cornell's campus-wide air-conditioning system, which used Beebe Lake as a heat sink for the condensing system. The chilled water plant's forebay and associated drain valve are integral to the southern end of the project dam, serve as a drainage point for Beebe Lake (*see* section A.2.1.1 of the final license application), and are necessary for project operation and maintenance (*see* Cornell's November 1, 2019 response to staff's request for additional information).

downstream portion of the project dam, and the staircase required to access the project powerhouse, as these facilities are necessary for the operation and maintenance of the project. Cornell also proposes to remove 1.46 acres that are part of the transmission line right-of-way south of the powerhouse, a portion of the buried penstock right-of-way to the west of the project intake, and portions of the north and east shorelines of Beebe Lake. Lastly, Cornell proposes to remove a 1.25-acre island in Beebe Lake¹¹ as it is not needed and necessary for operation or maintenance of the project. In total, Cornell's proposed project boundary would enclose 19.02 acres.

D. Current Project Operation

12. The Cornell Project is operated in a run-of-river mode.¹² Article 20 of the current license requires Cornell to maintain a continuous minimum flow of 10 cubic feet per second (cfs) or inflow to the impoundment, whichever is less, to the bypassed reach. At inflows less than 20 cfs, flow to the bypassed reach is provided through the project's minimum flow weirs, with any remaining flow passed through the project with no generation due to the project's minimum hydraulic capacity (7.5 cfs). When inflows exceed 20 cfs, flow to the bypassed reach is provided through the minimum flow weirs or the overflow sections of the dam. Maximum generation is achieved at a flow of 160 cfs, which is the capacity of the penstock; thus, any remaining inflow is spilled over the dam.

13. The impoundment's elevation is controlled by a pressure level sensor at the intake forebay that feeds to a programmable logic controller (PLC) in the powerhouse to control the turbine gates. The PLC program contains alarms and automatic shutdown capabilities to control operation of the project in the event of an emergency. The project's powerhouse is unstaffed, except during weekly inspections. The project intake is visited once or twice per week by a plant operator and is inspected daily by Cornell shift mechanics. Project operation is remotely monitored 24-hours-per-day via remote sensing equipment and camera views of the project's trash rack and dam.

The forebay contains electric inlet gates and an electric discharge gate that provides flow to a 4-foot-by-4-foot-wide tunnel.

¹¹ For consistency, this license order uses the term "Beebe Lake Island" for the island in the eastern portion of Beebe Lake.

¹² Defined herein as minimizing the fluctuation of the impoundment surface elevation by maintaining a discharge from the project such that the sum of all outflows from the project approximates the sum of inflows at any given time.

E. Proposed Operation and Environmental Measures

14. To protect aquatic resources, Cornell proposes to continue to operate the project in a run-of-river mode and maintain the impoundment elevation at or above the spillway crest (780.7 feet), with fluctuations limited to no more than 0.5 foot below the spillway crest (i.e., 780.2 feet).
15. To maintain fish and aquatic macroinvertebrate habitat, Cornell proposes to continue to provide a minimum flow of 10 cfs or inflow to the project, whichever is less, into the project's bypassed reach through existing weirs and/or flow over the project's overflow spillway.
16. To minimize flow fluctuations downstream of the project, Cornell proposes to operate the project using stepwise shutdown and startup procedures.¹³
17. To prevent the introduction or spread of invasive plant species, Cornell proposes to implement the Invasive Plant Species Management Plan, filed in Appendix D of the final license application.
18. To protect northern long-eared bats and bald eagles at the project, Cornell proposes to implement the Northern Long-eared Bat and Bald Eagle Management Plan, filed in Appendix D of the final license application.
19. To protect historic properties eligible for listing on the National Register of Historic Places (National Register), Cornell proposes to develop an Historic Properties Management Plan (HPMP).

SUMMARY OF LICENSE REQUIREMENTS

20. This license, which authorizes 1.718 MW of renewable energy generation capacity, requires most of the proposed measures listed above, the staff-recommended modifications and additional measures described below, and the conditions required by New York DEC's water quality certification (certification) (Appendix A). Combined, these measures will protect or enhance water quality, fisheries, terrestrial, and cultural resources at the project.

¹³ Stepwise shutdown and startup procedures are used to incrementally decrease powerhouse flows during shutdowns and incrementally increase powerhouse flows during startups rather than fully shutting down or fully starting up all at once. Such gradual, incremental changes in flows minimize downstream flow fluctuations.

21. To ensure compliance with project operation and environmental measures, the license requires a stream flow and water level monitoring plan.
22. To prevent the introduction or spread of invasive plant species, the license requires Cornell to finalize its Invasive Plant Species Management Plan within one year of the issuance date of the license.
23. To protect northern long-eared bats and bald eagles at the project, the license requires Cornell to finalize its Northern Long-eared Bat and Bald Eagle Management Plan.
24. To protect soil resources and minimize the potential for fish and wildlife impacts due to small- and large-scale dredging at the project, the license requires a sediment management plan.

WATER QUALITY CERTIFICATION

25. Under section 401(a)(1) of the Clean Water Act (CWA),¹⁴ the Commission may not issue a license authorizing the construction or operation of a hydroelectric project unless the state water quality certifying agency either has issued 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 shall become a condition of any federal license that authorizes construction or operation of the project.¹⁵

26. On March 23, 2020, Cornell applied to New York DEC for a certification for the Cornell Project. New York DEC received the application on the same day. On March 22, 2021, New York DEC issued a certification for the project that includes 37 conditions.¹⁶ Twenty-eight of the conditions are general or administrative in nature and are not discussed further, including: general natural resource permit conditions 1 through 7, operation conditions 12, 17, and 18; certification specific condition 1; general conditions 1 through 6; and other permittee obligations, items A through D. The remaining conditions require Cornell to: (1) operate the project in a run-of-river mode where instantaneous inflow equals outflow downstream of the project tailrace

¹⁴ 33 U.S.C. § 1341(a)(1).

¹⁵ *Id.* § 1341(d).

¹⁶ The original certification was issued on March 12, 2021; however, in response to a request for clarification from Cornell, the certification was modified and reissued on March 22, 2021 to include an “or inflow, whichever is less,” clause to the 10-cfs minimum flow requirement in condition 9.

(condition 8); (2) maintain a continuous, year-round minimum flow of 10 cfs or inflow, whichever is less, to the bypassed reach (condition 9); (3) limit fluctuations of the project impoundment to no more than 3 inches from the spillway crest elevation (780.7 feet) (condition 10); (4) maintain the current trash racks of 1-inch or smaller clear bar spacing in good working condition and clear of debris (condition 11); (5) develop a streamflow and water level monitoring plan (condition 13); (6) develop a sediment management plan (condition 14); (7) develop a trash rack management plan (condition 15); (8) develop an invasive plant species management plan (condition 16);¹⁷ and (9) during construction and maintenance activities that require lowering of the project impoundment, limit drawdown and refilling rates of the project impoundment to no more than 1 foot per hour (condition 19).

27. The 37 conditions of the certification are set forth in Appendix A of this order and incorporated into this license by ordering paragraph (D). Article 401 requires the licensee to file, for Commission approval, certain plans required by the certification conditions, as appropriate.

28. As discussed below, the final EA did not recommend some of the measures included in certification conditions 8, 10, 11, and 15. Nevertheless, all conditions are included in the license because they are mandatory under section 401 of the CWA.

COASTAL ZONE MANAGEMENT ACT

29. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),¹⁸ the Commission cannot issue a license for a project within or affecting a state's coastal zone unless the state's coastal zone management 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 6 months of its receipt of the applicant's certification.

30. In an e-mail dated May 4, 2016, and filed with Cornell's pre-application document,¹⁹ the New York State Department of State indicates that the Cornell Project is not located within the State of New York's coastal area and that it does not anticipate the

¹⁷ In Interior's March 23, 2020 letter and New York DEC's water quality certification, this plan is referred to as the *Invasive Species Management Plan*. For consistency with Cornell's proposal, this license uses *Invasive Plant Species Management Plan*.

¹⁸ 16 U.S.C. § 1456(c)(3)(A).

¹⁹ See Appendix C of Cornell's pre-application document filed on June 29, 2016.

need for a consistency review because project effects on the coastal area are unlikely. Therefore, a coastal zone consistency review is not required.

SECTION 18 FISHWAY PRESCRIPTIONS

31. Section 18 of the FPA²⁰ provides that the Commission shall require the construction, maintenance, and operation by a licensee of such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce, as appropriate.

32. On March 23, 2020, Interior filed a request that the Commission reserve authority to prescribe fishways. Consistent with Commission policy, Article 404 of this license reserves the Commission's authority to require fishways that may be prescribed by Interior for the Cornell Project.

THREATENED AND ENDANGERED SPECIES

33. Section 7(a)(2) of the Endangered Species Act of 1973²¹ (ESA) requires federal agencies to ensure 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 designated critical habitat.

34. Based on FWS's Information for Planning and Conservation (IPaC) system, one federally listed species, the threatened northern long-eared bat (*Myotis septentrionalis*), has the potential to occur at the project.²² There are no proposed or designated critical habitats in the project area.

35. In the EA,²³ Commission staff concluded that relicensing the project with Cornell's proposed Northern Long-Eared Bat and Bald Eagle Management Plan may affect the northern long-eared bat, but any incidental take that may result from these

²⁰ 16 U.S.C. § 811.

²¹ *Id.* § 1536(a).

²² See Commission staff's January 30, 2020 memorandum on *List of Threatened, Endangered, Candidate, and Proposed Species Generated by ECOS-IPaC Website*; see also IPaC, FWS, <https://ecos.fws.gov/ipac/> (accessed Jan. 30, 2020). No critical habitat has been designated for the northern long-eared bat.

²³ EA at 48.

activities is not prohibited under the FWS' final 4(d) rule that identifies ESA protections for the northern long-eared bat.²⁴

36. In a letter filed March 23, 2020, Interior states that based on the measures in Cornell's proposed Northern Long-Eared Bat and Bald Eagle Management Plan (i.e., size and timing restrictions for tree clearing),²⁵ the project is not likely to adversely affect the northern long-eared bat. Article 406 requires Cornell to finalize the Northern Long-Eared Bat and Bald Eagle Management Plan to protect the northern long-eared bat.

NATIONAL HISTORIC PRESERVATION ACT

37. Under section 106 of the National Historic Preservation Act (NHPA)²⁶ and its implementing regulations,²⁷ federal agencies must consider 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 undertaking. This process generally requires the Commission to consult with the State Historic Preservation Office (SHPO) to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any adverse effects.

38. In 2017, Cornell conducted a Phase 1-A Literature Review and Sensitivity Assessment and found that four historic sites listed on the National Register were within the project's area of potential effects. Cornell proposes to develop an HPMP to protect historic properties throughout the term of a new license.

39. To satisfy the requirements of section 106, the Commission executed a Programmatic Agreement (PA) with the New York SHPO on April 27, 2021, and invited Cornell to concur with the stipulations of the PA.²⁸ Cornell concurred. The PA requires the licensee to develop an HPMP within one year of the issuance date of the license.

²⁴ 80 Fed. Reg. 17,974 (Apr. 2, 2015).

²⁵ In its March 23, 2020, letter, Interior refers to this plan as the Northern Long-eared Bat and Bald Eagle *Protection* Plan. For consistency with Cornell's proposal, this license uses Northern Long-eared Bat and Bald Eagle *Management* Plan.

²⁶ 54 U.S.C. § 306108.

²⁷ 36 C.F.R. pt. 800 (2020).

²⁸ See April 29, 2021, Commission staff transmittal of the executed PA.

Execution of the PA demonstrates the Commission's compliance with section 106 of the NHPA. Article 407 requires Cornell to implement the PA and develop an HPMP.

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

40. Section 10(j)(1) of the FPA²⁹ requires the Commission, when issuing a license, to include conditions based on recommendations submitted by federal and state fish and wildlife agencies pursuant to the Fish and Wildlife Coordination Act,³⁰ to “adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)” affected by the project.

41. In response to the Commission's January 23, 2020 notice that the project was ready for environmental analysis, Interior, by letter filed March 23, 2020, submitted eight recommendations under section 10(j). Interior's recommendation to monitor downstream water levels during the ice-free period (i.e., May through November) for one year as part of its recommended streamflow and water level monitoring plan is outside the scope of section 10(j) because the monitoring represents a study that could have been conducted during pre-licensing and, therefore, is not within the scope of section 10(j).³¹ This measure also directly relates to an Interior recommendation, discussed below as a section 10(a) recommendation, for controlled shutdown and startup procedures that this order finds is not supported by substantial evidence.

42. The license includes five of the seven recommendations that are within the scope of section 10(j): (1) provide a minimum continuous year-round release of 10 cfs to the

²⁹ 16 U.S.C. § 803(j)(1).

³⁰ *Id.* §§ 661 *et seq.*

³¹ *See* 18 C.F.R. § 4.30(b)(9)(ii) (2020) (“A ‘fish and wildlife recommendation’ includes a request for a study which cannot be completed prior to licensing, but does not include a request that the proposed project not be constructed or operated, a request for additional pre-licensing studies or analysis or, as the term is used in §§ 4.34(e)(1) and 4.34(f)(3), a recommendation for facilities, programs, or other measures to benefit recreation or tourism.”). *See also Potomac Edison Co.*, 69 FERC ¶ 61,311, at 62,189 (1994) (explaining that “[a] typical study that cannot be completed prior to licensing is a post-construction monitoring study required for a project that is not yet constructed. Inasmuch as the three projects at issue are existing, operating projects, and the new licenses did not authorize any relevant new construction, the three studies recommended by Interior could be performed prior to relicensing as readily as after relicensing. Consequently, none of the studies qualifies as a recommendation subject to section 10(j)”).

project's bypassed reach, or inflow to the project, whichever is less (certification condition 9); (2) monitor and maintain the project's trash racks to ensure that no openings greater than 1-inch are present (certification conditions 11 and 15); (3) finalize the Northern Long-eared Bat and Bald Eagle Management Plan, in consultation with FWS and New York DEC (Article 406); (4) finalize the Invasive Plant Species Management Plan, in consultation with FWS and New York DEC (certification condition 15, Article 401); and (5) develop and implement a sediment management plan, following consultation with FWS and New York DEC (certification condition 14; Article 405). The remaining two recommendations not adopted in this license are discussed below.

43. If the Commission believes that any section 10(j) recommendation may be inconsistent with the purposes and requirements of Part I of the FPA or other applicable law, section 10(j)(2) requires the Commission and the agencies to attempt to resolve any such inconsistency, giving due weight to the recommendations, expertise, and statutory responsibilities of such agencies.³² If the Commission still does not adopt a recommendation, it must explain how the recommendation is inconsistent with Part I of the FPA or other applicable law and how the conditions imposed by the Commission adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources.

44. In the EA,³³ Commission staff made an initial determination that Interior's provision to limit downstream flow fluctuations as part of its recommended stream flow and water level monitoring plan and its recommended year-round instantaneous run-of-river project operation may be inconsistent with the substantial evidence standard of section 313(b) of the FPA.³⁴ By letter dated November 30, 2020, Commission staff advised Interior of its preliminary determination and attempted to resolve the apparent inconsistencies. Interior did not request a meeting pursuant to section 10(j) to attempt to resolve the inconsistencies. However, in its January 13, 2021 comments on the EA, Interior states that support for its downstream flow fluctuation limit is provided in its

³² *Id.* § 803(j)(2).

³³ EA at 73.

³⁴ *See* 16 U.S.C. 825l(b). In other words, the recommendation is not supported by substantial evidence.

May 2, 2019 comments³⁵ on Cornell's proposed stepwise shutdown and startup procedures presented in Cornell's draft license application (DLA).³⁶

A. Stream Flow and Water Level Monitoring Plan

45. In the EA,³⁷ Commission staff concluded there was no justification for the provision within Interior's recommended stream flow and water level monitoring plan to provide controlled shutdown and startup procedures to minimize downstream fluctuations to no more than 25% of the average depth of Fall Creek downstream of the project. However, Commission staff agreed that stream flow and water level monitoring would assist the Commission's administration of compliance with Cornell's proposed run-of-river operation, impoundment levels, and minimum flow.

46. In its comments on the DLA, Interior noted that Cornell's proposed shutdown procedures would result in downstream water level fluctuations as high as 70% of the average depth.³⁸ However, as shown in tables 4-1 and 4-2 of Cornell's Bypassed Reach and Flow Observation Study and described in the EA, Cornell's procedures limit water level fluctuations at the study's "flow transect" to 32% of the average depth during shutdowns and 26% of the average depth during startups (i.e., only 7 and 1 percentage points, respectively, higher than Interior's recommendation), not 70%.³⁹ Further, under Cornell's procedures, 85% of the entire distance across the flow transect would have a depth of at least 4 inches during project shutdowns.⁴⁰

47. Cornell's proposed shutdown and startup procedures, which, as noted above, result in water level fluctuations only 1 to 7 percentage points greater than Interior's recommended alternative, would provide adequate depths (at least 4 inches) for adult

³⁵ Interior's comments on the draft license application are provided in a May 1, 2019, letter filed with the final license application.

³⁶ Cornell's procedures were developed based on the results of a Bypassed Reach and Flow Observation Study conducted during pre-filing. The study used a flow transect and a habitat transect to allow Cornell and federal and state fish and wildlife agencies to observe and document changes in water depth and habitat availability to evaluate Cornell's proposed shutdown and startup procedures.

³⁷ EA at 35.

³⁸ Final license application, Volume 1, Appendix B, at 296.

³⁹ EA at 35.

⁴⁰ *Id.* at 34.

fish. Therefore, limiting downstream water level fluctuations to 25% of the mean water depth would not provide additional measurable benefits to aquatic biota beyond those of Cornell's shutdown and startup procedures. Accordingly, the recommendation is not consistent with the comprehensive planning standard of section 10(a)(1) of the FPA, and the equal consideration provision of FPA section 4(e). Therefore, this license requires Cornell's proposed shutdown and startup procedures (Article 402) and does not require the shutdown and startup procedures with the 25% criterion specified in Interior's recommended Streamflow and Water Level Monitoring Plan.

48. Developing a stream flow and water level monitoring plan is, nevertheless, required by certification condition 13. However, certification condition 13 only requires the plan to include a controlled shutdown and startup procedures section and does not require provisions for documenting compliance with minimum flow or impoundment fluctuation requirements as recommended by Commission staff and described above. Therefore, Article 403 requires Cornell to develop a stream flow and water level monitoring plan, consistent with the certification and staff's recommendations.

B. Project Operation and Impoundment Level

49. Interior's recommended year-round instantaneous run-of-river operation would require inflow to the impoundment to "equal" outflow downstream of the project tailrace and would maintain the impoundment elevation at or above the spillway crest (i.e., 780.7 feet). Interior also recommends that the Commission include a special license article addressing notification of the resource agencies for operating emergencies beyond the control of the licensee.⁴¹

50. In the EA,⁴² Commission staff did not recommend adopting Interior's definition of run-of-river operation, stating that it lacked evidence that such operation would provide additional protection or benefits to aquatic biota beyond the current project operation.⁴³ Further, there is no indication that the project is technologically capable of instantaneously maintaining outflows equal to inflows at all times.

⁴¹ Interior's recommendation was made under section 10(a) and is addressed through *Unplanned Deviations* in Article 402.

⁴² EA at 63-64.

⁴³ As noted above, the project currently operates in a run-of-river mode, whereby the project minimizes the fluctuation of the impoundment surface elevation by maintaining a discharge from the project such that the sum of all outflows from the project *approximates* rather than equals the sum of inflows at any given point in time.

51. New York DEC's certification condition 8 requires the project to operate in a run-of-river mode, where instantaneous inflow to the impoundment equals outflow downstream of the project tailrace. However, certification condition 10, which also requires the project to be operated in a run-of-river mode, specifies that draw down of the impoundment be limited to no more than 3 inches (i.e., 780.45 feet). Therefore, the certification conditions require a less restrictive mode of operation than that recommended by Interior.

52. The certification conditions allow for greater operational flexibility (e.g., impoundment drawdowns up to 3 inches below the spillway crest), which should improve the likelihood that the project remains in compliance with the requirements of the license, while providing essentially the same benefit to aquatic resources compared to Interior's more stringent recommendation. Accordingly, Interior's recommendation is not consistent with the comprehensive planning standard of section 10(a)(1) of the FPA, and the equal consideration provision of FPA section 4(e). Article 402 requires Cornell to operate the project in accordance with certification conditions 8 and 10 and includes reporting requirements for planned and unplanned deviations from the license's operational requirements. Article 403 requires a detailed description of how the licensee will maintain and document compliance with the operational requirements of this license.

53. For the above reasons, in accordance with FPA section 10(j)(2)(A), we find that the above two Interior recommendations are inconsistent with the FPA. We further find, in accordance with section 10(j)(2)(B) of the FPA, that the measures required by this license will adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources affected by the project.

SECTION 10(a)(1) OF THE FPA

54. Section 10(a)(1) of the FPA⁴⁴ 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.

55. The following sections discuss Interior's recommendation to conduct downstream water level monitoring, which is outside the scope of section 10(j); certain measures from New York DEC's certification; and additional agency and staff recommendations. These measures are considered under the broad public interest standard of section 10(a)(1) of the FPA.

⁴⁴ 16 U.S.C. § 803(a)(1).

A. Interior's Recommendation

56. Interior recommends that Cornell monitor downstream flows during an ice-free period (i.e., May through November) of one year, to evaluate the effectiveness of the shutdown and startup procedures included in its Stream Flow and Water Level Monitoring Plan over a variety of flows to ensure that downstream fluctuations are minimized as defined in the Stream Flow and Water Level Monitoring Plan (i.e., water level fluctuations would be limited to no more than 25% of the average depth of Fall Creek downstream of the project). However, because the shutdown and startup procedures were evaluated during pre-filing studies and additional monitoring could have been requested by Interior during those studies (i.e., the monitoring constitutes a pre-licensing study),⁴⁵ the measure is not within the scope of section 10(j).⁴⁶

57. Cornell's Bypassed Reach and Flow Observation Study, conducted during pre-filing to evaluate its proposed shutdown and startup procedures, is sufficient to document the effects of its procedures on flow depths downstream of the project under inflows where the procedures would be employed and to compare those benefits to those attained by Interior's 25% criterion. Therefore, there is no need for the measure and the license does not require it.

B. Trash Rack Maintenance and Trash Rack Management Plan

58. New York DEC's certification condition 11 requires that Cornell maintain the current project's trash racks with 1-inch clear spacing in good working condition and clear of debris. Certification condition 15 requires Cornell to develop a trash rack management plan to include a schedule of trash rack inspections every five years and following any event that could cause the trash rack clear spacing to exceed 1 inch, repair time frames, and establish notification requirements. Interior made a similar recommendation for maintaining the project's intake trash racks with 1-inch clear spacing and inspecting the trash racks every five years.

⁴⁵ The pre-filing study conducted by Cornell in concert with Interior evaluated the benefits of Cornell's shutdown and startup procedures and Interior did not request additional flows during the study.

⁴⁶ See 18 C.F.R. § 4.30(b)(9)(ii) ("A 'fish and wildlife recommendation' includes a request for a study which cannot be completed prior to licensing, but does not include a request that the proposed project not be constructed or operated, a request for additional pre-licensing studies or analysis or, as the term is used in §§ 4.34(e)(1) and 4.34(f)(3), a recommendation for facilities, programs, or other measures to benefit recreation or tourism.").

59. In the EA, Commission staff noted that the location of the project intake immediately along the shoreline of the impoundment and the presence of a protective skimmer in the project forebay limit the probability of occurrence and extent of any related damage to the trash racks.⁴⁷ Further, the project's low approach velocity is exceeded by the burst swimming speeds of most resident species in Beebe Lake, thereby allowing all but the smallest fish to avoid entrainment. Therefore, staff did not recommend adopting trash rack monitoring and maintenance procedures.

60. In its comments on the EA, Cornell concurs with Commission staff's recommendation, further noting that there is no indication of population level effects on any target or migratory species or any identified issues with entrainment or impingement of fishes associated with the project impoundment. However, because New York DEC's certification conditions 11 and 15 are mandatory, they are included in this license.

C. Northern Long-Eared Bat and Bald Eagle Management Plan

61. Suitable roost tree habitat for the northern long-eared bat is located within the project boundary, and immature and adult bald eagles have been routinely observed at the Cornell Project during the nesting period (December to June). Cornell proposed to implement the Northern Long-Eared Bat and Bald Eagle Management Plan, filed in Appendix D of the final license application, with provisions to minimize the potential for project effects on northern long-eared bat and bald eagle individuals and habitat.

62. In its letter providing fish and wildlife recommendations under section 10(j), Interior states that FWS and New York DEC were not provided with a draft plan of Cornell's proposed Northern Long-Eared Bat and Bald Eagle Management Plan. Therefore, Interior recommends that a final plan be developed after consultation with FWS and New York DEC.

63. In the EA,⁴⁸ Commission staff concluded that project maintenance may result in the clearing of forested habitat, and thus impact summer roosting habitat for the northern long-eared bat, and nesting habitat for the bald eagle. Therefore, staff recommended that Cornell prepare a final plan in consultation with FWS and New York DEC to afford the agencies an opportunity to provide input on the plan and file it with the Commission for approval.

64. In its comments on the EA, Cornell states that the plan it filed with the final license application was based on plans recently developed in consultation with FWS and New York DEC for other hydropower projects in New York State. Therefore, Cornell

⁴⁷ EA at 68-69.

⁴⁸ *Id.* at 65-66.

anticipates that the final Northern Long-Eared Bat and Bald Eagle Management Plan will be consistent with the plan it filed with the final license application.

65. Article 406 requires Cornell to finalize the Northern Long-Eared Bat and Bald Eagle Management Plan, in consultation with FWS and New York DEC, to be implemented within six months of the issuance date of the license.

D. Invasive Plant Species Management Plan

66. Several aquatic and terrestrial invasive plant species occur at the Cornell Project. Cornell filed an Invasive Plant Species Management Plan in Appendix D of the final license application to minimize the introduction or spread of invasive species during project-related construction, operation, and maintenance.

67. In its letter providing fish and wildlife recommendations under section 10(j), Interior states that FWS and New York DEC were not provided with a draft plan of Cornell's proposed Invasive Plant Species Management Plan. Therefore, Interior recommends that a final plan be developed in consultation with FWS and New York DEC.

68. In the EA,⁴⁹ Commission staff concluded that a plan with measures such as employing best management practices during construction or maintenance to prevent the introduction or spread of invasive plant species, cleaning and drying boats that come into contact with water, and the use of invasive-free materials and seed stock during replanting, would minimize the introduction or spread of invasive plant species at the project. Therefore, staff recommended that Cornell prepare a final plan in consultation with FWS and New York DEC to afford the agencies an opportunity to provide additional input on the plan and file it with the Commission for approval.

69. In its comments on the EA, Cornell states that the plan it filed with the final license application was based on plans recently developed in consultation with FWS and New York DEC for similar hydropower projects located in New York State, and thus anticipates that the final Invasive Plant Species Management Plan to be developed through consultation with FWS and New York DEC will be consistent with the plan it filed with the final license application.

70. Developing "an invasive species management plan," in consultation with FWS and New York DEC, is required by certification condition 16. According to New York DEC's certification, Cornell must file a plan for review by FWS and New York DEC

⁴⁹ *Id.* at 66-67.

within 180 days of the issuance date of the license, and a final plan with the Commission within one year of the issuance date of the license.

E. Sediment Management Plan

71. Due to the geologic and soil resources and streamflow dynamics at the project, sedimentation within Beebe Lake is, and will continue to be, an issue. Cornell has conducted periodic dredging of the project reservoir throughout the prior license term, involving the removal of between about 200 cubic yards (for periodic maintenance of the project intake and forebay) and 40,000 cubic yards (reservoir-wide dredging to restore capacity) of sediment from the project reservoir in order to effectively operate the project.

72. In the EA,⁵⁰ Commission staff concluded that, although Cornell has managed sedimentation within the project impoundment without a formal sediment management plan, developing a sediment management plan would avoid misunderstandings about sediment management practices at the project and limit the potential for project-related dredging to result in sediment releases that may impact soils and fish and wildlife resources. Therefore, staff recommended a sediment management plan that includes: (1) a general description of Cornell's sediment management practices at the project (including Beebe Lake Island); (2) a list of expected sediment management activities over the license term (e.g., routine maintenance dredging at the forebay and intake); (3) protocols for dredging at the project, including a reporting requirement indicating the quantity of sediment removed, where excavated sediment would be stored or placed, and whether lowering the project impoundment would be necessary; (4) criteria for determining when sedimentation has reached the point that larger-scale dredging would be warranted in the project impoundment; and (5) a provision for consultation with FWS, New York DEC, and other relevant resource and permitting agencies prior to larger-scale dredging within Beebe Lake.

73. A sediment management plan is required by certification condition 14. However, New York DEC's certification condition does not specify the measures that such a plan should contain. Therefore, Article 405 requires Cornell to develop and implement a sediment management plan within one year of the issuance date of the license, consistent with New York DEC's certification and Interior and staff's recommendations, to include, but not necessarily be limited to, the provisions described above.

F. Project Boundary

74. Project boundaries enclose the project works that are to be licensed and include "only those lands necessary for operation and maintenance of the project and for other

⁵⁰ *Id.* at 61-62.

project purposes, such as recreation, shoreline control, or protection of environmental resources.”⁵¹

75. As depicted in the revised Exhibit G filed with the final license application, Cornell proposes to expand the current project boundary to include an existing chilled water plant forebay and an associated outlet drain valve, the downstream portion of the project dam, and the staircase required to access the project powerhouse. Cornell also proposes to remove features that are incorrectly represented in the current project boundary comprising part of the transmission line right-of-way south of the powerhouse, a portion of the buried penstock right-of-way to the west of the project intake, and portions of the north and east shorelines of Beebe Lake. Lastly, Cornell proposes to remove Beebe Lake Island from the boundary, stating that it is not needed and necessary for operation or maintenance of the project. However, Cornell also acknowledges the potential need for sediment removal within the project impoundment during the term of any new license, and that the creation of the island and its location at the upstream end of Beebe Lake was designed to reduce grass growth and sedimentation in the lake.

76. In the EA,⁵² Commission staff concluded that Beebe Lake Island appears to serve an ongoing project purpose based on its former and potential future use as a deposition site for sediment dredged from Beebe Lake, and that Cornell has not provided sufficient information for Commission staff to conclude otherwise. Therefore, staff did not recommend removing Beebe Lake Island from the project boundary. In its comments on the EA, Cornell concurs with Commission staff’s recommendation to keep Beebe Lake Island within the project boundary. Staff did recommend modifying the project boundary to add the facilities necessary for operation and maintenance of the project, including the chilled water plant forebay and associated outlet drain valve, the downstream portion of the dam, and the staircase to the project powerhouse. Staff also recommended that Cornell correct the depictions of the transmission line corridor, penstock route, and the Beebe Lake shoreline in Exhibit G.

77. The Exhibit G filed with the final license application included the existing chilled water plant forebay and the associated outlet drain valve, the downstream portion of the project dam, and the staircase required to access the project powerhouse, and removed the transmission line right-of-way south of the powerhouse, a portion of the buried penstock right-of-way to the west of the project intake, and portions of the north and east shorelines. The Exhibit G did not include Beebe Lake Island. Therefore, Article 204 requires Cornell to file a revised Exhibit G drawing with a project boundary that encloses Beebe Lake Island.

⁵¹ 18 C.F.R. § 4.41(h)(2) (2020).

⁵² EA at 67-68.

ADMINISTRATIVE PROVISIONS**A. Annual Charges**

78. 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. Exhibit A Project Description

79. The Commission's regulations require that licensees file an Exhibit A as part of the final license application to describe the project. The Exhibit A project description filed by Cornell on June 28, 2019, does not include a description of instantaneous run-of-river operation, impoundment fluctuations, minimum flow requirements, and controlled shutdown and start up procedures. Therefore, Exhibit A is not approved. Article 202 requires Cornell to file a revised Exhibit A.

C. Exhibit F and G Drawings

80. The Exhibit F drawings filed as part of the final license application are approved and made part of this license (ordering paragraph (C)). The Commission requires licensees to file sets of approved project drawings in electronic file format. Article 203 requires the filing of these drawings in electronic format.

81. The Exhibit G drawing filed with the application did not include Beebe Lake Island, which is necessary for project purposes. Article 204 of this license requires Cornell to file, for Commission approval, a revised Exhibit G with a project boundary that encloses Beebe Lake Island.

D. Amortization Reserve

82. The Commission requires that for new major licenses, non-municipal licensees must set up and maintain an amortization reserve account upon license issuance. Article 205 requires the establishment of the account.

E. Headwater Benefits

83. Some projects directly benefit from headwater improvements that were constructed by other licensees, the United States, or permittees. Article 206 requires the licensee to reimburse such entities for these benefits if they were not previously assessed and reimbursed.

F. Modifications of Project Facilities

84. Article 301 requires the licensee to coordinate any modifications that would affect project works or operation resulting from environmental requirements with the Commission's Division of Dam Safety and Inspections – New York Regional Engineer.

G. Commission Approval of Resource Plans, Reporting, Notification, and Filing of Amendments

85. In Appendix A, there are certain certification conditions that do not require the licensee to file plans with the Commission. Therefore, Article 401 requires the licensee to file the plans with the Commission for approval, as appropriate.

H. Use and Occupancy of Project Lands and Waters

86. Requiring a licensee to obtain prior Commission approval for every use and occupancy of project land would be unduly burdensome. Therefore, Article 409 allows the licensee to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting. Such uses must be consistent with the purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.

I. Reservation of Authority to Require Financial Assurance Measures

87. To confirm the importance of licensees maintaining sufficient financial reserves, Article 408 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.

STATE AND FEDERAL COMPREHENSIVE PLANS

88. Section 10(a)(2)(A) of the FPA⁵³ 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.⁵⁴ Under section 10(a)(2)(A), Commission staff identified 8 comprehensive plans that are relevant to this project.⁵⁵ No conflicts were found.

⁵³ 16 U.S.C. § 803(a)(2)(A).

⁵⁴ Comprehensive plans are defined at 18 C.F.R. § 2.19 (2020).

⁵⁵ The list of applicable plans can be found in section 5.4 of the EA.

APPLICANT'S PLANS AND CAPABILITIES

89. In accordance with sections 10(a)(2)(C) and 15(a) of the FPA,⁵⁶ Commission staff evaluated Cornell'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 and reliable electric service; (E) need for power; (F) transmission services; (G) cost-effectiveness of plans; and (H) actions affecting the public. This order accepts staff's findings in each of the following areas.

A. Conservation Efforts

90. Section 10(a)(2)(C) of the FPA⁵⁷ requires the Commission to consider the electricity consumption efficiency 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. As part of its energy efficiency program, Cornell is building energy conservation projects to complete the studies, construction, and commissioning of energy conservation measures in multiple buildings in the endowed and contract colleges for City of Ithaca and City of Geneva, off-campus contract colleges, and real estate categories. This program demonstrates Cornell's efforts to conserve electricity.

B. Compliance History and Ability to Comply with New License

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

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

92. Commission staff has reviewed Cornell's record of management, operation, and maintenance of the Cornell Project pursuant to the requirements of 18 C.F.R. Part 12 of the Commission's Engineering Guidelines and periodic Independent Consultant's Safety Inspection Reports. The Commission concludes that the dam and other project works are safe, and that there is no reason to believe that Cornell cannot continue to safely manage, operate, and maintain these facilities under a new license.

⁵⁶ 16 U.S.C. §§ 803(a)(2)(C), 808(a).

⁵⁷ *Id.* § 803(a)(2)(C).

D. Ability to Provide Efficient and Reliable Electrical Service

93. Commission staff has reviewed Cornell'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 Cornell 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. Therefore, Cornell is capable of operating the project to provide efficient and reliable electric service in the future.

E. Need for Power

94. To assess the need for power, staff looked at the needs in the operating region in which the project is located. Power produced at the project will be used to meet demand in the Northeast Power Coordinating Council (NPCC) region, which includes the State of New York. NPCC is a regional electric reliability council in the North American Electric Reliability Corporation (NERC).

95. NERC annually forecasts electrical supply and demand on a national and regional level for a 10-year period. According to NERC's 2020 long-term reliability assessment report published in December 2020, annual total internal demand in the NPCC-New York region is expected to range between 31,992 MW to 32,129 MW over the period 2021 to 2030; and anticipated reserve margin (the difference between available capacity and peak demand) in the region is projected to decrease from 19.4% in 2021 to 16.1% in 2030. In addition, the 2020 New York State Energy Plan sets forth a goal for the state utilities to source 70% of their electric generation from renewable energy sources by 2030. The project provides an average of 4,599 megawatt-hours (MWh) annually to Cornell and is one of several sustainable and/or renewable energy projects in-service at Cornell, so power from the Cornell Project would help meet a power need and renewable energy goal of the state and Cornell, which has committed to carbon neutrality.

F. Transmission Services

96. The project includes a 385-foot-long, 2.4-kV transmission line that connects the turbine-generator units to Cornell's distribution system. The project connects directly to Cornell's distribution system via the interconnect point located on a transmission pole adjacent to Cornell's Foundry building. Cornell is proposing no changes that would affect its own or other transmission services in the region.

G. Cost Effectiveness of Plans

97. Cornell proposes several environmental measures for the enhancement of fish and wildlife at the project. Based on Cornell'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. Cornell provided opportunity for public involvement in the development of its application for a new license for the Cornell Project. Cornell uses the project to help meet local power needs and pays taxes that contribute to the cost of public services provided by local government.

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.*,⁵⁸ 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 Cornell Project, Commission staff considered three options: a no-action alternative, Cornell's proposal, and the project as licensed herein.⁵⁹ Under the no-action alternative, the project would continue to operate as it does now. The project has an installed capacity of 1.718 MW, a capacity benefit of 0.114 MW,⁶⁰ and generates an average of 4,599 MWh of electricity annually. The average annual project cost is about \$337,613, or \$73.41/MWh. The alternative source of power's annual cost to produce the same amount of energy and provide the same capacity benefit is \$172,922, in 2021 dollars.⁶¹ To determine whether the project is currently

⁵⁸ 72 FERC ¶ 61,027 (1995).

⁵⁹ Details of Commission staff's economic analysis for the project as licensed herein, and for the other two alternatives, are included in section 4.0 of the EA. All costs were escalated to 2021 dollars.

⁶⁰ 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.

⁶¹ The energy portion of the power cost is \$33.96/MWh and is based on natural gas energy prices from the *Annual Energy Outlook 2021* published by the Energy Information Administration in February 2021. The capacity portion of the power cost is

economically beneficial, the project's cost is subtracted from the alternative source of power's cost. Therefore, the project costs \$164,691, or \$35.81/MWh, more than the likely alternative source of power's cost.

101. As proposed by Cornell, the levelized annual cost of operating the project is \$396,710 or \$86.26/MWh. The proposed project would generate an average of 4,599 MWh of energy annually and have a capacity benefit of 0.114 MW. The alternative source of power's annual cost to produce the same amount of energy and provide the same capacity benefit is \$172,922. Therefore, in the first year of operation, the project would cost \$223,788, or \$48.66/MWh, more than the likely alternative source of power's cost.

102. As licensed herein with Commission staff's measures, the levelized annual cost of operating the project is \$394,272, or \$85.73/MWh. The project would generate 4,599 MWh of energy annually and have a capacity benefit of 0.114 MW. The alternative source of power's cost to produce the same amount energy and provide the same capacity benefit is \$172,922. Therefore, in the first year of operation, the project would cost \$221,350, or \$48.13/MWh, more than the likely alternative source of power's cost.

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

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 or not, and under what conditions, to issue a license.

COMPREHENSIVE DEVELOPMENT

105. Sections 4(e) and 10(a)(1) of the FPA⁶² 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

based on the annual cost of the hydro-equivalent natural gas-fired combined-cycle capacity, which staff estimated to be about \$146.94/kilowatt-year.

⁶² 16 U.S.C. §§ 797(e), 803(a)(1).

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 EA for the project contains background information, analysis of effects, and support for related license articles. Based on the record of this proceeding, including the EA and the comments thereon, licensing the Cornell Project, as described in this order, would 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 our independent review and evaluation of the Cornell Project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EA, we have selected the project as licensed herein and find that it is the best adapted to a comprehensive plan for improving or developing Fall Creek.

108. We select this alternative 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, threatened and endangered species, and cultural resources; and (3) the 1.718 MW of electric capacity comes from a renewable resource that does not contribute to atmospheric pollution.

LICENSE TERM

109. Section 15(e) of the FPA⁶³ 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 original and new licenses, effective as of October 26, 2017.⁶⁴ The Policy Statement provides for exceptions to the 40-year default license term under certain circumstances: (1) establishing a shorter or longer license term if necessary to coordinate license terms for projects located in the same river basin; (2) deferring to a shorter or longer license term explicitly agreed to in a generally-supported comprehensive settlement agreement; and (3) establishing a longer license term upon a showing by the license applicant that substantial voluntary measures were either previously implemented

⁶³ *Id.* § 808(e).

⁶⁴ *Policy Statement on Establishing License Terms for Hydroelectric Projects*, 161 FERC ¶ 61,078 (2017) (Policy Statement).

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 Cornell University Hydroelectric Project is appropriate.

The Commission orders:

(A) This license is issued to Cornell University (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 Cornell University 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 the 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, described in the project description and the project boundary discussion of this order.

(2) Project works consisting of: (1) an existing 28-foot-high, 304-foot-long reinforced-concrete gravity dam, known as Beebe Lake dam, consisting of a non-overflow section (intake forebay) with two 5-foot-wide stoplog gates (minimum flow weirs), three overflow sections with a combined length of 260 feet and a crest elevation of 780.7 feet, and a chilled water plant forebay and associated drain valve; (2) an impoundment (Beebe Lake) with a surface area of 16 acres and a storage capacity of 50 acre-feet at the normal pool elevation of 780.7 feet; (3) a forebay formed by a concrete wall and retaining wall; (4) a reinforced-concrete intake with a 6-foot-high, 6-foot-wide steel vertical-slide gate along the right (north) bank and trash racks with 0.914-inch clear spacing; (5) a 5-foot-diameter, 1,507-foot-long reinforced-concrete underground pipeline and a 5-foot-diameter, 200-foot-long riveted-steel underground penstock; (6) a former surge chamber now only used for access to the penstock and located within the cast-in-place concrete penstock about 791 feet downstream of the intake; (7) a 79-foot-long, 29-foot-wide, 24-foot-high stone masonry powerhouse containing two Ossberger crossflow turbines and induction motor generators with a combined authorized capacity of 1.718 megawatts (MW) (unit 1 = 0.716 MW and unit 2 = 1.002 MW); (8) a tailrace located on the river right-side of Fall Creek directly below the powerhouse; (9) a bypassed reach that consists of a narrow gorge with steep walls and bedrock substrate, extending approximately 1,800 feet from the toe of the dam to the powerhouse tailrace; (10) a 385-foot-long, 2.4-kilovolt single transmission line connecting to Cornell's distribution system via the interconnect point located on a transmission pole adjacent to Cornell's Foundry building; and (11) appurtenant facilities.

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

Exhibit F: The following Exhibit F drawings filed on June 28, 2019 (Exhibits F-1 through F-4).

Exhibit No.	FERC Drawing No.	Drawing Title	Filename Drawing Title⁶⁵
F-1	P-3251-1001	Cornell University Hydroelectric Project - Penstock Plan and Profile	Penstock Structures
F-2	P-3251-1002	Cornell University Hydroelectric Project - Intake Facilities	Intake Facilities
F-3	P-3251-1003	Cornell University Hydroelectric Project - Intake Building	Intake Building
F-4	P-3251-1004	Cornell University Hydroelectric Project - Project Structures and Equipment	Project Structures

(3) All of the structures, fixtures, equipment or facilities used to operate or maintain the project, all portable property that may be employed in connection with the project, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) The Exhibit F described above is approved and made part of this license. However, as discussed under Administrative Provisions above, the Exhibit A filed as part of the application does not contain a complete description of run-of-river operation, minimum flows, and shutdown and startup procedures, and the Exhibit G does not include Beebe Lake Island, which is necessary for project purposes. Therefore, the Exhibits A and G filed as part of the application for license do not conform to Commission regulations and are not approved. Articles 202 and 204 require the licensee to file revised Exhibits A and G, respectively.

(D) This license is subject to the conditions submitted by the New York State 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.

⁶⁵ 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.

(E) This license is 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. 1817 *et seq.*), as reproduced at the end of this order, and the following additional articles.

Article 201. Administrative Annual Charges. The licensee must pay the United States annual charges, effective the first day of the month in which the license is issued, and as determined in accordance with provisions of the Commission’s regulations in effect from time to time, for the purposes of reimbursing the United States for the cost of administration of Part I of the Federal Power Act. The authorized installed capacity for that purpose is 1.718 megawatts.

Article 202. Exhibit A Project Description. Within 90 days of the issuance date of this license, the licensee must file, for Commission approval, a revised Exhibit A describing all principal project works necessary for operation and maintenance of the project. The revised Exhibit A must reflect the revised project operation, including a description of instantaneous run-of-river operation, impoundment fluctuations, minimum flow requirements, and controlled shutdown and startup procedures.

Article 203. Exhibit F Drawings. Within 45 days of the issuance date of this license, as directed below, the licensee must file the approved exhibit drawings in electronic file format.

The licensee must prepare digital images of the approved exhibit drawings in electronic format. Prior to preparing each digital image, the licensee must add the FERC Project-Drawing Number (i.e., P-3251-1001 through P-3251-1004) in the margin below the title block of the corresponding approved drawing. The licensee must label and file the Exhibit F drawings as Critical Energy Infrastructure Information (CEII) material under 18 C.F.R. § 388.113 (2020) (The submission should consist of: 1) a public portion consisting of a cover letter; and 2) a CEII portion containing only the Exhibit F drawings). Each drawing must be a separate electronic file, and the file name must include: FERC Project-Drawing Number, FERC Exhibit Number, Filename Title, date of this order, and file extension in the following format [P-3251-1001, F-1, Penstock Structures, MM-DD-YYYY.TIFF]. 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

Article 204. Exhibit G Drawings. Within 90 days of the issuance date of the license, the licensee must file, for Commission approval, a revised Exhibit G drawing that encloses Beebe Lake Island within the project boundary. The Exhibit G drawing must comply with sections 4.39 and 4.61(f) of the Commission's regulations.

Article 205. 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 206. 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 modification that may affect the project works or operations, the licensee must consult with the Commission's Division of Dam Safety and Inspections – New York Regional Engineer. Consultation must allow

sufficient review time for the Commission to ensure that the proposed work does not adversely affect the project works, dam safety, or project operation.

Article 401. Commission Approval of Plans.

Requirement to File Plans for Commission Approval

The New York State Department of Environmental Conservation's (New York DEC) section 401 water quality certification (Appendix A) requires the licensee to prepare the following plans in consultation with the conditioning agency, receive conditioning agency approval, and then file the plans with the Commission for approval:

New York DEC Certification Condition No.	Plan Name	Commission Due Date
15	Trash Rack Management Plan	Within one year of license issuance
16	Invasive Plant Species Management Plan	Within one year of license issuance
21	Erosion and Sediment Control Plan	90 days prior to commencement of work

The licensee must include, with each plan filed with the Commission, documentation that the licensee developed the plan in consultation with New York DEC and the U.S. Department of the Interior (Interior) and has received approval from the New York DEC, as appropriate. 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 make changes to any plan submitted. Upon Commission approval, the plan becomes a requirement of the license, and the licensee must implement the plan or changes in project operation or facilities, including any changes required by the Commission. The licensee must not implement the plan until the Commission approves it. Any changes in the above schedule or plan(s) require approval by the Commission before implementing the proposed change.

Article 402. Project Operation. The licensee must operate the project in accordance with the New York State Department of Environmental Conservation's (New York DEC) water quality certification (Appendix A), which specifies the required mode of operation (instantaneous run-of-river) (condition 8), minimum flow to the bypassed reach (condition 9), and allowable fluctuation and rates of change in impoundment elevation (conditions 10 and 19) and the Controlled Shutdown and Startup Procedures in

Appendix C of the final license application (Appendix B of this license) documenting how flows and water levels will be managed downstream of the project during normal turbine shutdown and startup activities.

The run-of-river, minimum flow, impoundment elevation, and shutdown/startup requirements may be temporarily modified as follows:

Planned Deviations

Requirements regarding run-of-river operation, impoundment elevations, rates of change in impoundment elevation, minimum flow, and shutdown and startup procedures may be temporarily modified for short periods, of up to 3 weeks, after mutual agreement among the licensee and the U.S. Fish and Wildlife Service and New York DEC (collectively, resource agencies). After concurrence from the resource agencies, the licensee must notify the Commission within 14 days and file a report with the Secretary of the Commission as soon as possible, but no later than 30 days after the onset of the planned deviation. Each report must include: (1) the reasons for the deviation and how project operations were modified; (2) the duration and magnitude of the deviation; (3) any observed or reported environmental effects; and (4) documentation of consultation with the resource agencies. For planned deviations exceeding 3 weeks, the licensee must file an application for a temporary amendment of the operational requirements of this license and receive Commission approval prior to implementation.

Unplanned Deviations

Requirements regarding run-of-river operation, impoundment elevations, rates of change in impoundment elevation, minimum flow, and shutdown and startup procedures may be temporarily modified if required by operating emergencies beyond the control of the licensee (i.e., unplanned deviations). For any unplanned deviation from run-of-river operation or deviation in impoundment elevation or minimum flow that lasts longer than 3 hours *or* results in visible environmental effects such as a fish kill, 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 (7) a description of measures implemented to prevent similar deviations in the future.

For unplanned deviations from run-of-river operation, impoundment elevations, rates of change in impoundment elevation, minimum flow, or shutdown and startup procedures lasting 3 hours or less that do not result in visible environmental effects, the

licensee must include an annual operation compliance monitoring report as required by Article 403, a description of each incident that occurred during the prior October 1 through September 30 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 403. Stream Flow and Water Level Monitoring Plan. Within one year of the issuance date of this license, the licensee must file with the Commission for approval, a Stream Flow and Water Level Monitoring Plan in accordance with the New York State Department of Environmental Conservation's (New York DEC) certification condition 13 (Appendix A). In addition, the plan must include, but not necessarily be limited to, the following:

(1) a detailed description of how the licensee will maintain and document compliance with the operational requirements of this license, including operating the project as required by Article 402;

(2) a description of all gages or measuring devices that will be used to monitor operation compliance, including the method of calibration and location of each gage and/or measuring device;

(3) standard operating procedures to be implemented outside of normal operating conditions, including during: (a) scheduled facility shutdowns and maintenance; and (b) emergency conditions such as unscheduled facility shutdowns and maintenance;

(4) provisions to maintain a log of project operation; and

(5) a provision to file an annual operation compliance monitoring report with monitoring data to the Commission.

The licensee must prepare the plan after consultation with the U.S. Fish and Wildlife Service and New York DEC (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 plan is approved by the Commission. Upon Commission approval, the licensee must implement the plan, including any changes required by the Commission.

Article 404. 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 405. Sediment Management Plan. Within one year of the issuance date of this license, the licensee must file with the Commission, for approval, a sediment management plan, consistent with the New York State Department of Environmental Conservation's (New York DEC's) water quality certification condition 14. The plan must include, but not be limited to, the following:

- (1) a general description of Cornell's sediment management practices at the project (including Beebe Lake Island);
- (2) a list of expected sediment management activities over the license term (e.g., routine maintenance dredging at the forebay and intake);
- (3) protocols for maintenance dredging at the project, including a reporting requirement indicating the quantity of sediment removed, where excavated sediment would be stored or placed, and whether lowering the project impoundment would be necessary;
- (4) criteria for determining when sedimentation has reached the point that larger-scale maintenance dredging would be warranted in the project impoundment; and
- (5) a provision for consultation with the U.S. Fish and Wildlife Service (FWS), New York DEC, and other relevant resource and permitting agencies prior to larger-scale maintenance dredging within Beebe Lake.

The licensee must prepare the plan after consultation with the FWS and New York DEC (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 plan is approved by the Commission. Upon Commission approval, the licensee must implement the plan, including any changes required by the Commission.

Article 406. *Northern Long-eared Bat and Bald Eagle Management Plan.* Within six months of the issuance date of this license, the licensee must file with the Commission, for approval, a final Northern Long-eared Bat and Bald Eagle Management Plan. At a minimum, the plan must include the provisions of the draft of the plan filed in Appendix D of the license application along with an implementation schedule.

The licensee must prepare the plan in consultation with the U.S. Fish and Wildlife Service and New York State Department of Environmental Conservation (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 plan is approved by the Commission. 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 New York State Historic Preservation Office for Managing Historic Properties that May be Affected by Issuance of a License to Cornell University for the Continued Operation of the Cornell University Hydroelectric Project in Tompkins County, New York (FERC No. 3251-010)," executed on April 27, 2021, and including but not limited to the Historic Properties Management Plan (HPMP) for the project. Pursuant to the requirements of this Programmatic Agreement (PA), the licensee must file, for Commission approval, an HPMP within one year of the issuance date of this order.

When filing the HPMP for Commission approval, the licensee must include any documentation of consultation with the New York State Historic Preservation Office (New York SHPO) during the development of the HPMP. The Commission reserves the authority to require changes to the HPMP at any time during the term of the license. If the PA is terminated prior to Commission approval of the HPMP, the licensee must obtain approval from the Commission and the New York SHPO, before engaging in any

ground-disturbing activities or taking any other action that may affect any historic properties within the project's area of potential effects.

Article 408. *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 409. *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 (2020). The filing of a request for rehearing does not operate as a stay of the effective date of this license or of any other date specified in this order. The licensee's failure to file a request for rehearing constitutes acceptance of this order.

By the Commission. Commissioner Danly is concurring in part and dissenting in part with a separate statement attached.

(S E A L)

Debbie-Anne A. Reese,
Deputy Secretary.

Form L-10
(October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

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

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

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

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

Article 4. The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and supervision of the Regional Engineer, Federal Energy Regulatory Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him such information as he may require concerning the operation and maintenance of the project, and any such alterations thereto, and shall notify him of the date upon which work with respect to any alteration will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall submit to said representative a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of any such alterations to the project. Construction of said alterations or any feature thereof shall not be initiated until the program of inspection for the alterations or any feature thereof has been approved by said representative. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

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

thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. 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

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Water Quality Certification Conditions
DEC Permit Number: 7-5030-00121
Effective Date: March 22, 2022

NATURAL RESOURCE PERMIT CONDITIONS - Apply to the Following
Permits: WATER QUALITY CERTIFICATION

- 1. Conformance With Plans** All activities authorized by this permit must be in strict conformance with the approved plans submitted by the applicant or applicant's agent as part of the permit application. Such approved plans were prepared by the applicant or their agent as part of the permit application and federal license.
- 2. Expiration Date** The expiration date of this Water Quality Certificate is coincident with the expiration date of the license, or any annual license thereafter, issued by the Federal Energy Regulatory Commission (FERC) for the Cornell University Hydroelectric Project, FERC #: 3251.
- 3. State May Order Removal or Alteration of Work** If future operations by the State of New York require an alteration in the position of the structure or work herein authorized, or if, in the opinion of the Department of Environmental Conservation it shall cause unreasonable obstruction to the free navigation of said waters or flood flows or endanger the health, safety or welfare of the people of the State, or cause loss or destruction of the natural resources of the State, the owner may be ordered by the Department to remove or alter the structural work, obstructions, or hazards caused thereby without expense to the State, and if, upon the expiration or revocation of this permit, the structure, fill, excavation, or other modification of the watercourse hereby authorized shall not be completed, the owners, shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may require, remove all or any portion of the uncompleted structure or fill and restore to its former condition the navigable and flood capacity of the watercourse. No claim shall be made against the State of New York on account of any such removal or alteration.
- 4. State Not Liable for Damage** The State of New York shall in no case be liable for any damage or injury to the structure or work herein authorized which may be caused by or result from future operations undertaken by the State for the conservation or improvement of navigation, or for other purposes, and no claim or right to compensation shall accrue from any such damage.

5. State May Require Site Restoration If upon the expiration or revocation of this permit, the project hereby authorized has not been completed, the applicant shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may lawfully require, remove all or any portion of the uncompleted structure or fill and restore the site to its former condition. No claim shall be made against the State of New York on account of any such removal or alteration.

6. Notification Requirements For Emergencies The following procedures shall apply to all activities conducted at the project in response to an emergency:

Prior to commencement of emergency activities, Permittee must notify NYSDEC and receive approval in advance of the work commencing. If circumstances require that emergency activities be taken immediately such that prior notice to the NYSDEC is not possible, then the NYSDEC must be notified by the Certificate Holder within 24 hours of commencement of the emergency activities. In either case, notification must be by certified mail or other written form of communication, including fax and electronic mail. This notification must be followed within 24 hours by submission of the following information:

- a) A description of the action;
- b) Location map and plan of the proposed action; and
- c) Reasons why the situation is an emergency.

All notifications, requests for emergency authorizations and information submitted to support such requests shall be sent to the contacts listed in Natural Resource Permit Condition No. 7 of this certificate.

7. Department Contacts Except as otherwise specified, all contacts with the Department concerning this certificate shall be addressed to the following:

NYSDEC - Region 7 Headquarters
Regional Permit Administrator
Division of Environmental Permits
615 Erie Boulevard West
Syracuse, New York 13204-2400

OPERATIONS

8. Operational Mode During normal operations the Project shall be operated in a run-of-river mode where instantaneous inflow to the Project as measured by the upstream U.S. Geological Survey (USGS) gage on Fall Creek (USGS Gage No. 04234000) equals outflow downstream of the Project tailrace. The Project shall be operated in an approximate run-of-river mode during normal shut-down and start-up procedures, as described in the Controlled Start-up and Shut-Down Procedures Plan to be implemented

in accordance with the terms and conditions of this certificate.

9. Bypassed Flows The Certificate Holder shall maintain a bypassed reach flow at a minimum of 10 cubic feet per second (cfs) or inflow, whichever is less, year-round.

10. Impoundment Fluctuations The Project reservoir shall be operated in a run-of-river mode and shall not be drawn down more than three (3) inches from spillway crest elevation (780.7'). Alternate impoundment operating plans shall be submitted to and approved by the Department prior to being implemented. Emergencies shall be dealt with in accordance Natural Resource Permit Condition No. 6 of this certificate.

11. Fish Protection And Passage The Certificate Holder will maintain the current trashracks, of one (1)-inch or smaller clear spacing, in good working condition and clear of debris.

12. Precautions Against Contamination of Waters All necessary precautions shall be taken to preclude contamination of any wetland or waterway by suspended solids, sediments, fuels, solvents, lubricants, epoxy coatings, paints, concrete, leachate or any other environmentally deleterious materials associated with the project.

13. Streamflow And Water Level Monitoring Plan The Certificate Holder shall develop a Streamflow and Water Level Monitoring Plan and submit to NYSDEC and USFWS within 180 days of license issuance. The plan shall be approved in writing by the Department and submitted to FERC for approval within one (1) year of license issuance. Such plan shall include a Controlled Start-up and Shut-down Procedures section and shall be implemented to manage flows and water levels below the Project during normal turbine start-up and shut-down activities. Water flows and levels downstream of the Project shall equal Project inflows during normal Project operation. If it is demonstrated during the first two years of implementation of the plan that project is operating in accordance with the Streamflow and Water Level Monitoring Plan and adverse impacts to downstream aquatic organisms are avoided, monitoring of flows and water levels may be ceased upon written authorization by the Department.

14. Sediment Management Plan The Certificate Holder shall develop a Sediment Management Plan and submit to NYSDEC and USFWS within 180 days of license issuance. The plan shall be approved in writing by the Department and submitted to FERC for approval within one (1) year of license issuance.

15. Trash Rack Management Plan The Certificate Holder shall develop a Trash Rack Management Plan and submit to NYSDEC and USFWS within 180 days of license issuance. The plan shall be approved in writing by the Department and submitted to FERC for approval within one (1) year of license issuance. The management plan shall be implemented within one (1) year of license issuance, and include the following information: schedule of inspection [a minimum of one (1) inspection every five (5) years and following any event that could have caused the Project's trash rack bars to exceed

one(1)-inch clear spacing; repair time frames; notification requirements; etc.].

16. Invasive Species Management Plan The Certificate Holder shall develop an Invasive Species Management Plan and submit to NYSDEC and USFWS within 180 days of license issuance. The plan shall be approved in writing by the Department and submitted to FERC for approval within one (1) year of license issuance.

17. Work Period For Fish Protection To protect natural reproduction of sturgeon, trout species, and warm water fish species, all in-water work, as well as any work that may result in the suspension of sediment, is prohibited during the fish spawning and incubation period commencing October 1 and ending July 30, unless project-specific approval is granted by the Department.

18. Mainenance Dredging The Certificate Holder shall curtail generation or otherwise shut off flow through the turbines prior to commencing any maintenance dredging activities.

19. Construction Drawdowns Whenever construction and/or maintenance activities require that the water level of project reservoir be lowered, it shall not be drawn down more than one (1) foot per hour. During refill, the water level of the impoundment shall not be allowed to rise more than one (1) foot per hour.

20. Maintenance Of Water Flow During all period of construction, flows immediately downstream of the work site shall be maintained in accordance with Natural Resource Permit Condition No. 8 of this certificate.

21. Erosion & Sediment Control Prior to commencement of activities which could adversely affect water quality, the Certificate Holder shall receive Department approval of an Erosion and Sediment Control Plan. This plan must be submitted at least 90 days prior to the intended date for commencing work. All work shall conform to the goals listed below.

At a minimum, the Certificate Holder shall accomplish the following objectives:

- a) Isolate in-water work from flow of water or adjacent areas and prevent discolored (turbid) discharges and sediments from entering adjacent areas due to excavation, dewatering, and construction activities;
- b) Exclude the use of heavy construction equipment below the Mean High Water Line until the work area is protected by an approved structure and dewatered, except where an emergency response requires immediate action;
- c) Stabilize any disturbed shoreline or streambanks by grading to an appropriate slope, followed by armoring or vegetating as appropriate, to prevent erosion and sedimentation into any waterbody;

- d) Minimize soil disturbance, provide appropriate grading, and provide temporary and permanent vegetation of stockpiles and other disturbed areas to minimize erosion/sedimentation potential;
- e) Protect all waterbodies from contamination by deleterious materials such as wet concrete, gasoline, solvents, epoxy resins, or other materials used in the construction, maintenance, and operation of the Project;
- f) Install effective erosion control measures on the downslope edge of all disturbed areas and maintain them in fully functional condition. These erosion control measures are to be installed prior to commencing any other activities involving soil disturbance;
- g) Ensure complete removal of all dredged and excavated materials, debris, or excess construction materials from the streambed, lakebed, streambanks, or shorelines of all waterbodies to an approved upland disposal site;
- h) Ensure that all temporary fill and other materials placed in any waterbody are completely removed, immediately upon completion of construction, unless otherwise directed by the Department; and
- i) All areas of soil disturbance resulting from project operation, construction or maintenance shall be seeded with an appropriate perennial grass and mulched with straw immediately upon completion of the activity. Mulch shall be maintained until suitable vegetation cover is established.

22. Placement of Cofferdams, Construction of Temporary Access Roads or Ramps, or Other Temporary Structures Which Encroach Upon Waterbodies The design and installation of cofferdams, temporary access roads or ramps, or other temporary structures which encroach upon any waterbody must be approved by the Department prior to installation.

23. Turbidity Monitoring During Construction During construction related activities in flowing water, the Certificate Holder shall monitor waters immediately upstream of project activities and at a second point no more than 100 feet downstream from any discharge point or other potential source of turbidity. If, at any time, turbidity measurements from the downstream locations exceed the measurements from the locations upstream of the work areas, all related construction on the project shall cease until the source of turbidity is discovered and the issue corrected. During construction related activities in non-flowing water, turbidity shall not exceed ambient conditions outside the work site or work shall cease until the issue is corrected.

24. Sediment Analysis And Disposal The Certificate Holder shall sample any sediments to be disturbed or removed from waters within the Project and test them for contaminants. Sampling and testing shall be accomplished according to a protocol

submitted to and approved by the Department prior to work activities. Approval from the Department shall include all disposal locations for any sediments to be removed from the Project.

25. Concrete Leachate During maintenance and construction activities, no wet or fresh concrete or leachate shall be allowed to escape into any wetlands or waters of New York State, nor shall washings from ready-mixed concrete trucks, mixers, or other devices be allowed to enter any wetland or waters. Only watertight or waterproof forms shall be used. Wet concrete shall not be poured to displace water within the forms.

26. Notify DEC of Construction Activities The NYSDEC contact referenced in Natural Resource Permit Condition No. 7 of this permit shall be notified in writing at least two weeks prior to commencing any non-emergency work performed under the authority of this certificate.

WATER QUALITY CERTIFICATION SPECIFIC CONDITIONS

1. **Water Quality Certification** The authorized project, as conditioned pursuant to the Certificate, complies with Section 301, 302, 303, 306, and 307 of the Federal Water Pollution Control Act, as amended and as implemented by the limitations, standards, and criteria of state statutory and regulatory requirements set forth in 6 NYCRR Section 608.9(a). The authorized project, as conditioned, will also comply with applicable New York State water quality standards, including but not limited to effluent limitations, best usages and thermal discharge criteria, as applicable, as set forth in 6 NYCRR Parts 701, 702, 703, and 704.

GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. **Facility Inspection by The Department** The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. Relationship of this Permit to Other Department Orders and Determinations

Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. Applications For Permit Renewals, Modifications or Transfers The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Regional Permit Administrator
NYSDEC Region 7 Headquarters
615 Erie Boulevard W
Syracuse, NY13204 -2400

4. Submission of Renewal Application The permittee must submit a renewal application at least 30 days before permit expiration for the following permit authorizations: Water Quality Certification.

5. Permit Modifications, Suspensions and Revocations by the Department The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

- a. materially false or inaccurate statements in the permit application or supporting papers;
- b. failure by the permittee to comply with any terms or conditions of the permit;
- c. exceeding the scope of the project as described in the permit application;
- d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
- e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

6. Permit Transfer Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS
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Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification

The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit

The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits

The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights

This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

APPENDIX B

Cornell University Hydroelectric Project (FERC No. 3251) Controlled Shut-down Procedure

Introduction

Cornell University (Cornell) is the Licensee, owner, and operator of the Cornell University Hydroelectric Project (FERC Project No. 3251) (Project), located on Fall Creek, in the City of Ithaca, Tompkins County, New York. The Project is operated in a run-of-river (ROR) mode under all flow conditions, with Project outflows approximating inflows to Beebe Lake as measured by the USGS Gage at Fall Creek (04234000) and through Cornell's monitoring of the Beebe Lake surface water elevation. A minimum bypass flow of 10 cfs, or inflow to Beebe Lake, whichever is less, is provided continuously at the dam into the Project's bypassed reach.

The powerhouse is equipped with two turbines. The minimum hydraulic capacities of turbines 1 and 2 are 7.5 and 11 cubic feet per second (cfs), respectively. The rated maximum hydraulic capacities of turbines 1 and 2 are 88.3 and 123.6 cfs, respectively; however, the total hydraulic capacity that can be provided to the powerhouse via the penstock is approximately 160 cfs (under normal operating conditions) due to the size and configuration of the penstock.

Purpose

This Controlled Shut-down Procedure is used to shut-down the Project's unit(s) in a stepwise approach in order to gradually decrease flow to the powerhouse, and thereby allow the lake level to rise and begin to gradually spill into the Project's bypassed reach. This controlled shut-down will help attenuate changes in flows downstream of the Project's powerhouse.

Exceptions

Cornell will make all reasonable attempts to implement this procedure when applicable; however, this procedure will not be able to be implemented during an emergency or operating condition including, but not limited to, a power failure; oil leak; equipment failure related to analog failure, vibration, or temperature; or public safety incident. Therefore, Cornell notes that the implementation of this procedure may be curtailed or suspended if required by operating conditions or emergencies beyond the control of Cornell, as well as upon prior mutual agreement between Cornell, the New York State Department of Environmental Conservation (NYSDEC), and the U.S. Fish and Wildlife Service (Service).

**Cornell University Hydroelectric Project (FERC No. 3251)
Controlled Shut-down Procedure**

Controlled Shut-down for Inflows less than 60 cfs

When Cornell desires to shut-down the Project's turbine(s) and inflow from Fall Creek (measured at USGS Gage 04234000) is less than 60 cfs, the controlled shut-down of the turbine(s) will be performed as described below.

1. **Start of controlled shut-down** - Reduce flow to the powerhouse by approximately one half of the powerhouse flow (not total inflow).
2. **30 minutes after start of controlled shut-down** - Close intake gate(s) to terminate flow to the powerhouse.

In order to avoid unit trips due to low flow conditions, as a general practice, Cornell will initiate the controlled shut-down of the unit(s) when inflow from Fall Creek (measured at USGS Gage 04234000) is approximately 20 cfs.

Controlled Shut-down for Inflows between 60 and 320 cfs

When Cornell desires to shut-down the Project's turbine(s) and inflow from Fall Creek (measured at USGS Gage 04234000) is between 60 and 320 cfs, controlled shut-down of the turbine(s) will be performed as described below.

1. **Start of controlled shut-down** - Reduce flow to the powerhouse by approximately one half of the powerhouse flow (not total inflow).
2. **30 minutes after start of controlled shut-down** - Reduce flow to the powerhouse by approximately one half of the powerhouse flow (not the total inflow).
3. **60 minutes after start of controlled shut-down** - Close intake gate(s) to terminate flow through the powerhouse.

For Project inflows greater than 320 cfs (as measured at USGS Gage 04234000), controlled shut-down of the turbines is not necessary due to the volume of spill over the dam into the Project's bypassed reach.

Cornell University Hydroelectric Project (FERC No. 3251) Controlled Start-up Procedure

Introduction

Cornell University (Cornell) is the Licensee, owner, and operator of the Cornell University Hydroelectric Project (FERC Project No. 3251) (Project), located on Fall Creek, in the City of Ithaca, Tompkins County, New York. The Project is operated in a run-of-river (ROR) mode under all flow conditions, with Project outflows approximating inflows to Beebe Lake as measured by the USGS Gage at Fall Creek (04234000) and through Cornell's monitoring of Beebe Lake surface water elevation. A minimum bypass flow of 10 cfs, or inflow to Beebe Lake, whichever is less, is provided continuously at the dam into the Project's bypassed reach.

The powerhouse is equipped with two turbines. The minimum hydraulic capacities of turbines 1 and 2 are 7.5 and 11 cubic feet per second (cfs), respectively. The rated maximum hydraulic capacities of turbines 1 and 2 are 88.3 and 123.6 cfs, respectively; however, the total hydraulic capacity that can be provided to the powerhouse via the penstock is approximately 160 cfs (under normal operating conditions) due to the size and configuration of the penstock.

Purpose

This Controlled Start-up Procedure is used to startup the Project's unit(s) in a stepwise approach in order to gradually increase flow to the powerhouse, and thereby gradually decrease spill into the Project's bypassed reach. Based on Cornell's experience with Project operations, implementation of this procedure results in a controlled start-up duration ranging from 60 to 90 minutes from the time the procedure is initiated to the time the Project is operating at full capacity for the given inflow to Beebe Lake. This stepwise approach helps attenuate changes in flows downstream of the Project's powerhouse.

Exceptions

Cornell will make all reasonable attempts to implement this procedure when applicable; however, this procedure may not be able to be implemented during an emergency condition including, but not limited to, adverse operating conditions or a public safety incident. Therefore, Cornell notes that the implementation of this procedure may be curtailed or suspended if required by emergencies or operating conditions beyond the control of Cornell, as well as upon prior mutual agreement between Cornell, the NYSDEC, and the Service.

**Cornell University Hydroelectric Project (FERC No. 3251)
Controlled Start-up Procedure**

Controlled Start-up Procedure

1. The start-up procedure is controlled by the Programmable Logic Control (PLC).
2. The start-up procedure is initiated when the Project's Operator and Hydroelectric Manager decide that there is sufficient flow in Fall Creek and all other parts of the Project are in working order.
3. Upon initiation of start-up, Gate 1 opens slowly to allow the generator to ramp up to 1,200 rpm over several minutes. At 1,200 rpm, the unit is connected to Cornell's 2.4 kilovolt (kV) electrical grid.
4. Once the generator is connected to the electrical grid, Gate 1 is opened to the minimum gate opening (approximately 20% opening) to keep the generator operational.
5. If the lake level sensor indicates the lake level is rising, Gate 1 continues to open. If the lake level sensor indicates the lake level is stagnant or dropping, Gate 1 will cease opening or begin to close, respectively.
6. Gate 1 follows this process, until the lake level set point¹ has been met. Once Gate 1 has met the set point, this process is repeated by Gate 2.
7. Once Gates 1 and 2 meet their set point for Unit 1, the process is repeated by Gates 1 and 2 for operation of Unit 2.

¹ The set point is the lake level that allows the required minimum flow (10 cfs) into the bypassed reach through the Beebe Lake weir.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Cornell University

Project No. 3251-010

(Issued September 23, 2021)

DANLY, Commissioner, *concurring in part and dissenting in part*:

1 I concur with the decision to issue Cornell University a new license to continue to operate and maintain the Cornell University Hydroelectric Project. I dissent in part because the Commission impermissibly dismissed the recommendation to monitor downstream water levels during the ice-free period that the Department of Interior filed under section 10(j) of the Federal Power Act (FPA).¹

2 The statute is explicit on the process by which the Commission can reject fish and wildlife recommendations filed under FPA section 10(j)—after “a finding that adoption of such recommendation is inconsistent with the purposes and requirements of [the Act] or with other applicable provisions of law.”² There is no ambiguity in this process. Nowhere does the FPA state the Commission can reject a condition based on whether it “includes a request for a study which cannot be completed prior to licensing.”³ The timing of a study does not make a recommendation “inconsistent with the purposes and requirements” of the FPA. The Commission instead should have relied on a finding that the recommendation is not consistent with the comprehensive planning standard of FPA section 10(a)(1), and the equal consideration provision of FPA section 4(e).⁴

3 In addition, I write to express my concern about the response that will be occasioned by Article 408, which reserves the Commission’s authority to impose financial assurance mechanisms without limiting principle.⁵ I am convinced that the

¹ *Cornell Univ.*, 176 FERC ¶ 61,186, at P 41 (2021).

² 16 U.S.C. § 803(j)(2)(A).

³ *Cornell Univ.*, 176 FERC ¶ 61,186 at P 41 n.31 (quoting 18 C.F.R. § 4.30(b)(9)(ii)).

⁴ 16 U.S.C. §§ 797(e), 803(a)(1).

⁵ *See Cornell Univ.*, 176 FERC ¶ 61,186 at P 87 (“Article 408 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*

Commission must take a hard look at our financial assurance requirements and deliberately determine what, if any, changes or improvements should be adopted. It is imperative that licensees have the financial wherewithal to physically maintain their facilities and I have been gravely concerned about this subject for some time.⁶ But how to go about achieving that goal is a complicated question and requires a great deal of thought. It is especially difficult for the Commission to chart a clear path based on the record we have compiled so far in our Notice of Inquiry, many of the submissions to which have raised compelling complexities.⁷

4 In my view, this reservation may have the unfortunate effect of reinforcing the uncertainty faced by licensees in light of what is nevertheless the necessary inquiry the Commission is conducting into financial assurance. Licensees do not know whether or when we will promulgate new financial assurance requirements, whether imposition of those requirements will require a hearing, what form they will take, or how much they will cost. This uncertainty may further chill investment and drive up risk premiums—limiting licensee’s access to the very financing we should seek to encourage.

5 My hope is that, when we move forward from the Notice of Inquiry, we will convene one or more technical conferences to offer more structured fora in which to explore these questions. It is my further hope that everyone with an interest participate in the Commission’s generic proceedings on financial assurance, to help us improve the

pertaining thereto.”) (emphasis added).

⁶ See *Financial Assurance Measures for Hydroelectric Projects*, 174 FERC ¶ 61,039 (2021) (Notice of Inquiry); see also *Boyce Hydro Power, LLC*, 175 FERC ¶ 61,049 (2021) (Danly, Comm’r, concurring at P 3).

⁷ See South Carolina Department of Natural Resources (SCDNR) March 29, 2021 Comments in Notice of Inquiry Docket No. RM21-9 at 4 (“The SCDNR finds that bonds would only be appropriate for a term limited construction project or renovation associated with a FERC hydroelectric project.”); Public Power Licensee Group March 29, 2021 Comments in Notice of Inquiry Docket No. RM21-9 at 15 (“FPA section 10(e) does not authorize FERC to collect for costs that may be incurred by other licensees”); Four Lakes Task Force February 12, 2021 Comments in Notice of Inquiry Docket No. RM21-9 at 2 (“Four Lakes Task Force’s direct experience is this type of [insurance] coverage may not be available”) (emphasis omitted); United States Society on Dams March 26, 2021 Comments in Notice of Inquiry Docket No. RM21-9 at 6 of 9 (“Dam property insurance is prohibitively expensive and rare to find on the market.”); Kodiak Electric Association, Inc. February 9, 2021 Comments in Notice of Inquiry Docket No. RM21-9 at 2 (“The high administration cost needed to establish, manage, and distribute such funds would deplete the fund’s net value and diminish its purpose.”).

record we have already begun compiling in the Notice of Inquiry and offer the best analysis they can regarding the extent of the Commission's powers and the most responsible means by which to employ them.

For these reasons, I respectfully concur in part and dissent in part.

James P. Danly
Commissioner