

126 FERC ¶ 62,148
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Central Vermont Public Service Corporation

Project No. 11478-000

ORDER ISSUING ORIGINAL LICENSE

February 26, 2009

1. On May 9, 1994, Central Vermont Public Service Corporation (Central Vermont) filed an application for an original license under Part I of the Federal Power Act (FPA),¹ to continue operation and maintenance of its unlicensed 2.2-megawatt (MW) Silver Lake Hydroelectric Project No. 11478 located on Sucker Brook in Addison County, Vermont. The project does not occupy federal land, but is surrounded by the Green Mountain National Forest.² For the reasons discussed below, I am issuing an original license for the project.

BACKGROUND

2. On October 10, 1995, a public notice accepting the license application was issued, setting December 6, 1995, as the deadline for filing comments and motions to intervene. Motions to intervene were timely filed by the U.S. Department of the Interior (Interior), Vermont Agency of Natural Resources (Vermont ANR), and Vermont Natural Resources Council (Vermont NRC).³

¹ 16 U.S.C. §§ 787(e) and 808 (2006).

² The project is required to be licensed pursuant to section 23(b)(1) of the FPA, 16 U.S.C. § 817(1) (2006), because it is located on a stream over which Congress has Commerce Clause jurisdiction, affects interstate commerce through its connection to an interstate power grid, and the project has had post-1935 construction. *Central Vermont Public Service Corp.*, 44 FERC ¶ 62,328 (1988), *reh'g denied*, 54 FERC ¶ 61,132 (1991). The project began generating power in 1917. The Commission found the project to be subject to the Commission's mandatory licensing jurisdiction in the cited orders.

³ The motions were timely and unopposed, and were therefore automatically granted by operation of 18 C.F.R. § 385.214(c)(1) (2008).

3. On February 22, 1996, a public notice was issued indicating the application was ready for environmental analysis, and soliciting comments, recommendations, terms and conditions, and prescriptions. The filing deadline was April 22, 1996. In response, timely comments and recommended terms and conditions were filed by Interior, the U.S. Department of Agriculture (Forest Service), and Vermont ANR. Central Vermont filed reply comments on June 4, 1996.

4. Commission staff issued a draft Environmental Assessment (draft EA) on August 29, 1996. Interior, Forest Service, Vermont ANR, Vermont NRC, and Central Vermont filed comments on the draft EA. The staff considered these comments in preparing a final Environmental Assessment (EA) which was issued on March 13, 1997. The motions to intervene and comments have been fully considered in determining whether, and under what conditions, to issue this license.

PROJECT DESCRIPTION AND OPERATION

A. Project Description

5. The existing Silver Lake Project includes the Sugar Hill storage reservoir and Goshen dam, Sucker Brook diversion dam, and Silver Lake Development, all of which are hydrologically connected.

6. The 74-acre Sugar Hill storage reservoir is impounded by Goshen dam which consists of a 680-foot-long earthen dam section, and 150-foot-long eastern and western concrete spillway sections. Flow is released from Sugar Hill reservoir through a 232-foot-long, 4-foot-square conduit that discharges into Sucker Brook.

7. The Sucker Brook diversion dam consists of a 665-foot-long earthen section, and a 60-foot-long concrete spillway section that impounds a 0.25-acre reservoir that discharges into a 7,000-foot-long, 36-inch to 42-inch-diameter penstock and then into Silver Lake. The diversion dam is located about 2.6 miles downstream of Goshen dam.

8. The Silver Lake Development consists of the 257-foot-long buttressed concrete wall with earth backfill, Silver Lake dam that includes an 8-foot-wide concrete spillway section and an 18.5-foot-wide intake structure. The dam impounds the 110-acre Silver Lake. The intake conducts water into a 5,200-foot-long, 36-inch to 48-inch-diameter penstock connected to a powerhouse containing a single 2.2-MW generating unit. The powerhouse discharges into a tailrace that leads back to Sucker Brook. An 11,700-foot-long reach of Sucker Brook is bypassed from the Sucker Brook diversion dam to the powerhouse tailrace. Project power is transmitted through a 91-foot-long, 6.9-kilovolt buried transmission cable connected to the regional grid. A more detailed project description is contained in ordering paragraph B (2).

9. Recreation facilities at the project include a viewing area at the Falls of Lana which is a scenic gorge located within the bypassed reach of Sucker Brook, foot trails at the Falls of Lana viewing area, and a road leading to the boat ramp at Sugar Hill reservoir.

B. Project Operation

10. The project currently operates in a peaking mode and regulates flows to provide peaking power. Sugar Hill reservoir and Silver Lake capture the annual spring runoff and release water from storage to provide year-round flow releases. Water released from Sugar Hill flows downstream to the Sucker Brook diversion dam, where water is diverted to Silver Lake via a penstock. A normal water surface pond elevation of 1,288 feet United States Geological Survey datum (USGS) is maintained in the 0.25-acre reservoir impounded by the Sucker Brook diversion dam. Water for generation is then released from Silver Lake to the project's powerhouse via a second penstock. Central Vermont currently draws down Sugar Hill reservoir beginning September 1 from 1,761.5 feet USGS until January 1 to 1,755.5 feet USGS, then continues the draw down until February 28 to 1,734 feet USGS, then begins reservoir refilling until September 1. Central Vermont currently voluntarily releases a minimum flow of 2.5 cubic feet per second (cfs) from Sugar Hill reservoir to Sucker Brook. No minimum flows are currently released from Sucker Brook diversion dam or Silver Lake dam. Central Vermont currently fluctuates Silver Lake between 1,246 feet and 1,249 feet USGS from June 1 through January 1, draws down the lake to 1,241 feet USGS until April 1, then begins lake refilling until June 1. When smelt are spawning, Central Vermont operates the project continuously to maintain spawning and incubation habitat in Sucker Brook downstream of the project tailrace. The project's current estimated total annual generation is about 6,150 megawatt hours (MWh).

C. Proposed Operation

11. Central Vermont proposes to: (1) fluctuate Sugar Hill reservoir between 1,765.5 feet and 1,757.5 feet USGS from May 1 through December 31, then fluctuate the reservoir between 1,760.5 feet and 1,747.5 feet USGS from January 1 through April 30; (2) continue the 2.5-cfs year-round minimum flow release from Goshen dam into Sucker Brook; (3) maintain a normal water surface pond elevation of 1,288 feet USGS upstream of the Sucker Brook diversion dam; (4) release 1.0 cfs year-round minimum flow from the Sucker Brook diversion dam into the Sucker Brook bypassed reach; and (5) fluctuate Silver Lake between 1,247.5 feet and 1,245.5 feet USGS from June 1 through November 30, then draw down the lake level to 1,239.5 feet USGS from December 1 through May 31, then refill the lake by June 1.

D. Proposed Measures

12. In addition to the above proposed project operation, Central Vermont also proposes to: (1) monitor water quality below Goshen dam; (2) improve the road leading

to the boat ramp at Sugar Hill reservoir, extend the boat ramp, and install signage and trail registers at the Sugar Hill reservoir; (3) provide additional directional and interpretive signage at the Sucker Brook diversion dam and at Silver Lake; and (4) improve the existing trail and viewing area at the Falls of Lana. These measures are required by Article 401.

WATER QUALITY CERTIFICATION

13. Under section 401(a)(1) of the Clean Water Act (CWA),⁴ 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 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.⁵

14. On May 6, 1994, Central Vermont applied to Vermont ANR for certification for the Silver Lake Project. Requests for certification were subsequently withdrawn and refiled in 1995 and 1996. On February 7, 1997, Vermont ANR issued a draft certification for the Silver Lake Project. On June 2, 1997, Vermont ANR filed revised draft certification conditions, and in a letter filed August 4, 1998, Central Vermont requested further revisions to the redrafted certification conditions. No final certification was issued; instead Central Vermont withdrew and refiled for certification annually between 1997 and 2007. Finally, on December 5, 2008, Vermont ANR, through its Vermont Department of Environmental Conservation, issued certification for the Silver Lake Project.⁶ The Vermont ANR certification conditions are set forth in Appendix A of this order and incorporated into the license (see ordering paragraph D).

15. The certification includes conditions requiring: seasonal reservoir operating levels for Sugar Hill Reservoir and Silver Lake; year-round minimum flow releases for Sucker Brook downstream of Goshen dam and the bypassed reach of Sucker Brook downstream of the Sucker Brook diversion dam;⁷ a smelt spawning protection operating protocol;

⁴ 33 U.S.C. § 1341(a)(1) (2006).

⁵ 33 U.S.C. § 1341(d) (2006).

⁶ The water quality certification was filed with the Commission on February 5, 2009.

⁷ Article 402 requires reservoir operating levels and minimum flows consistent with certification condition B, but allows for temporary modified project operation for

(continued)

maintenance of dissolved oxygen standards downstream of Goshen dam; maintenance of a fish exclusion device downstream of the Silver Lake tailrace; replacement of the Silver Lake trashrack; public access to the project area; final design plans for the proposed recreation facilities; erosion control measures, as necessary; and a one-time contribution to the Lake Champlain and Tributaries Restoration Fund. The certification also requires plans for: ramping flows downstream of Goshen dam and the Silver Lake powerhouse tailrace; minimum flows downstream of the Sucker Brook diversion dam; Sugar Hill Reservoir operation, impoundment and flow monitoring, and debris disposal. Article 401 requires the licensee to file the plans required by the certification conditions for Commission approval, and to notify the Commission of actions taken, where appropriate.

COAST ZONE MANAGEMENT ACT

16. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),⁸ the Commission cannot issue a license for a project within or affecting a state's coastal zone unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's CZMA program, or the agency's concurrence is conclusively presumed by its failure to act within 180 days of its receipt of the applicant's certification. Vermont does not have a CZMA program;⁹ therefore, no consistency certification for the Silver Lake Project is required.

SECTION 18 FISHWAY PRESCRIPTIONS

17. Section 18 of the FPA,¹⁰ provides that the Commission shall require the construction, operation, and maintenance by a licensee of such fishways as may be prescribed by the Secretaries of Commerce or the Interior, as appropriate. No fishway prescription or reservation of authority was filed under section 18 of the FPA.

THREATENED AND ENDANGERED SPECIES

18. Section 7(a)(2) of the Endangered Species Act of 1973 (ESA)¹¹ requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of

emergency conditions beyond the control of the licensee.

⁸ 16 U.S.C. § 1456(3)(A) (2006).

⁹ See <http://coastalmanagement.noaa.gov/mystate/welcome.html>

¹⁰ 16 U.S.C. § 811 (2006).

¹¹ 16 U.S.C. § 1536(a) (2006).

federally listed threatened and endangered species, or result in the destruction or adverse modification of their designated critical habitat.

19. In a letter filed on June 17, 2002, the U.S. Fish and Wildlife Service (FWS) noted that the federally listed endangered Indiana bat (*Myotis sodalis*) is likely to occur at the Silver Lake Project. In a biological assessment (BA) issued to the FWS on November 13, 2008, Commission staff determined that, with its recommended measures, relicensing the project is not likely to adversely affect the Indiana bat. The BA recommended that, during routine or recreation-based vegetation management at the project, Central Vermont refrain from tree removal activities from April 15 through September 15, which is the roosting season of the Indiana bat in the project vicinity. If tree removal must occur between April 15 and September 15, the BA recommended that Central Vermont conduct surveys prior to tree removal to determine if potential roost trees for Indiana bat are present and document the findings with the Commission and FWS. If roost trees are present, the BA recommended that Central Vermont consult with FWS and the Commission prior to tree removal to determine an appropriate course of action.

20. By letter filed December 29, 2008, FWS agreed that a time-of-year restriction for tree removal will avoid the potential take of Indiana bats that might be present in roost trees during this time period, but recommended expanding the seasonal cutting restriction to April 1 through October 31 to ensure that there is no likelihood of take during the Indiana bat non-hibernating season. In the event that potential roost trees must be removed between April 1 and October 31, FWS agreed that Central Vermont should first survey the area to determine whether potential roost trees are present, and noted that results should be provided both to the New England Field Office of FWS and the Vermont Department of Fish and Wildlife (Vermont Fish and Wildlife). Further, FWS requested that surveys and site-specific consultation be concluded prior to any tree removal during the non-hibernating season. With these measures, FWS concurred with the BA that the project is not likely to adversely affect the Indiana bat, and further consultation with FWS under section 7 of ESA is not required. Article 405 requires Central Vermont to avoid tree removal during April 1 through October 31 and requires an Indiana bat protection plan, including surveys and consultation with FWS and Vermont Fish and Wildlife, to be filed, for Commission approval, prior to any tree removal that must take place during the non-hibernating season.

NATIONAL HISTORIC PRESERVATION ACT

21. Under section 106 of the National Historic Preservation Act (NHPA),¹² and its implementing regulations,¹³ federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register (defined as historic properties) and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking. This generally requires the Commission to consult with the State Historic Preservation Officer (SHPO) to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any adverse effects.

22. To satisfy these responsibilities, the Commission executed a Programmatic Agreement (PA) with the Advisory Council on Historic Preservation and the Vermont SHPO and invited Central Vermont and the Forest Service to concur with the stipulations of the PA. Only the Forest Service concurred. The PA, executed on December 2, 2003, requires the licensee to prepare and implement a historic properties management plan (HPMP) for the term of any license issued for this project, which would include completion, if necessary, of identification of historic properties at the project. This agreement also includes stipulations regarding the interim treatment of historic properties, objections to actions or failure to act pursuant to the PA, and amendment and termination of the PA. Thus, although the agreement was signed in 2003, the post-licensing development of the HPMP, in consultation with the parties, and other stipulations will ensure that any new discoveries or cultural resource concerns that have developed since 2003 will be addressed through implementation of the PA. Execution of the PA demonstrates the Commission's compliance with section 106 of the NHPA. Article 406 requires the licensee to implement the PA and to file its HPMP with the Commission within one year of license issuance.

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

A. Recommendations Within the Scope of Section 10(j) of the FPA

23. Section 10(j)(1) of the FPA¹⁴ requires the Commission, when issuing a license, to include conditions based on recommendations by federal and state fish and wildlife

¹² 16 U.S.C. § 470 *et seq.* (2006).

¹³ 36 C.F.R. Part 800 (2008).

¹⁴ 16 U.S.C. § 803(j) (1) (2006).

agencies submitted pursuant to the Fish and Wildlife Coordination Act,¹⁵ to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project.

24. In response to the February 22, 1996 public notice that the project was ready for environmental analysis, Interior and Vermont ANR filed a total of 12 different recommendations.¹⁶ Three recommendations are outside the scope of section 10(j) and are discussed in the next section. This license includes conditions consistent with seven recommendations that are within the scope of section 10(j). These include recommendations to: (1) provide a minimum flow of 1.3 cfs, or inflow, whichever is less, downstream of Goshen dam (certification condition B);¹⁷ (2) prepare a minimum flow release plan (certification conditions F and G); (3) prepare ramping procedures for flow releases below Goshen dam (certification condition C); (4) prepare a ramping rate plan for tailrace releases (certification condition D); (5) maintain the normal operating water level at the Sucker Brook diversion dam of 1,288 feet USGS (Article 404); (6) prepare a monitoring plan for flow releases and reservoir levels (certification condition H); and (7) prepare a dissolved oxygen management plan (certification condition I). The remaining two recommendations are discussed below.

25. If the Commission believes that any such 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.¹⁸ 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.

¹⁵ 16 U.S.C. §§ 661 *et seq.* (2006).

¹⁶ Interior and Vermont ANR filed recommendations on April 22, 1996.

¹⁷ Interior originally recommended a 2.5-cfs minimum flow but revised its recommendation to 1.3 cfs by letter filed December 3, 1996. The certification actually requires a minimum flow release of no less than 2.5 cfs when reservoir levels are above 1,757.5 feet from May 1 through December 31 and when reservoir levels are above 1,747.5 feet (the maximum allowed drawdown) from January 1 through April 30.

¹⁸ 16 U.S.C. § 803(j)(2) (2006).

1. Minimum Flows for the Sucker Brook diversion dam

26. Commission staff made an initial determination that Interior's recommendation for Central Vermont to release a 5-cfs minimum flow, or inflow, whichever is less, downstream of the Sucker Brook diversion dam may be inconsistent with the comprehensive planning standard of section 10(a)(1) and the public interest standard of section 4(e) of the FPA.¹⁹ By letter dated September 18, 1996, Commission staff advised Interior of its preliminary determination and attempted to resolve the apparent inconsistency. Commission staff indicated that a 1-cfs flow would protect or enhance water quality and aquatic resources in the stream reach downstream of the diversion dam and would have minimal impact on project generation.

27. In a letter commenting on the draft EA filed December 3, 1996, Interior stated that a 1-cfs flow would provide little habitat for benthic organisms and no habitat for fish. However, based on the results of a flow demonstration conducted on November 1, 1996, Interior revised its recommendation for a minimum flow release from a year round flow of 5 cfs to a seasonal flow of 2.5 cfs from June 1 to October 1 and 3.5 cfs for the remainder of the year.

28. On February 7, 2007, Vermont ANR issued a draft water quality certification that required minimum flow releases into Sucker Brook downstream of the diversion dam of 2.5 cfs from April 1 through September 30 and 3.5 cfs from October 1 through March 31.

29. In the final EA, Commission staff reviewed the information from the November flow demonstration and concluded that a year-round flow of 2 cfs, or inflow, whichever is less, to Sucker Brook downstream of the diversion dam would adequately enhance aquatic conditions in the reach.²⁰ Staff noted, however, that, if the minimum flows in Vermont ANR's draft water quality certification were included in the final certification, the Commission would be obligated to adopt those minimum flows.²¹

30. On December 5, 2008, Vermont DEC issued its final certification for the Silver Lake Project thus superseding the conditions of the February 7, 1997 draft certification. With respect to flows downstream of the Sucker Brook diversion dam, the final certification requires a minimum release of 2.5 cfs, or inflow, if less, year round (at a cost of \$44,370 in lost generation per year), which would provide some additional

¹⁹ See draft EA at 65.

²⁰ See EA at 76.

²¹ *Id.*

enhancement to water quality and aquatic habitat compared to the 2-cfs minimum flow year round (at a cost of \$35,520 in lost generation) recommended by Commission staff in the EA. Although Interior's recommendation for 3.5 cfs from October 1 through May 31 would further enhance water quality and aquatic resources, it would not provide an incremental improvement over the year round 2.5-cfs flow requirement in the certification worth the additional cost of about \$8,460 annually in lost generation. Maintaining a minimum flow of 2.5 cfs year round would provide most of the improvements in water quality and habitat provided by the higher 3.5-cfs seasonal flow.

31. For the above reasons, I conclude, in accordance with FPA section 10(j)(2)(A), that Interior's recommendation for a seasonal minimum flow of 3.5 cfs from October 1 through May 31 is inconsistent with the comprehensive planning standard of sections 4(e) and 10(a) of the FPA. In accordance with section 10(j)(2)(B) of the FPA, I find that the measures required by this license will adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources affected by this project.

2. Sugar Hill Reservoir Levels

32. The EA recommended adopting Interior's recommendation for a stable reservoir elevation from the beginning of July through the beginning of March and to allow spring runoff to accumulate from March through the end of June.²² However, Vermont ANR's water quality certification requires an annual rule curve for Sugar Hill reservoir whereby the reservoir would be held at a higher minimum elevation than Interior's recommended level for much of the year but the reservoir level would be allowed to vary over a greater range of operating levels. Vermont ANR acknowledges that managing the reservoir as required in its certification (for generation and to guarantee downstream minimum flows) would continue to limit the establishment of the impoundment's littoral zone but adds that under its condition an existing wetland in the southeast bay would be maintained, annual fluctuations would be reduced, and hibernacula²³ would be improved by delaying the onset of the winter drawdown. Finally, Vermont ANR notes that under its condition more fish would be able to overwinter in the reservoir due to its higher volume compared to historical operating conditions. Therefore, because the certification condition is mandatory and taken in its entirety would be inconsistent with Interior's recommended rule curve, and further, because, as described below, it offers greater operational flexibility while still protecting spring spawning fish and would continue to provide relatively stable conditions during the recreation seasons, I am including the rule curve specified by the certification in this license.

²² See EA at 76-77.

²³ Hibernacula are the locations chosen by animals for hibernation.

33. The environmental measures required by this license including releasing minimum flows in the Sucker Brook bypassed reach and maintaining a stable reservoir elevation at the Sucker Brook diversion dam, monitoring dissolved oxygen, and developing ramping rates would directly benefit water quality and aquatic habitat at the project and downstream.

B. Recommendations not Within the Scope of Section 10(j) and Considered Under Section 10(a)(1) of the FPA

34. As noted, Interior and Vermont ANR made three recommendations that were outside the scope of section 10(j), in that they were not specific measures to protect, mitigate damages to, or enhance fish and wildlife. Consequently, I do not consider these recommendations under section 10(j) of the FPA. Instead, I consider these recommendations under the broad public-interest standard of FPA section 10(a)(1).²⁴

35. I have adopted two of the three recommendations: (1) provide public access to the project resources (certification condition O); and (2) require the recreation enhancements proposed by Central Vermont.

36. I did not adopt the other recommendation to develop a recreation master plan, including monitoring provisions, and update it every five years. In the EA, staff did not recommend a recreation master plan with monitoring because recreational use at the project is monitored through section 8.11 of the Commission's regulations,²⁵ which requires the licensee to collect and file recreational use information every six years, and part of Central Vermont's recreation proposal is to install trail registers to gather recreational use data at the project. If this information indicates a need for additional recreational facilities, the need can be addressed through the standard license reopener.

OTHER ISSUES

A. Silver Lake Operating Levels

²⁴ 16 U.S.C. § 803(a)(1) (2006). Section 10(a)(1) requires that any project for which the Commission issues a license shall 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.

²⁵ 18 C.F.R § 8.11 (2008).

37. Staff recommended in the EA that water levels at Silver Lake be maintained between elevations 1,246.5 and 1,247.5 feet USGS from June 1 through December 31, with a maximum winter drawdown to elevation 1,242.5 feet USGS between January 1 and May 31, and either fill or maintain the lake level from March 15 through May 31.²⁶ In its final certification, Vermont ANR requires operating levels at Silver Lake that allow greater fluctuations during the June through December period and a greater maximum winter drawdown. Specifically, the certification requires water levels at Silver Lake to be maintained between 1,245.5 and 1,247.5 feet USGS from June 1 through December 31, with a maximum winter drawdown to elevation 1,239.5 feet USGS between January 1 and May 31. From March 15 through May 31, the lake levels would be held stable or allowed to rise. Although the rule curve requirements specified in the certification would allow greater water level fluctuations during the spring through fall seasons thus limiting littoral zone development, no wetlands would be affected. The lake level requirements in the certification would offer greater operational flexibility than those recommended in the EA while still protecting spring spawning fish and would continue to provide relatively stable conditions during the recreation season. The certification conditions are made part of this license by ordering paragraph D.

B. Water Quality

38. In the EA, staff recommended installation of reaeration baffles below the Goshen dam outfall by July 1 to be kept in place until September 1 of each year to ensure that state standards for dissolved oxygen are being met.²⁷ Staff also recommended dissolved oxygen and temperature monitoring below Goshen dam and the powerhouse to verify the effectiveness of the baffle system.²⁸ The final certification requires that dissolved oxygen and temperature conditions downstream of Goshen dam be monitored during the first full season after license issuance. If the monitoring indicates substandard conditions, the certification requires that the baffle system be installed and tested to determine if the system can ensure maintenance of state standards. Because the final certification requires a different rule curve for the operation of Sugar Hill reservoir than the one considered by staff in preparation of the EA, I agree that it would be prudent to monitor water quality conditions downstream of Goshen dam prior to the installation of the baffle system. Certification condition I requiring the monitoring and possible installation of a baffle system is included in this license by ordering paragraph D and Article 403.

²⁶ See EA at 79.

²⁷ See EA at 78.

²⁸ *Id.* at 78.

39. In the EA, staff indicated that the Commission would be obligated to adopt the draft certification's requirement for temperature monitoring upstream and downstream of the Sucker Brook diversion dam even though staff did not consider the Sucker Brook diversion dam to have a negative effect on water temperature.²⁹ Because the final certification does not include this requirement, I am not including it in the license.

C. Lake Champlain and Tributaries Restoration Fund

40. Vermont ANR certification condition R requires Central Vermont to contribute \$250,000 to a fund to be known as the Lake Champlain and Tributaries Restoration Fund (Fund). The Fund would be created by the State of Vermont and administered by an independent non-profit community foundation (the Fund trustee) chosen by Central Vermont and the Vermont ANR. Purposes of the Fund would include: (1) to protect, restore and enhance ecosystem integrity and ecological connectivity within the Lake Champlain ecosystem; (2) to protect, restore, and enhance lake sturgeon and their habitats; (3) to restore a self-sustaining landlocked Atlantic salmon population in Lake Champlain through habitat restoration and fish monitoring programs; and (4) to protect riparian zones along Lake Champlain tributaries through purchases of land easements.

41. Condition R does not identify specific enhancement projects that the fund would be used for and eligible uses may or may not address project-affected resources. This is inconsistent with the Commission's policy that a relationship must be established between a proposed measure and project effects or purposes, with specific measures (*e.g.*, installing riprap to prevent erosion) preferred over general measures.³⁰ Further, staff concluded in the EA that its recommended measures, would protect, mitigate, or enhance fisheries and water quality resources affected by the project. Nevertheless, condition R of the Vermont certification is incorporated into this license by ordering paragraph D.

D. Adequacy of Environmental Analysis

42. Vermont NRC raised concerns regarding preparation of a comprehensive plan for the Sucker Brook Basin; sufficient consideration of alternatives to the applicant's proposed project operation; the need for a comprehensive evaluation of recreational opportunities within the river basin and conditioning any license on enhanced recreational opportunities; adequacy of minimum flows and need for a Vermont water quality certification; preparation of a comprehensive environmental impact statement for

²⁹ *Id.* at 39.

³⁰ *See Settlements in Hydropower Licensing Proceedings under Part I of the Federal Power Act*, 116 FERC ¶ 61,270 at P 2-12 (2006).

the project; and the need for an adjudicatory hearing.³¹ Based on Central Vermont's receipt of a Vermont water quality certification, the record compiled following the filing of Vermont NRC's intervention motion, including Vermont NRC's comments on the draft EA, and the relevant analyses in the final EA, these concerns appear to have been addressed.

ADMINISTRATIVE PROVISIONS

A. Annual Charges

43. 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 and use and occupancy of U.S. lands, where appropriate.

B. Exhibit F Drawings

44. The Commission requires licensees to file sets of approved project drawings on microfilm and in electronic file format. Ordering paragraph C approves the exhibit F drawings, and Article 202 requires the filing of these drawings on microfilm and in electronic file format.

C. Project Boundary and Exhibit G Drawings

45. Exhibit G drawings are required to show a project boundary enclosing all project works and other features that are to be licensed.³² The exhibit G drawing filed on April 21, 1995, does not show a project boundary line enclosing project facilities. Instead it shows Central Vermont's property interests in project works and nearby areas, including access roads, using four different line-style designations.³³ The drawing does not show or label the 91-foot-long, 6.9-kV buried transmission cable to the point of interconnection with the regional grid or the required recreation enhancements. I am therefore requiring the licensee to refile the exhibit G drawing and to clearly label the project boundary. The project boundary must also enclose the recreation facilities proposed by Central Vermont at the Sugar Hill reservoir and the Falls of Lana viewpoint and penstock trail as well as roads and trails used primarily for access to project structures and recreation facilities.

³¹ See Vermont NRC's filings of December 6, 1995, and December 13, 1996.

³² 18 C.F.R. § 4.41(h)(2) (2008).

³³ Project facilities are enclosed with lines identified as right-of-way (dash and dot line), diversion rights (long and short dashed line), flowage rights (dash line), and land in fee (solid line).

Any federal lands that are within the project boundary must be clearly identified on the exhibit G drawing and must note the number of acres of federal land within the project boundary. Finally, the exhibit G drawing must be stamped by a Registered Land Surveyor, show three known reference points, and provide the project boundary data in a geo-referenced electronic format.³⁴ The exhibit G drawing, therefore, is not approved and is not made part of the license (see ordering paragraph C). Article 203 requires the refiling of an exhibit G drawing with a project boundary clearly labeled that complies with sections 4.39 and 4.41 of the Commission's regulations.

D. Amortization Reserves

46. The Commission requires that, for an original license issued for privately owned major project with an installed generating capacity of more than 1.5 MW, the licensees set up and maintain an amortization reserve account upon license issuance. Article 204 requires the account.

E. Headwater Benefits

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

F. Safety Report and Operating Plan

48. This license requires limiting drawdown levels for Sugar Hill reservoir and Silver Lake. The change in project operation could impact the adequacy of the project to safely pass the inflow design flood or result in increased frequency of local flooding. Article 301 requires a safety report to be filed for Commission approval describing the effects of limiting reservoir drawdowns on local flooding and spillway adequacy of the project dams. The licensee shall not implement the Sugar Hill reservoir operating rule curve or the Silver Lake water level management criteria that limit maximum drawdowns (certification condition B) until the Commission has approved the safety report required in Article 301. Further, prior to implementing the Sugar Hill reservoir operating rule curve or the Silver Lake water level management criteria, Article 302 requires the licensee to file an operating plan for Commission approval that details how the project will be operated to achieve the required seasonal reservoir water surface elevations.

³⁴ 18 C.F.R. §§ 4.39 and 4.41 (2008).

G. Use and Occupancy of Project Lands and Waters

49. Requiring a licensee to obtain prior Commission approval for every use or occupancy of the project would be unduly burdensome. Therefore, Article 407 allows the licensee to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting. Such uses must be consistent with the purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.

H. Consultation on Resource Plans

50. Appendix A contains certain water quality certification conditions that require the development of plans, including: plans for ramping rates, flow management and project operation; monitoring impoundment levels and minimum flows; debris disposal; and smelt spawning protection operating protocol. These conditions require the licensee to obtain approval from the certifying agency but do not provide for Commission approval of the plans. Therefore, Article 401(A) requires the licensee to file the plans with the Commission for approval. In addition, Article 401(B) requires the licensee to file documentation of completion of reports or notification if certain events occur, and Article 401(C) requires the licensee to file an amendment applications in case of certain proposed project modifications.

STATE AND FEDERAL COMPREHENSIVE PLANS

51. Section 10(a)(2)(A) of the FPA³⁵ 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.³⁶ Under section 10(a)(2)(A), staff identified and reviewed 13 comprehensive plans that are relevant to this project.³⁷ No conflicts were found.

³⁵ 16 U.S.C. § 803(a)(2)(A) (2006).

³⁶ Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2008).

³⁷ The list of applicable plans can be found in section X of the EA.

CONSERVATION EFFORTS

52. Section 10(a)(2)(C) of the FPA³⁸ requires the Commission to consider the electricity consumption improvement program of the applicant, including its plans, performance, and capabilities for encouraging or assisting its customers to conserve electricity cost-effectively, taking into account the published policies, restrictions, and requirements of state regulatory authorities. Central Vermont is actively involved in promoting cost-effective conservation programs for its residential and business customers.³⁹ These programs show that Central Vermont is making an effort to conserve electricity and has made a satisfactory good faith effort to comply with section 10(a)(2)(C) of the FPA.

PROJECT SAFETY

53. Staff reviewed Central Vermont's management, operation, and maintenance of the Silver lake Project pursuant to the requirements of 18 CFR Part 12 of the Commission's Regulations and the Commission's Engineering Guidelines. I conclude that the dam and other project works are safe, and find no reason to believe that Central Vermont cannot continue to safely manage, operate, and maintain these facilities under an original license.

NEED FOR POWER

54. To assess the need for power, staff looked at the needs in the operating region in which the project is located which is the Northeast Power Coordinating Council (NPCC) region of the North American Electric Reliability Council. The peak summer demand for the NPCC area is projected to grow at an average annual compound rate of 1.2 percent over the 10-year planning period from 2008 through 2017. I conclude that the project's power, low cost, potential displacement of nonrenewable fossil-fired generation, and contribution to the region's diversified generation mix may help meet the need for power in this region.

PROJECT ECONOMICS

55. 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

³⁸ 16 U.S.C. § 803(a)(2)(c) (2006).

³⁹ See the customer service link at <http://www.cvps.com>

economics of hydropower projects, as articulated in *Mead Corp.*,⁴⁰ the Commission uses current costs to compare the costs of the project and likely alternative 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.

56. In applying this analysis to the Silver Lake Project, staff considered two licensing options: Central Vermont's proposal; and the project as licensed herein including staff recommendations and the certification conditions. As proposed by Central Vermont, the annual cost of operating the Silver Lake Project would be \$213,490 or \$39.88/MWh. The proposed project would generate an estimated average of 5,353 MWh of energy annually. When we multiply our estimate of average annual generation by the alternative power cost of \$55.67/MWh,⁴¹ we get a total value of the project's power of about \$298,000 in 2008 dollars. To determine whether the proposed project is currently economically beneficial, we subtract the project's cost from the value of the project's power. Therefore, in the first year of operation, the project would cost \$84,510, or \$15.79/MWh, less than the likely alternative cost of power.

57. As licensed herein with the mandatory certification conditions, and staff recommended measures,⁴² the levelized annual cost of operating the project would be about \$235,500 or \$43.99/MWh. Based on the same alternative power cost and estimated average annual generation of 5,353 MWh, project power would cost \$62,500 or \$11.68/MWh less than the likely cost of alternative power.

58. In considering public interest factors, the Commission takes into account that hydroelectric projects, like the Silver Lake Project, offer unique operational benefits to the electric utility system (ancillary service benefits). These benefits include their capability to provide an almost instantaneous load-following response to dampen voltage and frequency instability on the transmission system, system-power-factor-correction through condensing operations, and a source of power available to help in quickly putting

⁴⁰ 72 FERC ¶ 61,027 (1995).

⁴¹ The alternative power cost of \$55.67 per MWh is based on information obtained from the Energy Information Administration fuel cost data.

⁴² The additional staff-recommended measures include filing plans for a reaeration baffle and Indiana bat protection, if needed; a revised project boundary drawing; and implementing the PA.

fossil-fuel based generating stations back on line following a major utility system or regional blackout.

COMPREHENSIVE DEVELOPMENT

59. Sections 4(e) and 10(a)(1) of the FPA⁴³ 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 shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

60. The EA for the project contains background information, analysis of effects, and support for related license articles. I conclude, based on the record of this proceeding, including the EA and the comments thereon, that licensing the Silver Lake 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 this license.

61. Based on our independent review and evaluation of the project, recommendations from the resource agencies and other stakeholders, certification conditions, and the no-action alternative, as documented in the EA, I have selected the proposed Silver Lake Project, with the certification conditions, and the staff-recommended measures, and find that it is best adapted to a comprehensive plan for improving or developing the Sucker Brook.

62. I selected this alternative because: (1) issuing an original license will serve to maintain a beneficial, dependable, and an inexpensive source of electric energy; (2) the required environmental measures will protect and enhance fish and wildlife resources, water quality, recreational resources, and historic properties; and (3) the 2.2 MW of electric energy generated from a renewable resource may offset the use of fossil-fueled, steam-electric generating plants, thereby conserving non-renewable resources and reducing atmospheric pollution.

⁴³ 16 U.S.C. §§ 797(e) and 803(a)(1) (2006).

LICENSE TERM

63. Section 6 of the FPA⁴⁴ provides that original licenses for hydropower projects shall be issued for a term not exceeding 50 years. The Commission's general policy is to establish 30-year terms for projects with little or no redevelopment, new construction, new capacity, or environmental mitigation and enhancement measures; 40-year terms for projects with a moderate amount of such activities; and 50-year terms for projects with extensive measures.⁴⁵ This license authorizes no new capacity, and only a minor amount of new environmental measures. Consequently, a 30-year license term is appropriate.

The Director orders:

(A) This license is issued to Central Vermont Public Service Corporation (licensee) to operate and maintain the Silver Lake Hydroelectric Project, for a period of 40 years, effective the first day of the month in which this order is issued. The license is subject to the terms and conditions of the FPA, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

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

(2) Project works consisting of Sugar Hill storage reservoir and Goshen dam, Sucker Brook diversion dam, and Silver Lake development.

Sugar Hill storage reservoir consists of: (1) the Goshen dam consisting of a 60-foot-high, 680-foot-long earth embankment section, a 50-foot-wide concrete eastern spillway, and a 100-foot-wide concrete western spillway; (2) the 74-acre Sugar Hill storage reservoir with a normal water surface elevation of 1,763 feet United States Geological Survey datum (USGS); and (3) a 14-foot-wide intake structure with wooden trashracks and a concrete gate; (4) a 232-foot-long, 4-foot-square concrete outlet structure equipped with two 6-inch-diameter, two 8-inch-diameter, and one 10-inch-diameter steel gate valves.

⁴⁴ 16 U.S.C. § 799 (2006).

⁴⁵ See *Consumers Power Company*, 68 FERC ¶ 61,077 at 61,383-84 (1994).

Sucker Brook diversion dam consists of: (1) a 665-foot-long, 38-foot-high earth embankment section, and a 60-foot-long concrete spillway section; (2) a 0.25-acre impoundment with a normal water surface elevation of 1,288 feet USGS; (3) a concrete intake structure equipped with a timber headgate and trashracks; and (4) a 7,000-foot-long penstock consisting of a 36-inch-diameter corrugated metal section, a 48-inch-diameter wood-stave section, and a 42-inch-diameter concrete section.

The Silver Lake development consists of: (1) the Silver Lake dam consisting of a 257-foot-long, 30-foot-high buttressed concrete with earthfill section, and a 18.5-foot-wide concrete section; (2) the 110-acre Silver Lake with a normal surface elevation of 1,250 feet USGS; (3) an intake structure with steel trashracks; (4) a 60-foot-long intake and outlet structure equipped with a slide gate; (4) a 5,200-foot-long penstock consisting of a 48-inch-diameter fiberglass section, a 48-inch-diameter wood-stave section, and a 36-inch-diameter steel section; (5) a 90-foot-high surge tank; (6) a powerhouse containing a 2.2-MW turbine generating unit; (7) a 450-foot-long tailrace; (8) a 91-foot-long, 6.9-kV buried transmission cable; and (9) appurtenant facilities.

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

Exhibit A: Pages A-1 through A-7, A-9 through A-33, and A-36 through A-41 of exhibit A filed on May 9, 1994, and pages A-8, A-34, and A-35 of exhibit A refiled on April 21, 1995.

Exhibit F: The following sections of exhibit F sheets 1 through 12 filed on May 9, 2004, and exhibit F sheets 13 and 16 filed on February 23, 1995:

<u>Exhibit F Drawings</u>	<u>FERC No. 11478-</u>	<u>Description</u>
Sheet 1	1	Goshen Dam Plan
Sheet 2	2	Goshen Dam Section A and Elevation
Sheet 3	3	Goshen Dam Plan and Sections
Sheet 4	4	Goshen Dam Intake Structure Plan and Section
Sheet 5	5	Goshen Dam Outlet Structure Plan and Section

<u>Exhibit F Drawings</u>	<u>FERC No. 11478-</u>	<u>Description</u>
Sheet 6	6	Sucker Brook Diversion Dam Plan
Sheet 7	7	Sucker Brook Dam Elevation
Sheet 8	8	Sucker Brook Dam Sections
Sheet 9	9	Silver Lake Dam Plan
Sheet 10	10	Silver Lake Dam Elevations
Sheet 11	11	Silver Lake Dam Section A
Sheet 12	12	Silver Lake Dam Section B
Sheet 13	13	Silver Lake Powerhouse Plan and Sections
Sheet 16	14	Penstock Profile

(C) The exhibits A and F described above are approved and made part of this license. The exhibit G drawing refiled on April 21, 1995, does not show or label the 91-foot-long, 6.9-kV buried transmission cable, nor does it enclose the recreation facility enhancements proposed by the licensee. Further, the exhibit G drawing does not clearly label the project boundary line, and does not meet the requirements in sections 4.39 and 4.41 of the Commission's regulations. Therefore, the exhibit G drawing is not approved.

(D) This license incorporates and is subject to the conditions submitted by the Vermont Agency of Natural Resources under section 401(a)(1) of the Clean Water Act as those conditions are set forth in Appendix A to this order.

(E) This license is also subject to 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 FPC 1799 *et seq.*)," and the following additional articles.

Article 201. Administrative Annual Charges. The licensee shall pay annual charges to the United States, effective the first day of the month in which this license is

issued, and as determined in accordance with the provisions of the Commission's regulations in effect from time to time, for the purposes of reimbursing the United States for the cost of administration of Part I of the Federal Power Act. The authorized installed capacity for that purpose is 2.2 megawatts.

Article 202. Exhibit F Drawings. Within 45 days of license issuance, the licensee shall file the approved exhibit F drawing on aperture cards.

(a) Three sets of the approved exhibit drawings shall be reproduced on silver or gelatin 35mm microfilm. All microfilm shall be mounted on type D (3-1/4" X 7-3/8") aperture cards. Prior to microfilming, the FERC Project-Drawing Number (i.e., P-11478-1 through P-11478-14) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number shall be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (i.e., F-1, etc.), Drawing Title, and date of this license shall be typed on the upper left corner of each aperture card. Exhibit F drawings must be identified as (CEII) material under 18 CFR §388.113(c).

Two of the sets of aperture cards shall be filed with the Secretary of the Commission, ATTN: OEP/DHAC. The third set shall be filed with the Commission's Division of Dam Safety and Inspections New York Regional Office.

(b) The licensee shall file two separate sets of exhibit drawings in electronic raster format with the Secretary of the Commission, ATTN: OEP/DHAC. A third set shall be filed with the Commission's Division of Dam Safety and Inspections New York Regional Office. Exhibit F drawings must be identified as (CEII) material under 18 CFR §388.113(c). Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this license, and file extension in the following format [P-11478-1, F-1, Description, MM-DD-YYYY.TIF]. Electronic drawings shall meet the following format specification:

IMAGERY - black & white raster file
 FILE TYPE – Tagged Image File Format, (TIFF) CCITT Group 4
 RESOLUTION – 300 dpi desired, (200 dpi min)
 DRAWING SIZE FORMAT – 24” X 36” (min), 28” X 40” (max)
 FILE SIZE – less than 1 MB desired

Article 203. Exhibit G Drawings. Within 90 days of license issuance, the licensee shall file, for Commission approval, a revised exhibit G drawing enclosing within the project boundary all project works necessary for operation and maintenance of the project, including the buried transmission cable and recreation facilities proposed to be added or enhanced as described in the license application on pages E2-19 and Figure E-4. The exhibit G drawing must clearly label the project boundary using one line designation,

and clearly identified any federal lands and note the number of acres of federal land within the project boundary. The exhibit G drawing shall comply with sections 4.39 and 4.41 of the Commission's regulations, 18 C.F.R. §§ 4.39 and 4.41 (2008).

Article 204. Amortization Reserve. Pursuant to section 10(d) of the Federal Power Act, after the first 20 years of operation of the project under license, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. One-half of the project's surplus earnings, if any, accumulated after the first 20 years of operations under the license, in excess of the specified rate of return per annum on the net investment, shall be set aside in a project amortization reserve account at the end of each fiscal year. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year after the first 20 years of operation under the license, the amount of that deficiency shall be deducted from the amount of any surplus earnings subsequently accumulated, until absorbed. One-half of the remaining surplus earnings, if any, cumulatively computed, shall be set aside in the project amortization reserve account. The amounts established in the project amortization reserved account shall be maintained until further order of the Commission.

The annual specified reasonable rate of return shall be the sum of the annual weighted costs of long-term debt, preferred stock, and common equity, as defined below. The annual weighted cost for each component of the reasonable rate of return is the product of its capital ratio and cost rate. The annual capital ratio for each component of the rate of return shall be calculated based on an average of 13 monthly balances of amounts properly includable in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rates for long-term debt and preferred stock shall be their respective weighted average costs for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10-year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 205. Headwater Benefits. If the licensee's project was directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee shall 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 license. The benefits will be assessed in accordance with Part 11, Subpart B, of the Commission's regulations.

Article 301. Safety Report. Within 90 days of license issuance, the licensee shall submit one copy to the Division of Dam Safety and Inspections (D2SI) – New York Regional Engineer and two copies to the Commission (one of these reports shall be a courtesy copy to the Director, D2SI), of a report describing the effects of limiting reservoir drawdowns on local flooding and spillway adequacy of the project dams.

The safety report shall include a flooding routing study that evaluates the ability of the dams to safely pass flows up to the Inflow Design Flood. The frequency and amount that the non-overflow structures would be overtopped under historical and limited drawdowns shall be compared. The report shall assess if there would be an increased likelihood of low-lying structures located upstream and downstream of the project dams being flooded under the new operating scenario and the estimated amount of flooding. If necessary, the safety report shall include a plan and schedule for performing any remedial measures necessary to ensure the continued safe operation of the project dams during high flows.

The licensee shall not implement the revised reservoir operation plan for the project until the D2SI's New York Regional Engineer determines that the altered project operation have no adverse impact on dam safety and issues a letter indicating such.

Article 302. Operating Plan. At least 60 days prior to implementing the new reservoir operating levels required by water quality certification B in appendix A, the licensee shall submit one copy to the Division of Dam Safety and Inspections (D2SI) – New York Regional Engineer and two copies to the Commission (one of these reports shall be a courtesy copy to the Director, D2SI), an operating plan that provides details on how the project will be operated to achieve the required seasonal reservoir elevations.

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

(A) Requirement to File Plans for Commission Approval.

Various conditions of this license found in the Vermont Agency of Natural Resources (Vermont ANR) final water quality certification conditions (Appendix A) require the licensee to prepare plans for approval by the Vermont ANR for submittal to the Commission and to implement specific measures without prior Commission approval. Each plan shall also be submitted to the Commission for approval. These plans are listed below.

Vermont ANR Condition No.	License Requirement	Due Date
C	Goshen Dam Ramping Plan	Within 6 months of the license issuance date

Vermont ANR Condition No.	License Requirement	Due Date
D	Silver Lake Powerhouse Down-Ramping Plan	Within 6 months of the license issuance date
F	Sucker Creek Diversion Dam Bypassed Flow Plan	Within 6 months of the license issuance date
G	Sugar Hill Reservoir Operating Plan	Within 6 months of the license issuance date
H	Reservoir and Flow Management Monitoring Plan	Within 6 months of the license issuance date
I	Quality Assurance/Quality Control Plan	Within 6 months of the license issuance date
M	Debris Disposal Plan	Within 120 days of the license issuance date
N	Maintenance and Repair Work Authorization, if needed	Within 30 days after Vermont ANR approval
P and Q	Recreation Facility Design Plans and associated Erosion Control Plans, as needed	Within 6 months of the license issuance date

The licensee shall submit to the Commission documentation of its consultation with the Vermont ANR and U.S. Fish and Wildlife Service (FWS), copies of comments and recommendations made in connection with the plans and measures identified above, and a description of how the plans and measures accommodate the comments and recommendations. The licensee shall file letters from the Vermont ANR and FWS, as appropriate, approving the plans. If the licensee does not adopt a recommendation, the filing shall 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 shall implement the plan or changes in project operations or facilities, including any changes required by the Commission.

(B) Requirement to Notify Commission and File Documentation of Completion.

The license shall also file with the Commission documentation of completion or notification of the following activities.

Vermont ANR Condition No.	License Requirement	Due Date
E	Smelt Spawning Protection Operating Protocol Report	By August 1 st annually
I	Dissolved Oxygen and Temperature Monitoring Report	By December 1 st annually
O	Restrict Public Access in Emergencies Notification, if needed	Within 14 days of occurrence

(C) Requirement to File Amendment Applications.

Certain conditions in Vermont ANR's water quality certification allow for modification to project facilities for the purpose of mitigating environmental impacts. These changes may not be implemented without prior Commission authorization granted after the filing of an application to amend the license. The conditions are listed below.

Vermont ANR Condition No.	Project Modification	Due Date
J	Silver Lake Powerhouse Tailrace Fish Exclusion Screen, if needed	60 days prior to installation of modified screen
K	Silver Lake Trashracks With 1.5-inch Bar Clear Spacing	60 days prior to installation of modified screen
B and T	Approval of Project Changes, if needed	Within 30 days after Vermont ANR approval

Article 402. Deviation from Reservoir Water Level and Minimum Flow Requirements. The licensee shall operate the project in accordance with the reservoir levels and minimum flow requirements required by condition B of the water quality certification (Appendix A). Reservoir levels and minimum flow requirements may be temporarily modified if required by operating emergencies beyond the control of the licensee, or for short periods upon agreement among the licensee, the Vermont Agency of Natural Resources (Vermont ANR) and the U.S. Fish and Wildlife Service (FWS). If the reservoir levels or any minimum flow is so modified, the licensee shall notify the Commission, the Vermont ANR, and the FWS as soon as possible, but no later than 10 days, after each such incident.

Article 403. Reaeration Baffle Plan. As required by condition I of the water quality certification in appendix A, the licensee shall file a dissolved oxygen and temperature monitoring report. If the report readings indicate a substandard water quality

condition (less than 6.0 milligrams per liter and 70 percent saturation), the licensee shall file for Commission approval, a plan for installing a reaeration baffle at the outflow of the Goshen control structure. The plan shall, at a minimum, include functional design drawings showing the specifications of the reaeration screens and a schedule for the screens installation and removal between July 1 and September 1, annually.

The licensee shall 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 Vermont Agency of Natural Resources and U.S. Fish and Wildlife Service, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall 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 shall include the licensee's reasons, based on site-specific information.

The Commission reserves the right to require changes to the plan. The plan shall not be implemented until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 404. *Sucker Brook Diversion Dam Pond.* The licensee shall maintain a normal water surface pond elevation of 1,288 feet United States Geological Survey datum upstream of the Sucker Brook diversion dam. The pond elevation may be temporarily modified if required by operating emergencies beyond the control of the licensee, or for short periods upon mutual agreement between the licensee and the U.S. Fish and Wildlife Service (FWS) and Vermont Agency of Natural Resources (Vermont ANR). If the flow is so modified, the licensee shall notify the Commission, the FWS, and the Vermont ANR as soon as possible, but no later than 10 days after each such incident.

Article 405. *Tree Removal Restrictions and Indiana Bat Protection Plan.* The licensee shall avoid removing trees (of 10-inch-diameter-breast-height or larger) during April 1 through October 31 of each year. If tree removal must occur between April 1 and October 31, for the purpose of access to project recreation sites or facilities or routine vegetation management, the licensee must file with the Commission, for approval, a plan to protect the federally listed endangered Indiana bat (*Myotis sodalis*) The plan shall be filed at least 30 days prior to the anticipated date of tree removal and include, but not be limited to, the following:

1. the results of a survey by a professional wildlife biologist of all areas to be disturbed by tree removals, including documentation of all potential Indiana bat roosting trees within the areas;

2. documentation of consultation with the U.S. Fish and Wildlife Service and the Vermont Department of Fish and Wildlife concerning whether additional surveys for Indiana bat presence are required and any additional comments and recommendations; and
3. an implementation schedule for the tree removal and specific descriptions of how the agencies' comments and recommendations are accommodated by the plan.

The licensee shall 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 shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. No tree-removing activities shall begin at the project until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 406. *Programmatic Agreement and Historic Properties Management Plan.* The licensee shall implement the "Programmatic Agreement Among the Federal Energy Regulatory Commission and the Vermont Historic Preservation Officer (Vermont SHPO) for Managing Historic Properties that May be Affected by a License Issuing to Central Vermont Public Service Corporation, for the Silver Lake Hydroelectric Project in Addison County, Vermont (FERC No. 11478-000)," executed on December 2, 2003, and including but not limited to the historic properties management plan (HPMP). Pursuant to the requirements of this Programmatic Agreement, the licensee shall file, for Commission approval, a HPMP within one year of the issuance date of this order. The Commission reserves the authority to require changes to the HPMP at any time during the term of the license. If the Programmatic Agreement is terminated prior to Commission approval of the HPMP, the licensee shall obtain approvals from or make modifications required by the Commission and the Vermont 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 407. *Use and Occupancy.* (a) In accordance with the provisions of this article, the licensee shall 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 shall 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 shall 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 water 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 shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall 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 shall: (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 reservoir 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 reservoir. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed. If no conveyance is made during the prior calendar year, the licensee shall so inform the Commission in writing no later than January 31 of each 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 Exhibit R or 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 submit a letter to the Director, Office of Energy Projects, 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 Director, 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 shall 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 shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have

an approved Exhibit R or 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 shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall 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 shall not unduly restrict public access to project 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 shall 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 shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

(F) The licensee shall 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 is final unless a request for rehearing is filed within 30 days from the date of its issuance, as provided in section 313(a) of the FPA, 16 U.S.C. § 8251 (2006), and section 385.713 of the Commission's regulations, 18 C.F.R. § 385.713 (2008). 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, except as specifically ordered by the Commission. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

J. Mark Robinson
Director
Office of Energy Projects

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 any 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

VERMONT AGENCY OF NATURAL RESOURCES WATER QUALITY CERTIFICATION CONDITIONS ISSUED DECEMBER 5, 2008

- A. Compliance with Conditions.** The applicant shall operate and maintain this project consistent with the findings and conditions of this certification, where those findings and conditions relate to protection of water quality and support of designated and existing uses under Vermont Water Quality Standards and other appropriate requirements of state law.
- B. Reservoir and Flow Management.** The Project shall be operated in accordance with the minimum flow and reservoir level management schedules tabulated below. Minimum flows shall be released on a continuous basis and not interrupted.

Table Ia. Sugar Hill Reservoir Late Spring/Summer/Fall/Early Winter Operating Rule from May 1 through December 31

Reservoir Level (feet msl)		Flow management
Elevation	Relative	
>1765.5	Above 0	Release at a rate as necessary to bring the reservoir down to 1765.5; maintain no less than 2.5 cfs at all times
1760.5 - 1765.5	0 to -5.0	Release no less than 2.5 cfs
1757.5 - 1760.5 (storage dedicated to providing conservation flow)	-5.0 to -8.0	Fixed release of 2.5 cfs
1757.5 (maximum allowed drawdown)	-8.0	Match inflow
<p>Note: Based on a review of drawdown and flow release data, the Department may lower the 2.5 cfs conservation flow for this period if doing so would improve the overall flow regime for aquatic biota below Goshen Dam and below the diversion dam by reducing or eliminating the frequency and duration of drawdowns to elevation 1757.5 feet msl and the corresponding lower outflows from the reservoir. Any consideration of a lower conservation flow shall be done in consultation with the Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, the U.S. Forest Service, and CVPS.</p>		

Table 1b. Sugar Bill Reservoir Late Winter/Early Spring Operating Rule from January 1 through April 30

Reservoir Level (feet)		Flow management
Elevation	Relative	
>1760.5	Above -5.0	Maintain at no less than 2.5 cfs
1747.5 - 1760.5 (1747.5 maximum allowed drawdown)	-18.0 to -5.0	Maintain at no less than 2.5 cfs and manage drawdown in a manner that sufficient storage is available to accomplish this without dropping below elevation 1747.5 feet
Note: Winter drawdown begins on or about January 1 from the target elevation of 1765.5 feet msl (assuming that elevation can be attained from fall inflows while maintaining the 2.5 cfs conservation flow downstream), or after headpond ice formation, if later.		

Table 2. Sucker Brook Diversion Management Requirements

Period	Bypass Minimum Flow Release (cfs)
Year around	2.5
Note: Minimum flows is the value listed, or instantaneous inflow, if less.	

Table 3. Silver Lake Water Level Management

Summer/fall operating range (June - November)	1245.5 - 1247.5 feet msl
Winter/spring maximum drawdown (December - May)	1239.5 feet msl
March 15 - May 31 water level mgmt.	rising or stable

- C. **Ramping plan at Goshen Dam.** The applicant shall develop a ramping plan for the adjustment of the valve system at Goshen Dam in order to control the rate of change of downstream flows and protect downstream aquatic organisms. The plan shall cover both up ramping and down ramping. The plan shall be developed in consultation with the Department, the Vermont Department of Fish and Wildlife, and the U.S. Fish and Wildlife Service and shall be subject to Department

approval. The Department reserves the right of review and approval of any material changes made to the plan at any time.

- D. **Ramping plan at Station Tailrace.** The applicant shall develop a down-ramping plan to govern reductions in the station discharge in order to prevent stranding and mortality to downstream aquatic organisms. The plan shall be developed in consultation with the Department, the Vermont Department of Fish and Wildlife, and the U.S. Fish and Wildlife Service and shall be subject to Department approval. The Department reserves the right of review and approval of any material changes made to the plan at any time.
- E. **Smelt Spawning Protection Operating Protocol.** The applicant shall revise its 1998 written operating protocol to include: 1) monitoring to commence on or before March 15; 2) reduced or no generation to start no later than official sunset and end no earlier than official sunrise; and 3) installation of water level and water temperature dataloggers in the principal smelt spawning area and continuous data collection starting March 15 and ending when hatch is complete. A comprehensive data report and narrative review shall be filed each year with the Department and the Department of Fish and Wildlife on or before August 1 following the season. The report shall include brook water levels, generation schedule (tailrace flows), smelt observations (start and end of spawning and date when hatching is complete), Silver Lake water levels, water temperature data, a descriptive characterization of the hydrologic conditions, and any problems encountered. The report shall include data graphs, and the data shall be provided as an electronic spreadsheet file. The Department, based on a request from the Department of Fish and Wildlife, may require changes to the protocol. The applicant may also request changes, which the Department will consider and act upon after consultation with the Department of Fish and Wildlife.
- F. **Plan for method to maintain conservation flows below Sucker Brook diversion dam.** The applicant shall develop a plan, including descriptions, hydraulic design calculations, an implementation schedule, and design drawings for the measures to be used to release the bypass flows at the Sucker Brook diversion dam. The plan shall be developed in consultation with the Department and the U.S. Fish and Wildlife Service and shall be subject to Department approval. Said approval may be conditional on field verification of the flow releases. The Department reserves the right of review and approval of any material changes made to the plan at any time.
- G. **Operating plan for Sugar Hill Reservoir.** The applicant shall develop an operating plan for Sugar Hill Reservoir, indicating how the dam shall be operated to conform to the goals of the operating rules contained in Condition B. The filing shall include performance expectations for the method and equipment to be used and a supporting calculation brief; this would include consideration of how

frequently adjustments to the valve system must be made to meet the goals under different background conditions. The plan shall be developed in consultation with the Department and the U.S. Fish and Wildlife Service and shall be subject to Department approval. The Department reserves the right of review and approval of any material changes made to the plan at any time.

- H. **Monitoring Plan for Reservoir and Flow Management.** The applicant shall develop a plan for continuous monitoring of flow releases at the project, both below the dams and below the station tailrace, and reservoir levels and inflows. The valves at Goshen Dam shall be rated using field testing over the range of reservoir operating levels; the results and methodology used shall be included in the plan. The applicant shall maintain continuous records of flows and reservoir levels and provide such records on a regular basis as per specifications of the Department. The plan shall be developed in consultation with the Department and the U.S. Fish and Wildlife Service and shall be subject to Department approval. The Department reserves the right of review and approval of any material changes made to the plan at any time.
- I. **Maintenance of Dissolved Oxygen Standards below Goshen Dam.** During the first full season of operation after license issuance, dissolved oxygen and temperature conditions shall be monitored weekly from July through September directly below the Goshen Dam outlet when a dissolved oxygen profile in the reservoir near the outlet discloses stratified conditions. The applicant shall collect dissolved oxygen and temperature data at Stations a, a-1, a-2, and a-3 (ref. 1992 water quality study) and a dissolved oxygen/temperature profile at a reservoir sampling station near the outlet. Records shall include the reservoir elevation and the downstream flow release at the time of sampling. If samples at Station a are found to be substandard, the proposed baffle system shall be installed and tested to determine if it will assure maintenance of standards. A quality assurance/quality control plan shall be filed with the Department prior to initiating such a study. By December 1 following the sampling period, the applicant shall file a report of its findings and data. The Department may require additional investigation or remedial measures based on the study results.
- J. **Fish Exclusion from Station Tailrace.** The applicant shall continue to maintain a device at the lower end of the station tailrace to prevent fish from ascending the tailrace and becoming stranded. Any proposal to modify the design shall be subject to Department approval.
- K. **Silver Lake Trashrack.** When the trashrack at Silver Lake is replaced, the new rack shall be designed with a 1.5-inch or narrower bar clear spacing.

- L. **Turbine Rating Curves.** The applicant shall provide the Department with a copy of the turbine rating curves, accurately depicting the flow/production relationship, for the record within one year of the issuance of the license.
- M. **Debris Disposal Plan.** The applicant shall develop a plan for proper disposal of debris associated with project operation, including trashrack debris. The plan shall be developed in consultation with the Department. After Department approval of the plan, the plan shall be filed with FERC no later than 120 days from the date of license issuance. FERC shall either approve the plan or return the plan to the applicant for revision to incorporate FERC-recommended changes. After revision, the applicant shall submit the plan to the Department for approval of the changes. The plan shall then be filed with FERC for final approval. The Department reserves the right of review and approval of any material changes made to the plan at any time.
- N. **Maintenance and Repair Work.** Any proposals for project maintenance or repair work involving the brook, Sugar Hill Reservoir, or Silver Lake, including desilting, drawdowns to facilitate repair/maintenance work, and tailrace dredging, shall be filed with the Department for prior review and approval, if said work may adversely affect water quality or cause less-than-full support of designated and existing uses of State waters.
- O. **Public Access.** The applicant shall allow public access to the project area for utilization of public resources, subject to reasonable safety and liability limitations. Such access should be prominently and permanently posted so that its availability is made known to the public. Any proposed limitations of access to State waters to be imposed by the applicant shall first be subject to written approval by the Department. In cases where an immediate threat to public safety exists, access may be restricted without prior approval; the applicant shall so notify the Department and shall file a request for approval, if the restriction is to be permanent or long term, within 14 days of the restriction of access.
- P. **Recreational Facilities.** Recreational facilities shall be constructed and maintained consistent with the proposed recreation plan. Prior to construction at individual facilities, final design plans and details shall be filed with the Department for review and comment. The applicant is advised to consult with the Department and the U.S. Forest Service in the development of plans. Where appropriate, filings shall include an erosion control plan that will be subject to Department approval prior to commencement of construction.
- Q. **Erosion Control.** Upon a written request by the Department, the applicant shall design and implement erosion control measures as necessary to address erosion occurring as a result of use of project recreational facilities. Any work that

exceeds minor maintenance shall be subject to prior approval by the Department and FERC.

R. Restoration Fund. The applicant shall contribute \$250,000 to a fund (Fund) to be known as the Lake Champlain and Tributaries Restoration Fund, which shall be created by the State of Vermont and administered by an independent non-profit community foundation (the Fund Trustee) chosen by the applicant and the Vermont Agency of Natural Resources. The Fund, which shall include the contribution and associated earnings as well as outside monies contributed by others and associated earnings, is to only be used for eligible projects, the purpose of which are to:

- a) Protect, restore and enhance the ecosystem integrity and ecological connectivity of the community of aquatic life in the Lake Champlain ecosystem and its tributaries.
- b) Protect, restore and enhance lake sturgeon and their habitats in the Lake Champlain basin and its tributaries.
- c) Restore a self-sustaining land-locked Atlantic salmon population in Lake Champlain through habitat restoration and fish monitoring programs.
- d) Protect the riparian zones along Lake Champlain tributaries for the benefit of the ecological and recreational resources, through the purchase of land or easements.

The Fund shall not be used for projects located outside of the Lake Champlain basin, or on New York tributaries of Lake Champlain. The applicant shall make a nonrefundable contribution in the amount of \$250,000 within 30 days of the completion of the following two events: (a) issuance of this certification or if this certification is the subject of an appeal, upon the completion of the appeal process provided that the certification contains conditions that are materially similar to this original certification and (b) issuance of a FERC license that contains conditions of this certification, or a certification issued on appeal with materially similar conditions, or if the FERC license is the subject of an appeal, upon the completion of the appeal process provided that the FERC license contains conditions that are materially similar to the final certification.

The Fund Trustee shall make investment decisions, and shall disburse monies from the Fund from time to time, in whole or in part, based upon recommendations made by representatives of the CVPS, the ANR, the U.S. Fish and Wildlife Service, the Vermont Natural Resources Council and Trout Unlimited who shall serve as the Fund Advisors. The Fund Advisors shall

make decisions based upon vote of a majority of the Fund Advisors (not simply a quorum thereon). Any party may permanently withdraw as a Fund Advisor upon written notice to the other Fund Advisors. The Fund Advisors may solicit proposals from nonprofit organizations, educational institutions, units of government, and officially appointed commissions, boards or other entities within the state of Vermont for projects which address any of the above purposes. The Fund Advisors may target a specified portion of the funds to specific protection, mitigation, or enhancement objectives or to specific areas which are encompassed within the purposes and geographic scope defined above.

The Fund Trustee shall only disburse monies from the Fund when matching funds are contributed to a project by Parties or entities other than CVPS, at a ratio of no less than \$1 of outside monies for every \$2 drawn from CVPS's contribution and Fund earnings thereon.

- S. **Compliance Inspection by Department.** The applicant shall allow the Department to inspect the project area at any time to monitor compliance with certification conditions.
- T. **Approval of Project Changes.** Any change to the project that would have a significant or material effect on the findings, conclusions, or conditions of this certification, including project operation, must be submitted to the Department for prior review and written approval where appropriate and authorized by law and only as related to the change proposed.
- U. **Reopening of License.** The Department may request, at any time, that FERC reopen the license to consider modifications to the license as necessary to assure compliance with Vermont Water Quality Standard.
- V. **Continuing Jurisdiction.** The Department reserves the right to add and alter the terms and conditions of this certification, when authorized by law and as appropriate to carry out its responsibilities during the life of the project with respect to water quality.

Document Content(s)

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