

FOR RENEWABLE ENERGY SOURCE ELIGIBILITY*
Pursuant to New Hampshire Admin. Code Puc 2500 Rules

NOTE: When completing this application electronically, using the "tab" key after completing each answer will move the cursor to the next blank to be filled in. If a question is not applicable to your facility, then check the box next to N/A.

9. Latitude: 44.1665695 Longitude: -73.25742058
10. The name and telephone number of the facility's operator, if different from the owner: Same ☐
Jeffrey Brosseau (802)655-8479
(Name) (Telephone Number)
11. The ISO-New England asset identification number, if applicable: 2435 or N/A: ☐
12. The GIS facility code, if applicable: 2435 or N/A: ☐
13. A description of the facility, including fuel type, gross nameplate generation capacity, the initial commercial operation date, and the date it began operation, if different: (Attach as "Exhibit A")
14. If a biomass source, quarterly average NOx emissions rates over the past rolling year, the most recent average particular emission rates as required by the New Hampshire Department of Environmental Services and a description of pollution control equipment or proposed practices for compliance with such requirements under RSA 362-F: (Attach as "Exhibit B" or N/A ☒)
15. If a biomass source, proof that a copy of this completed application has been filed with the New Hampshire Department of Environmental Services: (Attach as "Exhibit C" or N/A ☒)
16. If Class I incremental new output (eligible biomass, methane or hydroelectric source), the historical generation baseline as defined in RSA 362-F:2 X. (Attach as "Exhibit D" or N/A ☐)
17. If Class IV existing hydroelectric source, proof that the facility has installed and operating upstream and/or downstream diadromous fish passages as required by the Federal Energy Regulatory Commission. (Attach as "Exhibit E" or N/A ☒)
18. If Class IV existing hydroelectric source, proof of applicable state water certification pursuant to Section 401 of the Clean Water Act of hydroelectric projects. (Attach as "Exhibit F" or N/A ☐)
19. If Class I repowered (formerly Class III, Class IV or nonrenewable source), proof that eighty percent of the applicant's tax basis in the resulting plant and equipment of the eligible generation capacity, including New Hampshire Department of Environmental Services' permitting requirements for new plants, but exclusive of any tax basis in real property and intangible assets, is derived from the new capital investments. (Attach as "Exhibit G" or N/A ☒)
20. If the source is located in a control area adjacent to the New England control area, proof that the energy is delivered within the New England control area and such delivery is verified using the documentation required in Puc 2504.01(a)(2) a. to e.. (Attach as "Exhibit H" or N/A ☒)
21. All other necessary regulatory approvals, including any reviews, approvals or permits required by the New Hampshire Department of Environmental Services or the environmental protection agency in the facility's state. (Attach as "Exhibit I" or N/A ☐)
22. Proof that the applicant either has an approved interconnection study on file with the commission, is a party to a currently effective interconnection agreement, or is otherwise not required to undertake an interconnection study: (Attach as "Exhibit J" or N/A ☐)

23. A description of how the generation facility is connected to the New England Power Pool of the local electric distribution utility. (Attach as "Exhibit K" or N/A ☐)
24. A statement as to whether the facility has been certified under another non-federal jurisdiction's renewable portfolio standard and proof thereof: (Attach as "Exhibit L" or N/A ☒)
25. A statement as to whether the facility's output had been verified by ISO-New England: (Attach as "Exhibit M" or N/A ☐)
26. A description of how the facility's output is reported to the GIS if not verified by ISO-New England: (Attach as "Exhibit N" or N/A ☒)
27. An affidavit by the owner attesting to the accuracy of the contents of the application: (Attach as "Exhibit O")
28. Such other information as the applicant wishes to provide to assist in classification of the generating facility: (Attach as "Exhibit P" or N/A ☒)
29. This application and all future correspondence should be sent to:
- Ms. Debra A. Howland
Executive Director and Secretary
State of New Hampshire
Public Utilities Commission
21 S. Fruit St, Suite 10
Concord, NH 03301-2429

To assist in the processing of your application, you may choose to submit an electronic copy of your application to the hard copy to ????@puc.nh.gov

30. Preparer's Information:

Name: Maria Fischer

Title: Power Supply Analyst

Address: (1) 163 Acorn Lane

(2) _____

(3) _____

Colchester VT 5446
(City) (State) (Zip Code)

Preparer's Signature: _____

Maria R. Fischer

Renewable Energy Source Eligibility Form: New Hampshire Application

Supporting Exhibits for Vergennes Hydroelectric Plant

Exhibit A: Facility Description

The Vergennes site consists of the Plant 9 powerhouse located on the south shore and Plant 9B located on the north shore of Otter Creek. The two powerhouses are separated by three spillway sections that are divided apart by two islands. Center Island divides the 9B Spillway from the Center Spillway and the Grist Mill Island divides the center spillway from the Plant 9 Spillway.

The Plant 9B station was originally constructed in 1943 and consists of a single 1,000 kw vertical Francis turbine directly connected to a generator. The runner for this plant was replaced in 1985. The Plant 9 station consisted of two identical 700 kw horizontal Francis turbines prior to the replacement of turbine #2 in 2005 and the replacement of turbine #1 in 2006. The upgraded Unit 2 began commercial operation on January 24, 2006, and Unit 1 came on-line on January 16, 2007. The plant was originally constructed in 1912. The runners were replaced in 1928 and the Unit No. 1 and No. 2 generators were rewound in 1946 and 1970, respectively.

The two existing Plant 9 turbines were replaced with new double discharge Francis turbines each rated at 1137 Hp and 35.5 ft of net head with a maximum hydraulic capacity of 363 cfs. The new modern design units will increase, mainly, the efficiency of the units with a moderate increase (13 cfs) in the hydraulic capacity of the units. The new installed capacity of the entire station is 2,600 kW; an increase of 200 kW since 2005. The modern, high efficiency units will result in an increase of **2,388 MWh** of total annual net energy production at the facility over the Historic Generation Baseline.

- ***Exhibit D: Historic Generation Baseline***

The average annual production from January 1, 1986 through December 31, 2005 is 9,422 MWh.

- ***Exhibit F: Proof of State Water Certification***

If Class IV existing hydroelectric source, proof of applicable state water certification pursuant to Section 401 of the Clean Water Act of hydroelectric projects.

Please see the attached FERC Order Issuing New License issue July 30, 1999 for the state water certifications. Page 6 discusses the Water Quality Certification.

- ***Exhibit I: Other Necessary Environmental Approvals***

All other necessary regulatory approvals, including any reviews, approvals or permits required by the New Hampshire Department of Environmental Services or the environmental protection agency in the facility's state.

Please see the four attached FERC rulings regarding the Vergennes Project.

- ***Exhibit J: Proof of Interconnection***

Green Mountain Power is not required to undertake an interconnection study for the Vergennes Hydroelectric Project. We are exempt from this because the generation is a utility interconnect generating into a distribution substation rather than a transmission substation, thus having no impact on the transmission system.

- ***Exhibit K: Description of Connection to NE-POOL***

Vergennes is connected to the GMP generation bus at 2.4 kV, to GMP 34.5 kV sub transmission system to Velco 115 kV transmission system.

- ***Exhibit M: Statement of Output Verification by ISO-New England***

The output of the Vergennes Hydroelectric Project is reported to the NEPOOL GIS by ISO-New England.

- ***Exhibit O: Owner's Affidavit of Accuracy***

GMP certifies that all information provided in this application is complete and accurate.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Green Mountain Power Corporation

Project No. 2674-003
Vermont

ORDER ISSUING NEW LICENSE
(Major Project)
(Issued July 30, 1999)

INTRODUCTION

On May 30, 1997, Green Mountain Power Corporation (GMP) filed an application for a new license under Part I of the Federal Power Act (FPA)¹ for the continued operation and maintenance of the 2.4-megawatt (MW) Vergennes Hydroelectric Project No. 2674, located on Otter Creek in the City of Vergennes, Addison County, Vermont.²

The Commission issued the original license for the Vergennes Project to GMP on June 29, 1979.³ The license expired on May 31, 1999. GMP proposes no change in the project's current capacity. For the reasons discussed below, I will issue a new license to GMP for the Vergennes Project No. 2674.

BACKGROUND

On September 23, 1997, the Commission issued a public notice of the application for a major license for the Vergennes Project.⁴ Motions to intervene were filed by the Vermont Agency of Natural Resources (VANR) (dated November 3, 1997) and the U.S. Department of the Interior (dated November 13, 1997). No party objected to the issuance of this license. Comments received from interested agencies and individuals

¹16 U.S.C. §797(e).

²Otter Creek, a tributary to Lake Champlain, is a navigable waterway of the United States to a point upstream from the Center Rutland Project (FERC Project No. 2445), located in Rutland County. See 34 FPC 540, 541 (1965). The Vergennes Project is located at river mile 7.6 and within the navigable portion of Otter Creek.

³7 FERC ¶61,323 (1979).

⁴62 F.R. 50920 (1997).

Project No. 2674-003

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have been fully considered in determining whether and under what conditions to issue this license.

On February 20, 1998, the Commission issued a public notice that the Vergennes Project was ready for environmental analysis and solicited comments, recommendations, and final terms and conditions.⁵ The VANR filed comments on June 1, 1998.

On August 13, 1998, the Commission issued a draft environmental assessment (DEA) for this project based on the staff's independent analysis. The DEA recommended that the project be licensed with the enhancement measures recommended by the licensee and with additional staff-recommended environmental measures. Comments filed on the DEA have been addressed in the final environmental assessment (FEA), which was issued on October 16, 1998, and is attached to this order.

The Commission staff also prepared a Safety and Design Assessment for the project, which is available in the Commission's public file.

PROJECT DESCRIPTION

The Vergennes Project is an existing, licensed hydroelectric facility owned and operated by the Green Mountain Power Corporation, on Otter Creek, about 7.6 miles upstream from Lake Champlain. The total existing installed capacity of the project is 2.4 MW, with average annual generation of 9.45 gigawatt-hours. GMP proposes no structural modifications for the project. The Vergennes Project's principal features consist of: three concrete gravity overflow dams, divided by two instream islands; a 29-foot-long, non-overflow dam and two powerhouses located on the north (Plant 9) and south banks (Plant 9B) of Otter Creek with a total installed capacity of 2.4 MW; an 8.8-mile-long, 133-acre reservoir, and appurtenant facilities. A more detailed description of project works is contained in ordering paragraph (B)(2).

The project will be converted from a daily peaking mode, to run-of-river operation with one generating facility operated remotely from GMP's Dispatch Center located in Colchester, Vermont, and the other two generating units controlled manually by an on-site operator. In the past, the reservoir level fluctuated about 1.5 feet daily during peaking operations; these fluctuations will not occur with run-of-river operation. The project had a dependable generating capacity averaging about 1.3 MW which will be

⁵63 F.R. 9790 (1998).

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reduced to an annual average generating capacity of 1.194 MW, based on the proposed changes for the project.

APPLICANT'S PLANS AND CAPABILITIES

In accordance with Sections 10(a)(2)(C) and 15(a)(2) of the FPA, I have evaluated GMP's record as a licensee for these areas in considering the issuance of a new license: (1) conservation efforts; (2) compliance history and ability to comply with the new license; (3) safe management, operation, and maintenance of the project; (4) ability to provide efficient and reliable electric service; (5) need for power; (6) transmission line improvements; (7) cost effectiveness of the plans; and (8) actions affecting the public.

Here are the findings:

1. Consumption Efficiency Improvement Program (Section 10(a)(2)(C))

Staff has reviewed the details of GMP's conservation program and conclude that GMP is making a good faith effort to conserve electricity, reduce peak-hour demands, and to support the objectives of Section 10(a)(2)(C) of the FPA.

2. The Compliance History, and Plans and Abilities of the Applicant to Comply with the Articles, Terms, and Conditions of Any License Issued to It and Other Applicable Provisions of Part I of the FPA (Sections 15(a)(2)(A) and 15(a)(3)(A))

Staff has reviewed GMP's license application and compliance history with the existing license in an effort to judge its ability to comply with the articles, terms, and conditions of any license issued, and with other applicable provisions of this part of the FPA. Staff concludes that GMP's overall record of making timely filings and compliance with its license is satisfactory.

Based on that review, staff concludes GMP has or can acquire the resources and expertise necessary to carry out its plans and comply with all articles, terms and conditions of a new license.

3. The Plans and Abilities of the Applicant to Manage, Operate, and Maintain the Project Safely (Section 15(a)(2)(B))

The Division of Dam Safety and Inspections has reviewed the project safety of the Vergennes Project and concludes that the dams and other project works are safe and that

GMP's record of managing, operating, and maintaining the project facilities has continuously complied with our standards for project safety.

Staff concludes that GMP's plans to manage, operate, and maintain the project safely are adequate.

4. The Plans and Abilities of the Applicant to Operate and Maintain the Project in a Manner Most Likely to Provide Efficient and Reliable Electric Service (Section 15(a)(2)(C))

GMP has operated the project for more than 88 years to provide a continuous and reliable, stable source of power to meet the energy demands of its customers.

Staff has reviewed GMP's load forecast and resource planning to meet energy and capacity requirements over the long term for efficient and reliable electric service, as well as its plans to maintain the project facilities. Staff concludes that GMP is likely to continue to operate and maintain the project in a manner that provides efficient and reliable electric service under a new license.

5. The Need of the Applicant Over the Short and Long Term for the Electricity Generated by the Project to Serve Its Customers (Section 15(a)(2)(D))

The Project is located in the New England Power Pool (NEPOOL) subregion of the Northeast Power Coordinating Council, as defined by the North American Electric Reliability Council. NEPOOL forecasts an average annual growth rate for 1998 through 2007 of 1.9 percent for the summer peak demand and 1.7 percent for the winter peak demand. These values are higher than last year's corresponding forecasts of about 1 percent and 1.2 percent, respectively. These growth rate projections support the finding of a long-term need for electricity generated by the Vergennes Project.

The Vergennes Project plays an integral role in providing power for more than 82,000 customers in 65 Vermont municipalities and in providing firm power, via the transfer of power, to other New England utilities.

Staff therefore concludes that there is a short and long-term need for the power from the Vergennes Project and that GMP has the ability to meet these power needs.

6. The Impact of Receiving or Not Receiving the Project License on the Operation, Planning and Stability of Applicant's Transmission System (Section 15(a)(2)(E))

GMP does not anticipate that project power flows will significantly influence system losses, although system losses of power are likely to increase if GMP does not receive a license. There would be no need for new construction of transmission facilities or upgrading existing facilities. The Vergennes Project does provide ancillary services such as local voltage/VAR support to the power transmission system in the area. By providing power support to local area loading factors, the power generated by the project offsets deliveries that are required on the area transmission-distribution systems. Loss of power generated by the Vergennes Project could require the acceleration of future transmission upgrades. Therefore, staff concludes there is a positive effect of the continued operation of the Vergennes Project on the local transmission system.

7. Whether the Plans of the Applicant will be Achieved, to the Greatest Extent Possible, in a Cost Effective Manner (Section 15(a) (2) (F))

The conversion of project operation from a peaking mode to a run-of-river mode, in conjunction with mitigation and enhancement measures required by the new license, reduces gross value of the energy produced by \$25,200, based on an average cost of power produced by the project of about \$37 per megawatt hour (MWh). GMP has determined that the continued operation and relicensing of the Vergennes Project is the least cost alternative available to them.

Staff concludes that the Vergennes Project, as currently configured and as operated as described in this order, will fully develop and use the economical hydropower potential of the site in a cost-effective manner.

8. Actions Affecting the Public

GMP plans to protect and enhance aquatic, aesthetic, recreational, and cultural resources at the project by operating the project in a run-of-river mode; operating the project in a manner that will provide a continuous outflow from Plant 9 to enhance fishery resources using the tailrace area; releasing aesthetic flows at the Vergennes Project dams; implementing recreational measures that would include access for small boats, parking, improved trails, installing signs to interpret the history of Vergennes Falls and the surrounding structures, installing a disabled accessible fishing platform and portable toilets; and implementing the provisions of the Programmatic Agreement.

WATER QUALITY CERTIFICATION

Under Section 401(a)(1) of the Clean Water Act (CWA) ⁶, the Commission may not issue a license for a hydroelectric project unless the certifying agency has either issued a 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. ⁷ Section 401(d) of the CWA provides that state certification shall become a condition on any federal license or permit that is issued. ⁸

On April 15, 1999, the VDEC issued a Section 401 WQC for the Vergennes Project, subject to certain conditions. VDEC's WQC includes 17 conditions, the substantive ones of which we summarize here, and which are attached in full as Appendix A to this order: ⁹ (a) operate and maintain the project according to the conditions set forth in the WQC; (b) operate the project in a run-of-river mode with specific ratios of dispersion of the daytime flows released over Vergennes Falls during those times when the project is not operating (e.g., generating power); (c) suspend bypass flows during flashboard replacement; (d) develop a project operating plan; (e) develop a monitoring plan for estimating inflows to the impoundment, impoundment levels, and flow releases from the project powerhouses; (f) consult with the Vermont Department of Fish and Wildlife prior to replacing project trashracks at Plants 9 and 9B; (g) provide turbine rating curves to VDEC within two years of license issuance; (h) develop a debris

⁶33 U.S.C. § 1341(a)(1).

⁷Section 401(a)(1) requires an applicant for a federal license or permit to conduct any activity that may result in any discharge into navigable waters to obtain from the state in which the discharge originates certification that any such discharge will comply with applicable water quality standards.

⁸33 U.S.C. § 1341(d).

⁹As we have acknowledged in *Kennebec Water Power Company*, 81 FERC ¶ 61,254 (1997), we are required by the decision of the United States Court of Appeals in *American River, et al. v. FERC*, 129 F.3d 99 (1997), to accept all conditions in a water quality certification as conditions on a license even if we believe that the conditions may be outside the scope of Section 401. While we have included certain of the provisions as license articles, all of the Section 401 conditions are conditions to this license. In any event, nothing in the conditions of the water quality certification shall be viewed as restricting the Commission's ability or the licensee's obligation, under the Federal Power Act, to take timely action necessary to protect human life or the environment.

disposal plan in consultation with the VDEC and file the plan with the Commission within 120 days of license issuance; (i) file maintenance and repair work proposals with the VDEC prior to any such work being initiated that could affect water quality or state water quality standards; (j) provide safe public access to the project; (k) construct and maintain recreational facilities consistent with a recreation plan approved by VDEC; (l) implement erosion control measures as necessary and related to recreational use of project lands; (m) allow VDEC to conduct compliance inspections of the project area to ensure WQC conditions are met; (n) post the WQC in the powerhouse; (o) seek VDEC approval of any project changes that would affect the WQC conditions; (p) allow VDEC to reopen the license at any time to assure compliance with the WQC conditions; and (q) provide continuing jurisdiction for the VDEC to alter the terms and conditions of the WQC as needed to ensure state water quality laws are being met.

Section 401(d) of the CWA provides that the state certification shall become a condition on any federal license or permit that is issued. The conditions of the WQC are attached in full as Appendix A of this license order and included as part of this license. Most of the WQC conditions are included in specific license articles in this license order and all our license conditions are consistent with the terms of the WQC.

SECTION 18 FISHWAY PRESCRIPTION

Section 18 of the FPA authorizes the Secretary of the Interior or the Secretary of Commerce to prescribe fishways at Commission-licensed projects. ¹⁰ No Section 18 prescriptions were filed.

COASTAL ZONE MANAGEMENT ACT

Section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA), 16 U.S.C. § 1456(3)(A), states that the Commission cannot issue a license for a project within or affecting the state's coastal zone, unless the state CZMA agency concurs with the license applicant's certification of consistency with the state CZMA program. The state of Vermont does not have a CZMA program and, therefore, no coastal zone consistency certification is needed for this project.

¹⁰Section 18 of the FPA, 16 U.S.C. § 811, states: "The Commission shall require the construction, maintenance, and operation by a licensee at its own expense...such fishways as may be prescribed by the Secretary of Commerce or the Secretary of the Interior, as appropriate."

RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES

Section 10(j) of the FPA ¹¹ requires the Commission, when issuing a license, to include license conditions based on recommendations of federal and state fish and wildlife agencies, submitted pursuant to the Fish and Wildlife Coordination Act, to "adequately and equitably protect, mitigate damages to, and enhance, fish and wildlife (including related spawning grounds and habitat)" affected by the project.

No agency filed timely recommendations pursuant to Section 10(j). The staff evaluated VANR's comments concerning fish and wildlife resources that were filed on June 1, 1998, in the DEA under Section 10(a) because they were filed late. However, all of VANR's recommendations are included in the terms and conditions for this license.

COMPREHENSIVE PLANS

Section 10(a)(2) of the FPA ¹² requires the Commission to consider the extent to which a project is consistent with Federal and state comprehensive plans for improving, developing, or conserving waterways affected by the project. Under Section 10(a)(2), Federal and state agencies filed with the Commission 23 plans that address various resources in Vermont. Of these, I identified and reviewed 10 plans relevant to the project. ¹³ No inconsistencies were found.

¹¹16 U.S.C. § 803(j)(1).

¹²16 U.S.C. § 803.

¹³(1) Lake Champlain Fish and Wildlife Policy Committee and Technical Committee. 1981. A strategic plan for development of salmonid fisheries in Lake Champlain. Albany, New York. Waterbury, VT. 19 pp.; (2) Vermont Agency of Environmental Conservation. 1983. Vermont state comprehensive outdoor recreation plan, 1983-1988. Montpelier, VT. June 1983. 195pp. and appendices; (3) Vermont Agency of Environmental Conservation. 1986. Vermont Rivers Study. Waterbury, VT. 236pp.; (4) Vermont Agency of Natural Resources. Department of Environmental Conservation. 1988. Hydropower in Vermont: an assessment of environmental problems and opportunities. Waterbury, VT. May 1988. Two volumes; (5) Vermont Agency of Natural Resources. Department of Forests, Parks and Recreation. 1988. Vermont recreation plan. Waterbury, VT. 128 pp. Plus map, nine supplemental task group reports, and a 52-page resident recreation survey; (6) Vermont Agency of Natural Resources.

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COMPREHENSIVE DEVELOPMENT

Sections 4(e) and 10(a)(1) of the FPA¹⁴ require the Commission, in acting on applications for license, to give equal consideration to the power and 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.

In determining whether a proposed project will be best adapted to a comprehensive plan for developing a waterway for beneficial public purposes, pursuant to Section 10(a)(1) of the FPA, the Commission considers a number of public interest factors, including the economic benefits of project power.

Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in Mead Corporation, Publishing Paper Division,¹⁵ the Commission employs an analysis that 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 reasonable alternatives to project power.

(...continued)

Department of Forests, Parks and Recreation. Wetlands Steering Committee. 1988. Wetlands component of the 1988 Vermont recreation plan. Waterbury, VT. July 1988. 43 pp.; (7) U.S. Fish and Wildlife Service. Canadian Wildlife Service. 1986. North American waterfowl management plan. Department of the Interior. May 1986. 19 pp.; (8) U.S. Fish and Wildlife Service. Undated. Fisheries USA: the recreational fisheries policy of the U.S. Fish and Wildlife Service. Washington, D.C. 11 pp.; (9) U.S. Fish and Wildlife Service. 1989. Final environmental impact statement--restoration of Atlantic Salmon to New England Rivers. Department of the Interior, New Corner, MA. May 1989. 88 pp.; and (10) National Park Service. 1982. The nationwide rivers inventory. Department of the Interior, Washington, D.C. January 1982. 432 pp.

¹⁴16 U.S.C. §§ 797(e) and 803(a)(1).

¹⁵72 FERC ¶ 61,027 (1995).

The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license.

An economic analysis of the Vergennes Project new license, as proposed by the staff, and based on current economic conditions, without future escalation or inflation, would produce an average of 9,455 MWh per year over a 30-year license period. The annual value of this energy is about \$286,700 (or about 30 mills per kilowatt-hour (mills/kWh) in 1998 dollars, based on the average cost of alternative capacity and energy in the region. The annual cost of producing this energy is about \$349,900 (or about 37 mills/kWh). Therefore, the project, with environmental measures, would produce power at an annual cost of about \$63,200 (or about 6.6 mills/kWh) more than the currently available alternative. However, based on the overall record in this proceeding, I conclude that it is in the public interest to license the project and leave to GMP the decision of whether or not to accept a license and to continue operating the project.

The FEA analyzes the effects associated with issuance of a new license for the Vergennes Project. The FEA recommends a variety of measures to protect and enhance the environmental resources, which are adopted, as discussed herein. Staff's recommended environmental measures were developed after considering the comments made by the state and federal resource agencies and other commenting entities.

Based on the review and evaluation of the project, as proposed by the Applicant, and with the additional staff-recommended environmental measures, I conclude that the continued operation and maintenance of the project in the manner required by the license, will protect and enhance fish and wildlife resources, water quality, recreational, aesthetic, and cultural resources. The electricity generated from renewable water power resources will be beneficial because it will continue to offset the use of fossil-fueled, steam-electric generating plants, thereby conserving nonrenewable resources and reducing atmospheric pollution and greenhouse effects. I, therefore, find that the Vergennes Project, with the recommended measures, is best adapted to a comprehensive plan for the use, conservation, and development of the waterway for beneficial public purposes.

I am requiring the licensee to implement at the Vergennes Project, the environmental measures summarized below:

(1) Operate the project in a run-of-river mode to protect and enhance water quality, fishery resources, and recreational resources (Article 401);

(2) Operate the project in a manner that one generating unit of Plant 9 shall be given first priority for use of water diverted from Otter Creek for power production during the period from April 1 to June 15 (to protect walleye and lake sturgeon) and from September 15 to November 15 (to protect landlocked Atlantic salmon). Plant 9B shall commence operating only after flows through Plant 9 exceed 350 cfs (Article 402);

(3) Release minimum flows over the spillways at the Vergennes Project (Article 403);

(4) Develop a monitoring and operations plan to monitor run-of-river operations, first priority use of river flows to Plant 9, and aesthetic flow releases over Vergennes Falls (Article 404);

(5) Implement the provisions of the Programmatic Agreement (Article 405);

(6) Develop and implement a final recreation plan (Article 406); and

(7) Monitor recreation use of the project area (Article 407).

LICENSE TERM

Section 15 of the FPA¹⁶ specifies that any license issued shall be for a term determined to be in the public interest, but the term may not be less than 30 years nor more than 50 years. The Commission's policy establishes 30-year terms for those projects that propose little or no redevelopment, new construction, new capacity, or enhancement; 40-year terms for those projects that propose a moderate amount of redevelopment, new construction, new capacity or enhancement; and 50-year terms for those projects that propose extensive redevelopment, new construction, new capacity or enhancement.¹⁷

GMP is not proposing redevelopment of the project, nor am I requiring enhancement measures that would justify a longer term. Accordingly, the license for the Vergennes Project will have a term of 30 years.

SUMMARY OF FINDINGS

¹⁶16 U.S.C. § 808(e).

¹⁷See, City of Danville, Virginia, 58 FERC ¶ 61,318 (1992).

The FEA, issued on October 16, 1998, contains background information, analysis of impacts, support for related license articles, and the basis for a finding of no significant impact on the environment. The design of this project is consistent with the engineering standards governing dam safety. The project will be safe if operated and maintained in accordance with the requirements of this license. Analysis of related issues is provided in the Safety and Design Assessment, which is available in the Commission's public files for this project. Issuance of this license is not a major Federal action significantly affecting the quality of the human environment.

Based upon a review of the agency and public comments filed on the project, and staff's independent analysis pursuant to Sections 4(e) and 10(a)(2) of the FPA, I conclude that issuing a license for the Vergennes Project, with the required environmental measures and other special license conditions, would not conflict with any planned or authorized development, and would be best adapted to the comprehensive development of Otter Creek for beneficial public uses.

The Director orders:

(A) This license is issued to Green Mountain Power Corporation (licensee) to operate and maintain the Vergennes Project for a period of 30 years, effective June 1, 1999. This 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 those lands, enclosed by the project boundary shown by Exhibit G.

<u>Exhibit</u>	<u>FERC No. 2674-</u>	<u>Showing</u>
1	1006	Project Boundary
2	1007	Project Boundary

(2) Project works consisting of: (a) three concrete overflow dams, each about 10 feet high, with a total length of 231 feet, having a crest elevation of about 132.78 feet above mean sea level (msl), surmounted by 1.5-foot-high flashboards, and a 29-foot-long, non-overflow dam; (b) an 8.8-mile-long, 133 acre surface area reservoir

with a 200 acre-foot usable storage capacity at normal water surface elevation of 134.28 feet msl; (c) the north forebay with trashracks, headgates, and two, 7-foot-diameter steel penstocks; (d) the north powerhouse, known as Plant 9B, having a 1,000-kW generating unit; (e) the south forebay, with trashracks, headgates, two surge tanks, and two, 10-foot-diameter penstocks; (f) the south powerhouse, Plant 9, with two, 700-kw generating units; (g) the generator leads from Plant 9 to the Vergennes substation and the 950-foot-long, 2,400-volt overhead generator leads from Plant 9B to the Vergennes substation; and (h) 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:

Sections (c) and (d), entitled Powerhouses and Substation/Transmission Lines, describing the existing mechanical, electrical and transmission equipment, filed on May 30, 1997, with the application for license.

<u>Exhibit F drawings</u>	<u>FERC No. 2674-</u>	<u>Showing</u>
Sheet F-1	1001	Headworks Plan 9&9B
Sheet F-2	1002	9 Powerhouse Plan Elevation & Section
Sheet F-3	1003	9 Headworks Plan Elevation & Section
Sheet F-4	1004	9B Powerhouse Plan Elevation & Section
Sheet F-5	1005	9B Headworks Plan Elevation & Section

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

(C) The Exhibits A, F, and G described above are approved and made part of the license.

(D) This license is subject to all the articles, except Article 20, that are set forth in Form L-3 (October 1975), entitled "Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters of the United States," and the following additional articles:

Article 201. The licensee shall pay the United States an annual charge for the purposes of reimbursing the United States for the cost of administering Part I of the Federal Power Act, as determined by the Commission. The authorized installed capacity for that purpose is 2,400 kilowatts.

Article 202. 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 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 203. Pursuant to Section 10(d) of the Federal Power Act, 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. The licensee shall set aside in a project amortization reserve account at the end of each fiscal year one half of the project surplus earnings, if any, in excess of the specified rate of return per annum on the net investment. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year, the licensee shall deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The licensee shall set aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The licensee shall maintain the amounts established in the project amortization reserve account until further order of the Commission.

The specified reasonable rate of return used in computing amortization reserves shall be calculated annually based on current capital ratios developed from an average of 13 monthly balances of amounts properly includible in the licensee's long-term debt and

proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rate for such ratios shall be the weighted average cost of long-term debt and preferred stock 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 204. If the licensee's project was directly benefitted by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee 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 new license.

Article 205. Within 45 days of the date of issuance of the license, the licensee shall file three sets of aperture cards of the approved exhibit drawings. The sets must be reproduced on silver or gelatin 35mm microfilm and mounted on type D (3-1/4" x 7-3/8") aperture cards.

Prior to microfilming, the FERC Drawing Number (2674-1001 through 1007) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number must be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC exhibit (e.g., F-1, G-1, etc.), Drawing Title, and date of this license shall be typed on the upper left corner of each aperture card.

Two sets of aperture cards must be filed with the Secretary of the Commission. The remaining set of aperture cards shall be filed with the Commission's New York Regional Office.

Article 301. Within 90 days of completion of construction of facilities authorized by this license (recreational facilities), the licensee shall file for approval, revised Exhibits F and G to show those project facilities as-built.

Article 401. The licensee shall operate the project in a run-of-river mode for the protection and enhancement of water quality, fisheries, and recreational resources of Otter Creek.

The licensee shall at all times act to minimize the fluctuation of the reservoir surface elevation by maintaining a discharge from the project so that, at any point in time, flows, as measured immediately downstream from the project tailrace, shall equal instantaneous inflow to the project.

Run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the licensee, including to the extent necessary to facilitate flashboard replacement, or for short periods upon mutual agreement between the licensee and the Vermont Agency of Natural Resources. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 402. The licensee shall operate the Vergennes Project in a manner such that one generating unit of Plant 9 shall be given first priority for use of water diverted from Otter Creek for power production during the period from April 1 to June 15 (to protect walleye and lake sturgeon) and from September 15 to November 15 (to protect landlocked Atlantic salmon). The licensee shall bring one unit of Plant 9 on line first and provide a continuous outflow from Plant 9 at all times that the project is operating during these seasonal time periods. The licensee may commence operation of Plant 9B only after the flows through Plant 9 exceed 350 cfs. The licensee shall specify the operating rule for these two seasonal time periods in the operations and monitoring plan required in Article 404.

Article 403. The licensee shall release the following minimum flows over the spillways at the Vergennes Project for the protection and enhancement of aesthetic and recreational resources of Otter Creek:

Period	Flow
April 1 through October 31	
Daytime	150 cfs
Nighttime	75 cfs
November 1 through December 15	
Daytime	100 cfs
Nighttime	50 cfs

The licensee shall specify the distribution of these releases over the three spillways in the operations and monitoring plan required in Article 404. For the purpose of this article, daytime is defined as one-half hour before sunrise to one-half hour after

sunset. Nighttime is defined as one-half hour after sunset to one-half hour before sunrise.

These flows 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 Vermont Agency of Natural Resources. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 404. Within 120 days of the date of issuance of the license, the licensee shall file with the Commission, for approval, a monitoring and operations plan to monitor run-of-river operations, first priority use of river flows to Plant 9, and aesthetic flow releases over Vergennes Falls as required respectively by Articles 401, 402, and 403.

The plan shall include, at a minimum;

- (1) a schedule for implementing the plan;
- (2) a schedule for installing all flow and water level measuring devices;
- (3) the identification of the planned locations of the flow measuring devices;
- (4) the method of data collection, including the design of each of the recording devices, and provisions for providing data to the regulatory agencies in a timely manner;
- (5) the identification of an operating rule for seasonally diverting water from Otter Creek to Plants 9 and 9B;
- (6) identification of the proposed apportionment of aesthetic flow releases over the three project spillways during the hours when the project is not operating;
- (7) the identification of flow management techniques to be used to address bypass flows and refill of the project impoundment during flashboard replacement; and

- (8) a schedule for providing the rating curves depicting the head-flow-to power relationship for the project to the Commission and to the Vermont Department of Environmental Conservation.

The licensee shall prepare the plan after consultation with the U.S. Geological Survey, the Vermont Department of Environmental Conservation, and the City of Vergennes. 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 agencies, 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 project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 405. Upon the effective date of this license, the licensee shall implement the "Programmatic Agreement Among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, and the Vermont State Historic Preservation Officer for Managing Historic Properties That May Be Affected By A License Issuing to Green Mountain Power Corporation For the Continued Operation and Maintenance of the Vergennes Hydroelectric Power Project in Vermont," executed on February 4, 1999, including but not limited to the Cultural Resources Management Plan (CRMP) for the project. In the event that the Programmatic Agreement is terminated, the licensee shall implement the provisions of its approved CRMP. The Commission reserves the authority to require changes to the CRMP at any time during the term of the license. If the Programmatic Agreement is terminated prior to Commission approval of the CRMP, the licensee shall obtain Commission approval 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 Effect.

Article 406. Within 60 days of the date of issuance of the license, the licensee shall develop and file a final recreation plan for Commission approval, that includes provisions for, but not necessarily limited to, the following:

- (1) installation of directional and interpretive signs for recreation in the project area;

- (2) improved access for small boats and parking at Settlers Park;
- (3) improved trail, shoreline fishing access, vegetative plantings, and picnic area along the western bank near Plant 9;
- (4) construction of a disabled-accessible fishing platform on the western bank near Plant 9;
- (5) installation of portable toilet facilities (including disabled-accessible facilities); and
- (6) installation of signs interpreting the history of Vergennes Falls and the surrounding historic structures.

The licensee shall develop the final recreation plan in conjunction with the Cultural Resources Management Plan required in Article 405, so that recreational improvements do not conflict with the cultural resources in the project area. The licensee shall construct the facilities after consultation with the Vermont Agency of Natural Resources, the Vermont Division for Historic Preservation, and the City of Vergennes. These facilities shall be shown on as-built drawings filed pursuant to this license.

The licensee shall include with the recreation plan a construction schedule, the entity responsible for operation and maintenance of the facilities, costs for the construction and yearly maintenance of each facility, a discussion of how the recreational facilities are visually compatible with the project area, a description of erosion control measures to be used during construction, documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments and recommendations are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment on the plan 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 recreation plan. Upon Commission approval, the licensee shall implement the recreation plan, including any changes required by the Commission.

Article 407. The licensee, after consultation with the Vermont Agency of Natural Resources, the Vermont Division for Historic Preservation, and the City of Vergennes (City), shall monitor recreation use of the project area in the vicinity of the Plant 9

tailrace to determine whether existing parking related to recreational use in the tailrace area is adequate. Monitoring shall begin within six years of the issuance of this license and be reported to the Commission in accordance with Section 8 of the Commission's regulations (18 CFR § 8.11), which requires the filing of "FERC Form No. 80." The report shall include:

- (1) annual recreational use figures for the vicinity of the Plant 9 tailrace;
- (2) a discussion of the adequacy of the licensee's parking facilities in the Plant 9 vicinity to meet recreation demand, including a discussion regarding the need to provide additional or improved parking at the site;
- (3) a description of the methodology used to collect all data;
- (4) if there is a need for additional or improved parking facilities, a plan proposed by the licensee to accommodate parking needs at the site;
- (5) documentation of consultation with the Vermont Department of Natural Resources, the Vermont Division for Historic Preservation, and the City; and
- (6) specific descriptions of how the agencies' and the City's comments are accommodated by the report.

The licensee shall allow a minimum of 30 days for the agencies and the City to comment and to make recommendations prior to filing the report with the Commission.

Article 408. Within 120 days of the date of issuance of the license, the licensee shall file with the Commission, for approval, a debris disposal plan for the Vergennes Project. The plan shall provide for the proper disposal of debris associated with project operation, including trashrack debris.

The licensee shall prepare the plan after consultation with the Vermont Department of Environmental Conservation. 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 agency, and specific descriptions of how the agency's comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agency to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 402. (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 also shall 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 watercraft at a time and where said facility is intended to serve single-family type dwellings; and
- (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline. 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 and roads for which all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69 kilovolts or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project 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 was made during the prior calendar year, the licensee shall inform the Commission and the Regional Director 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

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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 watercraft at a time and are located at least one-half mile 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 the edge of the project reservoir 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 45 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Hydropower Licensing, 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 or K 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; and (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.

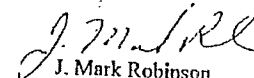
(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(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 or K 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 or K 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.

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

(F) This order is issued under authority delegated to the Director and constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. Section 385.713. The filing of a request for rehearing does not operate as a stay of the effective date of this order 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
Division of Licensing and Compliance

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UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Green Mountain Power Corp.

Project No. 2674-008

ORDER MODIFYING AND APPROVING MONITORING
AND OPERATIONS PLAN

(Issued August 09, 2000)

Green Mountain Power Corporation (licensee), filed on March 1, 2000, its monitoring and operations plan under article 404 of the license for the Vergennes Project (FERC NO. 2674). The project is located on Otter Creek in the City of Vergennes, Addison County, Vermont.

BACKGROUND

Article 404 requires the licensee to file with the Commission, for approval, a monitoring and operations plan to monitor run-of-river operations, first priority use of river flows to Plant 9, and aesthetic flow releases over Vergennes Falls as required respectively by articles 401, 402, and 403. The plan is to include: (1) a schedule for implementing the plan; (2) a schedule for installing all flow and water level measuring devices; (3) the identification of the planned locations of the flow measuring devices; (4) the method of data collection, including the design of each of the recording devices, and provisions for providing data to the regulatory agencies in a timely manner; (5) the identification of an operating rule for seasonally diverting water from Otter Creek to Plants 9 and 9B; (6) identification of the proposed apportionment of aesthetic flow releases over the three project spillways during hours when the project is not operating; (7) the identification of flow management techniques to be used to address bypass flows and refill of the project impoundment during flashboard replacement; and (8) a schedule for providing the rating curves depicting the head-flow-to power relationship for the project to the Commission and to the Vermont Department of Environmental Conservation (VDEC).

LICENSEE'S PLAN

A. Run-Of-River Operation

Run-of-river operation will be accomplished and monitored through continuous monitoring of the impoundment elevation by a pressure transducer located sufficiently upstream of the project structures. Output from the impoundment elevation monitor will be tied into the automated control system currently under design for Plant 9. The

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impoundment level monitor would be located near Center Island just upstream of the project. Normal impoundment elevation will be maintained approximately 0.1 feet below the tops of the existing 1.5-foot high flashboards when river flows are less than the project's maximum approximate hydraulic capacity of 1180 cubic feet per second (cfs). The top of the 1.5-foot high spillway flashboards will be at elevation 134.0 feet for the north and south spillways and elevation 134.28 feet for the center spillway. Keeping the wooden flashboards from overtopping along all three spillways substantially reduces the risk of premature and unnecessary flashboard failure. The actual headpond elevation at the pressure sensor will be field calibrated to achieve the condition of no overtopping with the water level approximately 0.1 feet below the top of the wooden flashboards at all three spillways during various station discharges. With the project operating at its full capacity of 1180 cfs, there is an approximately 3-inch localized headpond drawdown at both the north and the south spillways compared to the center spillway. During this condition, the headpond sensor, which will approximate the headpond at the center spillway removed from localized intake drawdown effects, will record the headpond at approximately elevation 134.18 feet.

To ensure adequate flow below the project during refill of the impoundment following flashboard replacement or other similar necessary maintenance, such refill will be limited to a rate of 1-inch per hour; unless a slower refill is required to allow the project to pass 90% of project inflow during refill.

B. Plant 9 Minimum Flow

During the periods from April 1 through June 15 and from September 15 through November 15, Plant 9 will be given first priority use of water diverted from Otter Creek for power production. The 350 cfs threshold will be monitored by unit output. Turbine rating curves will be filed with the Commission and appended to this plan as soon as they are available, no later than 120 days after the plan is approved. Under the project's run-of-river operation, impoundment elevation will be maintained at the upper elevation when flows are at or below station capacity except for periods when the flashboards are temporarily down. Head on the units, therefore, will not typically vary between that created by the flashboards up and flashboards down conditions.

C. Aesthetic Spillway Flow

Flashboards Up

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When the flashboards are in place between April 1 and December 15, the required aesthetic flows will be passed through openings located in the bottom of the wooden boards. For example, openings approximately 3.35 inches high equally spaced along 25% of each of the two side spillways would pass the required 35 cfs along each spillway. A 3-inch high opening along the entire length of the center spillway (60 feet) would discharge the required 80 cfs. This opening height was selected because it would allow leaves and smaller debris to pass without being caught on the boards and obstructing flow. The submerged orifice discharge would reduce the impact of the 3-inch localized drawdown near the plants' intakes. In the arrangement described above, a 3-inch reduction in the head on the openings would reduce the flow discharge by only about 4.3%. This variation should be undetectable.

This method of providing aesthetic flows will probably require some additional maintenance to keep the spaces along the bottom of the flashboards free from large debris which may collect and disrupt the aesthetic flows over the spillways. Most of the large river debris loading, however, occurs during the spring freshet when the flashboards would not be in place. Also, the 3-inch and larger opening height should help prevent obstruction by leaves and other smaller debris.

The licensee expects that determining the size and placement of flashboard openings at the two side spillways will require some refinement over the initial few years, and will continue to consult with the City of Vergennes and the Vermont Agency of Natural Resources (VANR) until a final arrangement is determined, proven, and agreed upon. Under the configuration currently proposed, aesthetic spills would not be reduced at night: the required daytime spills would be provided at all times.

Flashboards Down

During some periods of the year, such as after storm events, a portion or the entire length of the wooden flashboards will be down. The VANR has indicated that it will not be necessary to provide the required minimum flows in the specified apportionment between the three spillways when the flashboards are down. The total minimum required flow will continue to be provided. Lost flashboards will be replaced as soon as this task may be practically and safely accomplished, with the impoundment maintained at between six inches and one foot below the permanent crest elevation. This will normally be within two weeks of the return of project inflows to within the hydraulic capacity of the station.

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D. Instrumentation and Control

The impoundment level would be measured in the main impoundment at a location on the Center Island sufficiently upstream of the project structures to be unaffected by local effects of the unit drawdowns or flow distributions over the spillways. This sensor would be connected to the generating units' logic control. Rating curves for each spillway for both the flashboards up and flashboards down condition will be filed with the Commission and appended to this plan as soon as they are available, no later than 120 days following the plan's approval. Using the real time impoundment elevation data, and the respective rating curves, the turbine gate positions would be continuously set to provide the required elevation and flows. These settings would be computed by the automated control system currently under design for the project.

E. Head-Flow-to Power Curves, Data Management

The licensee will provide head-flow-to power rating curves for the project to the Commission and to the VDEC within 120 days of the Commission's approval of this plan. The main impoundment elevation and flow (from each plant, and the project total) data will be recorded hourly and will be provided to the VDEC on a monthly basis, and to other regulatory agencies within 30 days of the agencies' request for the same. The flow data will be graphed along with the adjusted Middlebury U.S. Geological Survey (USGS) gage data as requested by the VDEC. In addition, a staff gage calibrated in hundredths of a foot will be located at an accessible location for independent monitoring. If run-of-river operation or aesthetic spill flows are interrupted, the licensee will notify the Commission as soon as possible, but no later than ten days after each such incident.

AGENCY COMMENTS

The VANR, by letter dated February 16, 2000, concurred with the licensee's plan and provided recommendations which the licensee incorporated into its plan. The City of Vergennes and the USGS did not comment on the plan.

DISCUSSION AND CONCLUSIONS

The licensee consulted with the resource agencies in preparation of the monitoring and operations plan and incorporated the agencies comments into its final plan. The licensee's plans meet the requirements of article 404 of the license and should adequately monitor and document the licensee's operation.

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It is Commission's standard practice to require the licensee to report any deviation from its requirements. After reviewing the licensee's report, Commission staff can make a determination as to whether modifications to project operations or facilities are necessary. So that the Commission can monitor the licensee's compliance with the operational requirements of articles 401, 402, and 403 the licensee should be required to notify the Commission of any deviations from the requirements specified in those articles. Based upon the licensee's report and the Commission's evaluation of the incident, the Commission should reserve the right to require modifications to project facilities and operations to ensure compliance with the specific requirements in articles 401, 402, and 403.

Given the licensee has indicated it may take up to 120 days before it can provide a turbine rating curve and a spillway rating curve, the licensee should be required to file this information within 120 days of issuance of this order. The licensee's monitoring and operations plan, with the above modification, should be adequate to document the licensee's compliance and should, therefore, be approved.

The Director orders:

(A) The licensee's monitoring and operations plan under article 404 of the license for the Vergennes Project (FERC No. 2674), filed on March 1, 2000, as modified by paragraphs (B) and (C) below, is approved.

(B) The licensee shall file its turbine rating curve and spillway rating curve for the Vergennes Project within 120 days of the date of this order.

(C) If the run-of-river operation or minimum flows as measured by the approved monitoring system, deviates from the requirements of articles 401, 402, and/or 403, the licensee shall file a report with the Commission within 30 days of the date that the data becomes available regarding the incident. The report shall, to the extent possible, identify the cause, severity, and duration of the incident, and any observed or reported adverse environmental impacts resulting from the incident. The report shall also include: (1) operational data necessary to determine compliance with articles 401, 402, and/or 403; (2) a description of any corrective measures implemented at the time of occurrence and the measures implemented or proposed to ensure that similar incidents do not recur; and (3) comments or correspondence, if any, received from the resource agencies regarding the incident. Based on the report and the Commission's evaluation of the incident, the Commission reserves the right to require modifications to project facilities and operations to ensure future compliance.

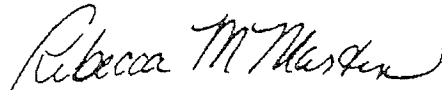
Project No. 2674-008

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(D) The licensee shall file an original and seven copies of any filing required by this order with:

The Secretary
Federal Energy Regulatory Commission
Mail Code: DHAC, PJ-12.3
888 First Street, N.E.
Washington, D.C. 20426

(E) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 CFR § 385.713.

A handwritten signature in cursive script, reading "Rebecca M. Martin".

Rebecca M. Martin
Team Leader
Division of Hydropower Administration
and Compliance

118 FERC ¶ 62,157
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Green Mountain Power Corporation
Vergennes No. 9 Project

Project No. 2674-027

ORDER CERTIFYING INCREMENTAL HYDROPOWER GENERATION
FOR PRODUCTION TAX CREDIT

(Issued February 27, 2007)

On December 11, 2006 and supplemented on February 22, 2007, Kleinschmidt Consultants, on behalf of Green Mountain Power Corporation, licensee for the Vergennes No. 9 Project, FERC No. 2674, filed a request for certification for a renewable energy production tax credit for efficiency improvements due to replacing two existing turbines with two new, identical double discharge Francis turbines in 2005 and 2006. The upgraded Unit 2 was fully operational on February 1, 2006, and Unit 1 came on-line on January 16, 2007. The licensee made the filing pursuant to Internal Revenue Code section 45.¹ The project is located on the Otter Creek in Addison County, Vermont.

Section 1301 of the Energy Policy Act of 2005 (EPAAct)² amended section 45 to apply the tax credit to incremental production gains from efficiency improvements or capacity additions to existing hydroelectric facilities placed into service after August 8, 2005, and before January 1, 2009. Under EPAAct section 1301(c), the Commission is required to certify the “historic average annual hydropower production” and the “percentage of average annual hydropower production at the facility attributable to the efficiency improvements or additions of capacity” placed in service during that time period. Based on the above, we are issuing this certification order.

The Director orders:

(A) Based on our review of the information provided by the licensee, we certify the following:

¹ I.R.C. § 45 (2000).

² Pub. L. No. 109-58, 119 Stat. 594 (2005), and Pub. L. No. 109-432, Title II, §201, (2006).

	Unit 2 Improvement	Unit 1 Improvement	Total
Date of Operation	January 24, 2006	January 16, 2007	
Historical Generation Baseline (kWh)	10,359		
Incremental Generation (kWh)	1,194	1,194	2,388
Percentage of Generation due to Improvements (%)	11.5	11.5	23.05

(B) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. §385.713.

Mohamad Fayyad
Engineering Team Lead
Division of Hydropower Administration
and Compliance

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

Green Mountain Power Corporation

Project No. 2674-029

ORDER AMENDING LICENSE, APPROVING AS-BUILT EXHIBITS,
AND REVISING ANNUAL CHARGES

(Issued February 26, 2008)

On April 5, 2007, Kleinschmidt Associates, on behalf of the Green Mountain Power Corporation, licensee for the Vergennes Hydroelectric Project, FERC No. 2674, filed as-built Exhibit A and Exhibit F drawings reflecting turbine rehabilitation at Plant 9. The project is located on Otter Creek in the City of Vergennes, Addison County, Vermont. The project does not occupy any federal lands.

BACKGROUND

On May 3, 2006, the licensee filed a letter stating its intent to perform turbine rehabilitation work at Plant 9 of the Vergennes Project. By letter dated May 16, 2006, the Commission informed the licensee that the proposed modifications were considered maintenance activities and therefore, did not require an amendment of the license at that time. In addition, the May 16, 2006 letter requested the licensee to file within 90 days after completion of the rehabilitation work, revised Exhibit A and any necessary exhibit drawings to reflect the as-built conditions.

REVIEW

Revised Exhibits

In the April 5, 2007 filing, the licensee submitted a revised Exhibit A describing the two refurbished turbine generating units at Plant 9. The revised exhibit also states that the refurbished units do not require surge towers. Therefore, the project description has been updated to reflect that the two surge towers, as authorized in the project license, have been removed. The revised Exhibit A accurately reflects the as-built conditions of the project, conforms to the Commission's rules and regulations, and is approved by this order.

The filing also includes revised and new Exhibit F drawings showing the as-built conditions at the project. In addition to an index sheet, the licensee filed ten drawing sheets; however, three of them (2, 3, and 4) are not approved by this order. These three

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drawings depict plan and section details of the demolition or removal of items at Plant 9, which do not warrant Commission approval. Our review of the remaining Exhibit F drawings finds that they conform to the Commission's rules and regulations, and are approved by this order. Ordering paragraph (D) of this order requires the licensee to file the approved drawings in aperture card and electronic file formats.

Installed Capacity

The April 5, 2007 filing states that the turbine rehabilitation work, which was done in 2005 and 2006, has resulted in an improvement in the generating capacity of both Unit 1 and Unit 2 at Plant 9. The licensee expects these efficiency improvements to increase the average annual generation at the Vergennes Project by 2,388 MWh, an approximately 23 percent increase over the existing average annual generation. A breakdown of the ratings of the generating units before (existing) and after refurbishment, as well as the dates of commencement of operation of the refurbished units, are shown in Table 1 below.¹

Table 1.

Powerhouse (Plant 9) Unit No.	Existing Generator Capacity (kW)	Refurbished Generator Capacity (kW)	Existing Turbine Capacity (kW)	Refurbished Turbine Capacity (kW)	Date of Commencement of Operation
Unit 1	700	800	738	852	January 16, 2007
Unit 2	700	800	738	852	January 24, 2006

Section 11.1(i) of the Commission's regulations states that the authorized installed capacity means the lesser of the ratings of the generator or turbine units. The rating of a generator is the product of the continuous-load capacity rating of the generator in kilovolt-amperes (kVA) and the system power factor in kW/kVA. The rating of a turbine is the product of the turbine's capacity in horsepower (hp) at best gate (maximum efficiency point) opening under the manufacturer's rated head times a conversion factor of 0.75 kW/hp.

Our review of the capacity ratings of the refurbished units found that the ratings for the two turbines are greater than the generator ratings for each unit. Pursuant to section 11.1(i) of the regulations, the authorized capacity of the two units should be based on the ratings of the generators. To reflect the change in generating capacity in the

¹ On February 22, 2007, Kleinschmidt Associates, on behalf of the licensee, made a filing in support of its request for certification for a renewable energy production tax credit for the efficiency improvements due to the turbine rehabilitation work done at Plant 9. The filing states that Unit 1 and Unit 2 were placed into service on January 16, 2007, and January 24, 2006, respectively.

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project license, this order revises the installed capacity and the annual charges under Article 201.² Section 11.1(d)(6) of the Commission's regulations state that the assessments commence on the date of commencement of project operation. In the event that project operation commences during a fiscal year, the charges will be prorated based on the date on which operation commenced.

The Director orders:

(A) The license for the Vergennes Hydroelectric Project, FERC No. 2674, is amended as provided by this order, effective the day this order is issued, unless otherwise stated.

(B) The revised Exhibit A filed on April 5, 2007, conforms to the Commission's rules and regulations, and is approved and made part of the license.

(C) The following Exhibit F drawings filed on April 5, 2007, conform to the Commission's rules and regulations, and are approved and made part of the license. Superseded exhibits are eliminated from the license.

Exhibit No.	FERC Drawing No.	Licensee's Drawing No.	Drawing Title	Superseded FERC Drawing No.
F-6	2674-1009	1	Vergennes No. 9 Turbine Rehabilitation Existing General Site Plan	-
F-7	2674-1010	5	Vergennes No. 9 Turbine Rehabilitation New Turbine Civil Plan	2674-1002
F-8	2674-1011	6	Vergennes No. 9 Turbine Rehabilitation New Turbine - Mounting Bracket Plan, Sections and Details	-
F-9	2674-1012	7	Vergennes No. 9 Turbine Rehabilitation New Turbine and Frame Civil Assembly	2674-1002
F-10	2674-1013	8	Vergennes No. 9 Turbine Rehabilitation New Turbine and Frame Mechanical Assembly	-
F-11	2674-1014	9	Vergennes No. 9 Turbine Rehabilitation New Turbine Transverse Sections	-
F-12	2674-1015	10	Vergennes No. 9 Turbine Rehabilitation New Turbine Support Steel Framing Details	-

² The existing total installed capacity at the Vergennes Project is 2,400 kW (1,400 kW at Plant 9 and 1,000 kW at Plant 9B). With the 100 kW increase in capacity at both Unit 1 and Unit 2 at Plant 9, the total installed capacity at the Vergennes Project increases from 2,400 kW to 2,600 kW.

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(D) Within 45 days of the date of issuance of this order, the licensee shall file the approved exhibit drawings in aperture card and electronic file formats.

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 Drawing Number (i.e., P-2674-1009 through P-2674-1015) 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-6, etc.), Drawing Title, and date of this order shall be typed on the upper left corner of each aperture card. See Figure 1.

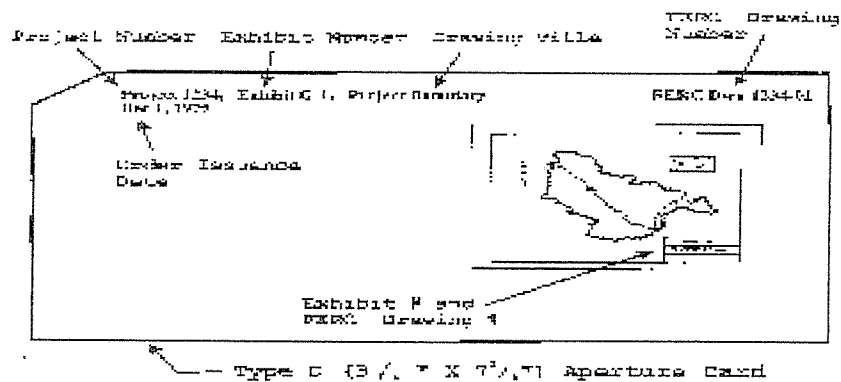


Figure 1. Sample Aperture Card Format

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. Each drawing must be a separate electronic file, and the file name shall include: FERC Drawing Number, FERC Exhibit, Drawing Title, date of this order, and file extension [i.e., P-2674-1009, F-6, Vergennes No. 9 Turbine Rehabilitation Existing General Site Plan, MM-DD-YYYY.TIF]. Electronic drawings shall meet the following format specification:

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

(E) Ordering paragraph (B)(2) of the license is revised, in part, to read as follows:

Project works consisting of:...(e) the south forebay, with trashracks, headgates, and two, 10-foot-diameter penstocks; (f) the south powerhouse, Plant 9, with two, 800-kW generating units:...

(F) Article 201 of the license is amended to read as follows:

The licensee shall pay the United States an annual charge for the purposes of reimbursing the United States for the cost of administering Part I of the Federal Power Act, as determined by the Commission. The authorized installed capacity for that purpose is 2,500 kW effective January 24, 2006, and 2,600 kW effective January 16, 2007.

(G) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. §385.713.

William Guey-Lee
Chief, Engineering and Jurisdiction Branch
Division of Hydropower Administration
and Compliance