APPLICATION REVIEW FOR
LOW IMPACT HYDROPOWER INSTITUTE CERTIFICATION
of the
MIDDLEBURY LOWER PROJECT NO. 2737

October 29, 2012

Application Reviewer: Patricia McIlvaine

WRIGHT-PIERCE
Engineering a Better Environment

APPLICATION REVIEW FOR LOW IMPACT HYDROPOWER INSTITUTE CERTIFICATION

MIDDLEBURY LOWER PROJECT - FERC PROJECT NO. P-2737

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REVIEW OF APPLICATION FOR CERTIFICATION BY THE LOW IMPACT HYDROPOWER INSTITUTE OF THE MIDDLEBURY LOWER HYDROELECTRIC PROJECT

Prepared by:
Patricia McIlvaine
October 29, 2012

I. INTRODUCTION AND OVERVIEW

This report reviews the application submitted by Central Vermont Public Service Corporation (Applicant or CVPS) to the Low Impact Hydropower Institute (LIHI) for Certification of the Middlebury Lower Hydroelectric Project P-2737 (Middlebury Lower Project or Project).

II. PROJECT'S GEOGRAPHIC LOCATION

The project is located in west central Vermont, on the Lower Falls of the Otter Creek roughly one mile downstream from Middlebury village in the towns of Middlebury and Weybridge, in Addison County, Vermont, as shown in Figure 1.

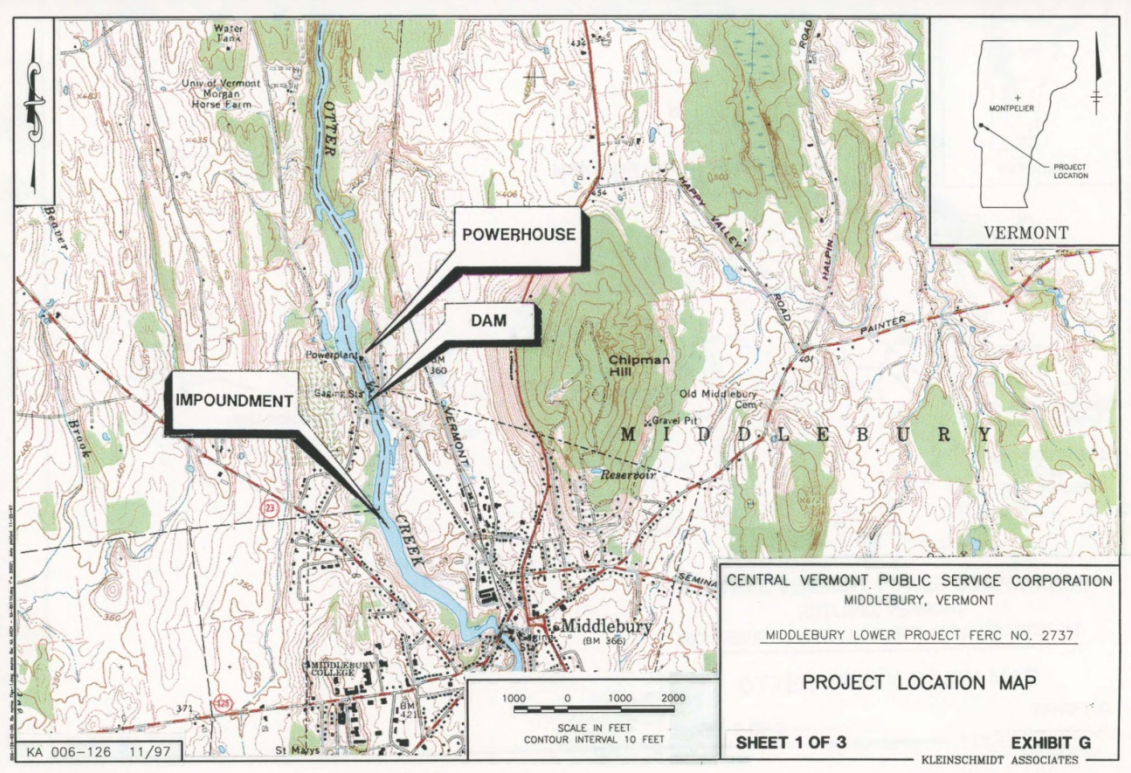


Figure 1 – Project Location Map

The Sutherland Falls Project (P-2558) is located approximately 37 miles upstream, and the Beldens Project is located approximately 4 miles downstream. Both are part of Otter Creek Hydro, which is not owned by CVPS. Figure 2 illustrates the location of the Project on Otter Creek along with other dams on the Creek.

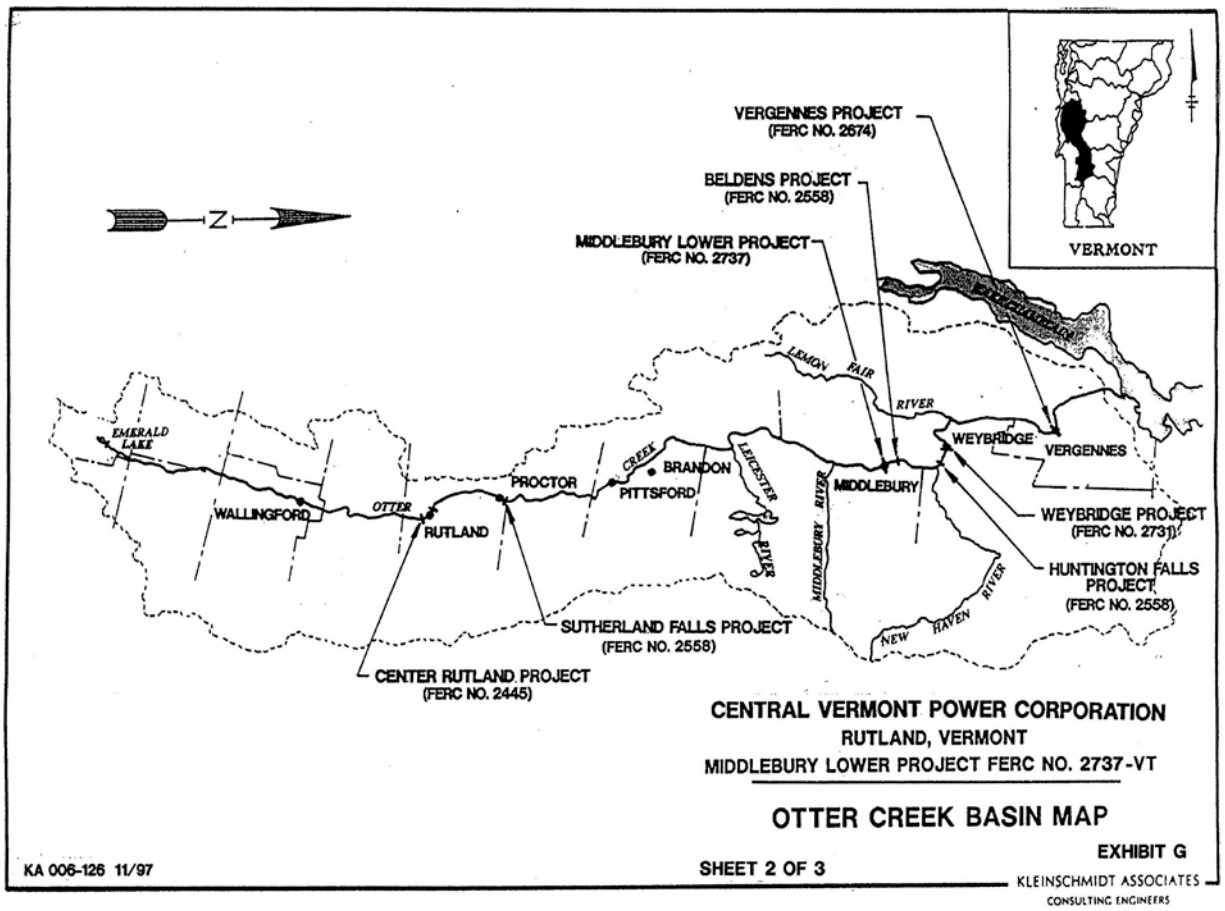


Figure 2 – Drainage Basin Map Showing Location of the Middlebury Lower Project

III. PROJECT AND IMMEDIATE SITE CHARACTERISTICS

The Middlebury Lower Project consists of a concrete gravity dam, an impoundment, an intake canal, a powerhouse, transmission facilities, and appurtenant facilities in a complex of four buildings and seven structures, situated mostly along the sloping east bank of the rocky cascades.

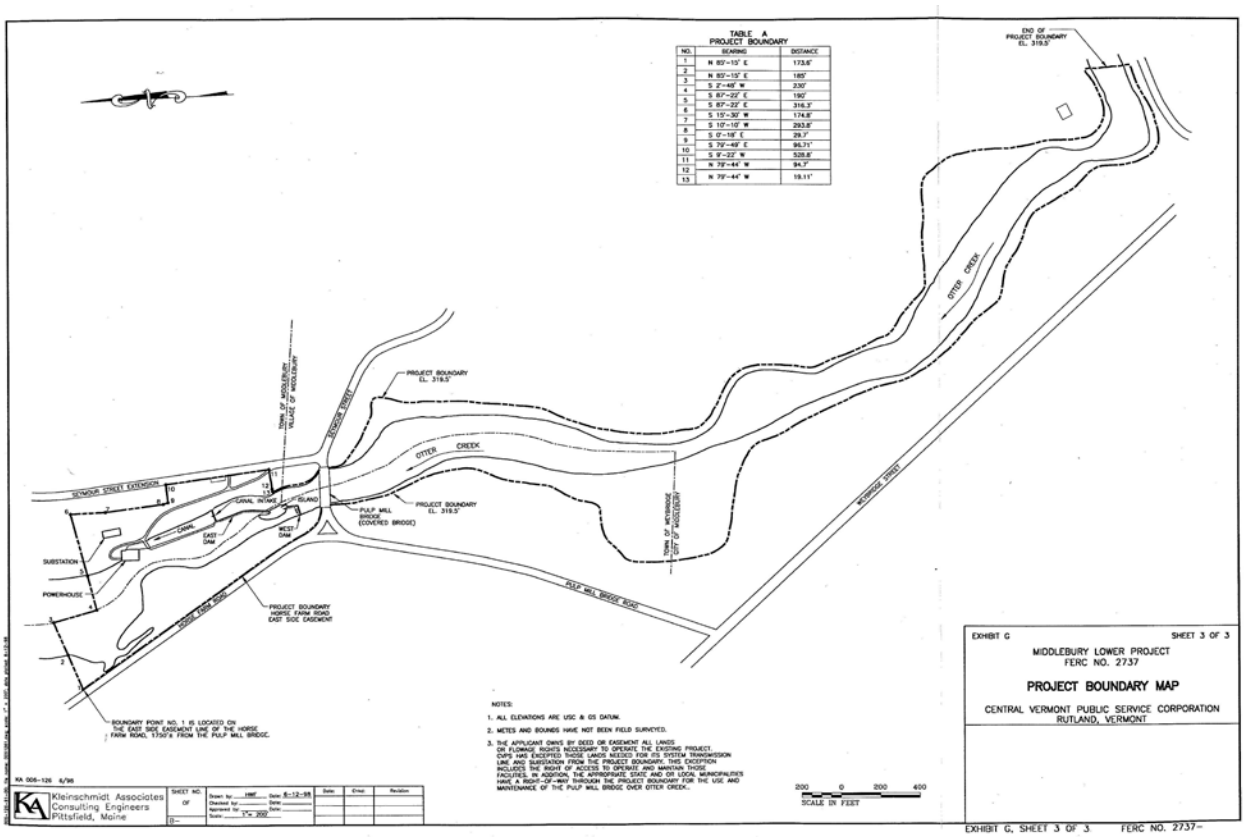
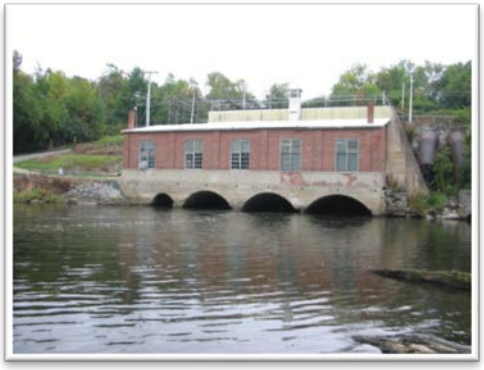


Figure 3 – Diagram of Project Features

Two concrete gravity dams impound the east and west river channels that diverge around a small island. The dam is 30 feet high, with two ogee spillway sections, and a spillway in both the western and eastern sections of the dam.



The reservoir impounds 16 acres, and extends almost 1.0 mile upstream to the Upper Falls at the center of Middlebury Village. The intake canal is 400 feet long, and is controlled by a gate structure containing two gates. The powerhouse is located at the downstream end of the intake canal, and equipped with steel trashracks having a 1.75 inch clear spacing. Three Francis turbine units provide a total installed capacity of 2.25 MW.

The Middlebury Lower Project is operated as a run-of-river facility. The impoundment elevation typically fluctuates not more than 1 inch from the crest elevation of 314.74 feet during normal operation, and water generally spills over the crest of the dam. Project operation relies upon inflows from upstream developments and the 628 square miles of the Otter Creek drainage basin.

IV. REGULATORY AND COMPLIANCE STATUS

On June 25, 1998, CVPS filed an application to the Federal Energy Regulatory Commission (FERC) for a subsequent license to continue to operate and maintain the Middlebury Lower Hydroelectric Project. No motions to intervene and no objections to license issuance were filed. The Vermont Agency of Natural Resources (VANR) and the U.S. Department of Interior filed comments and terms and conditions in March 1999. The FERC license states that comments received from interested agencies and individuals were fully considered in determining conditions associated with license issuance. The license was issued on August 1, 2001 for a 30 year term.

According to CVPS's application for LIHI certification, one license amendment (to Article 401) was issued on December 23, 2004, related to a change in minimum reservoir elevation. This amendment was based on monitoring studies specified in Article 401 of flows and headpond elevations to confirm run-of-river operation and release of minimum flows. This issue is discussed further under ***Criterion A - Flows***. A review of FERC's eLibrary from August 2001 through August 2012, noted the following:

- As discussed under ***Criterion A - Flows***, three time extensions for completion of monitoring studies required under Article 401 were requested and granted.

- As discussed under ***Criterion G - Recreation***, two extensions to file a Recreation Study Plan specified under Article 406 were approved, modifying the deadline from mid-November 2001 to February 2002.

A Water Quality Certification (WQC) from the Vermont Agency of Natural Resources (VANR) was issued for the Middlebury Lower Project on June 2 1999. All 17 conditions of the WQC were incorporated into the FERC License.

The FERC license denotes that pursuant to a 1997 decision at another Project, FERC is obligated to incorporate all conditions of a WQC as a condition of a License even if certain conditions may be outside the scope of Section 401 of the Clean Water Act (CWA).

Review of FERC's eLibrary, specific questioning of the applicant and consultation with resource agencies did not identify any reported license deviations in the past five years or license compliance delays other than that described above.

Resource agency comments obtained during telephone contact and emails received were generally supportive of the compliance activities at this site. Telephone communications are summarized in Appendix A, followed by copies of written communications received from the

resource agencies.

V. PUBLIC COMMENT RECEIVED BY LIHI

The deadline for submission of comments on the certification application was April 6, 2012. No public comments letters were received.

VI. SUMMARY OF COMPLIANCE WITH CRITERIA AND ISSUES IDENTIFIED

Criterion A - Flows - The facility appears to be operated in compliance with the established minimum flow requirements, reservoir elevation, fluctuations and re-filling rates and deviation reporting. No specific areas of concern were identified by the resource agencies contacted.

Criterion B - Water Quality - The facility appears to be operated in compliance with all water quality related conditions of the FERC license and Water Quality Certificate. No specific areas of concern were identified by the VANR contacted.

Criterion C - Fish Passage and Protection. The USFWS reserved their authority within the FERC license under Section 18 of the FPA for construction of fish passage when deemed required. There are no migratory species in Otter Creek above the most downstream dam (Vergennes Project (P-2674) owned by Green Mountain Power); and agencies have no active plans to introduce such species. No passage requirements have been identified for migratory or riverine species at this time. WQS Condition F stipulates consultation with resource agencies on trashrack design if/when trashracks are planned for replacement.

Criterion D - Watershed Protection - There are no requirements for a buffer zone, shoreline protection fund or shoreline management plan for the Facility. Thus, as all requirements, of which there are none, are nonetheless being met, this Facility passes for this criterion. No additional term for certification is appropriate.

Criterion E - Threatened and Endangered Species Protection – There are no federally or state endangered or threatened species found in the area that would potentially be affected by Facility operations. The Indiana Bat is a federally endangered species whose range includes the Middlebury Lower Project, but facility operations are not expected to impact the species if it is located the area. The Bald Eagle, a state endangered species is considered a potential transient only.

Criterion F - Cultural Resources - The Project is subject to the provisions of "Programmatic Agreement Among FERC, the Advisory Council on Historic Preservation and the Vermont State Historic Preservation Officer (SHPO)." Required five-year reports have been submitted as required by the Historic Properties Management Plan. Consultation with the SHPO for project modifications has been conducted. There are no issues identified with adherence to cultural resources protection requirements at the Facility.

Criterion G - Recreation - The Project was found to be in compliance with all recreational requirements.

Criterion G - Facilities Recommended for Removal - No resource agencies have recommended dam removal.

VII. GENERAL CONCLUSIONS AND REVIEWER RECOMMENDATION

Based on my review of information submitted by the applicant, the additional documentation noted herein, the public comments submitted in writing or through my consultations with various resource agencies and other entities, I believe that the Project is in compliance with the LIHI criteria, as discussed in detail later in this report.

Therefore, I recommend that the Middlebury Lower Project be certified to be in compliance with LIHI's criteria with a certification term of five years.

THE MIDDLEBURY LOWER PROJECT MEETS
THE LIHI CRITERIA FOR CERTIFICATION

VIII. DETAILED CRITERIA REVIEW

A. FLOWS

Goal*:* The Flows Criterion is designed to ensure that the river has healthy flows for fish, wildlife and water quality, including seasonal flow fluctuations where appropriate.

Standard*:* For instream flows, a certified facility must comply with recent resource agency recommendations for flows. If there were no qualifying resource agency recommendations, the applicant can meet one of two alternative standards: (1) meet the flow levels required using the Aquatic Base Flow methodology or the "good" habitat flow level under the Montana-Tennant methodology; or (2) present a letter from a resource agency prepared for the application confirming the flows at the facility are adequately protective of fish, wildlife, and water quality.

Criterion:

1) **Is the facility in Compliance with Resource Agency Recommendations issued after December 31, 1986 regarding flow conditions for fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking conditions, and seasonal and episodic instream flow variations) for both the reach below the tailrace and all bypassed reaches?**

YES – The FERC License (amended December 23, 2012) and the WQC contain the following flow related requirements:

- Minimum flow of 157 cubic feet per second (cfs) is released as a veiling flow over the crest of the dam.
- Reservoir surface elevation of 314.74 ft. (± 1 inch) NGVD.
- Minimize reservoir fluctuation such that instantaneous outflows equal inflows.
- If the reservoir is drawn down, the rate of refill is no greater than10 percent of the instantaneous
- inflow rate.

Power generation and reservoir elevations are monitored continuously. Minimum flows are maintained by adjusting generation output in response to headpond levels. No exceptions to these flow requirements were reported in the FERC eLibrary in the past five years, nor were any reported by the applicant. Shayne Jaquith of the VANR confirmed no known deviations from these requirements.

This Project passes Criterion A - Flows- Go to B

B. WATER QUALITY

Goal: The Water Quality Criterion is designed to ensure that water quality in the river is protected.

Standard*:* The Water Quality Criterion has two parts. First, an Applicant must demonstrate that the facility is in compliance with state water quality standards, either through producing a recent Clean Water Act Section 401 certification or providing other demonstration of compliance. Second, an applicant must demonstrate that the facility has not contributed to a state finding that the river has impaired water quality under Clean Water Act Section 303(d).

Criterion:

1) Is the Facility either:

a) In compliance with all conditions issued pursuant to a Clean Water Act Section 401 water quality certification issued for the facility after December 31, 1986? Or in compliance with the quantitative water quality standards established by the state that support designated uses pursuant to the federal Clean Water Act in the Facility area and in the downstream reach?

Yes. The operation of Middlebury Lower appears to be in compliance with the requirements of the 401 Water Quality Certification and the FERC License, based on review of information provided. Neither document had any specific water quality monitoring or mitigation requirements. Consultation with Shayne Jaquith of the Water Quality Division of VANR confirmed these findings and reported these requirements remain valid.
Go to B2

2) Is the Facility area or the downstream reach currently identified by the state as not meeting water quality standards (including narrative and numeric criteria and designated uses) pursuant to Section 303(d) of the Clean Water Act?

YES. Review of the 2010 Clean Water Act Section 303(d) List of Impaired Waters issued by the Vermont Agency of Natural Resources, Division of Water Quality identified the section of Otter Creek from the Middlebury River to the Pulp Mill Bridge as impaired for *e.coli.*
Go to B3

3) If the answer to question B.2. is yes, has there been a determination that the Facility is not a cause of that violation?

YES. The Middlebury Lower Project is not identified as causing or contributing to this water quality impairment of the impaired sections of Otter Creek. The listed causes are from agricultural runoff and possible failed septic systems.

The Project Passes Criterion B - Water Quality - Go to C

C. FISH PASSAGE AND PROTECTION

Goal: The Fish Passage and Protection Criterion is designed to ensure that, where necessary, the facility provides effective fish passage for riverine, anadromous and catadromous fish, and protects fish from entrainment.

Standard: For riverine, anadromous and catadromous fish, a certified facility must be in compliance with both recent mandatory prescriptions regarding fish passage and recent resource agency recommendations regarding fish protection. If anadromous or catadromous fish historically passed through the facility area but are no longer present, the facility will pass this criterion if the Applicant can show both that the fish are not extirpated or extinct in the area due in part to the facility and that the facility has made a legally binding commitment to provide any future fish passage recommended by a resource agency. When no recent fish passage prescription exists for anadromous or catadromous fish, and the fish are still present in the area, the facility must demonstrate either that there was a recent decision that fish passage is not necessary for a valid environmental reason, that existing fish passage survival rates at the facility are greater than 95% over 80% of the run, or provide a letter prepared for the application from the U.S. Fish and Wildlife Service or the National Marine Fisheries Service confirming the existing passage is appropriately protective.

Criterion:

1) Is the facility in compliance with Mandatory Fish Passage Prescriptions for upstream and downstream passage of anadromous and catadromous fish issued by Resource Agencies after December 31, 1986?

NA. FERC license Articles 404 specifies that the USFWS has reserved their authority for requiring fish passage under Section 18 of the CWA.
Go to B2

2) Are there historic records of anadromous and/or catadromous fish movement through the facility area, but anadromous and/or catadromous fish do not presently move through the Facility area (e.g., because passage is blocked at a downstream dam or the fish run is extinct)?

In the Environmental Assessment for the Project, FERC reported that there are no migratory species in Otter Creek above the most downstream dam (Vergennes Project (P-2674) owned by Green Mountain Power); and agencies have no active plans to introduce such species. Furthermore, Vergennes was constructed in 1911-12, prior to the construction of the next upstream dam, Weybridge in 1922, and thus eliminating these species (if they existed) upstream of Vergennes. The record does not indicate whether these species were present prior to the construction of Vergennes.

G*o to C2a*

a) If the fish are extinct or extirpated from the Facility area or downstream reach, has the Applicant demonstrated that the extinction or extirpation was not due in whole or part to the Facility?

YES. Numerous dams downstream on the Otter Creek are barriers for upstream passage of both anadromous and catadromous species. ***Go to C2b***

b) If a Resource Agency recommended adoption of upstream and/or downstream fish passage measures at a specific future date, or when a triggering event occurs (such as completion of passage through a downstream obstruction or the completion of a specified process), has the Facility owner/operator made a legally enforceable commitment to provide such passage?

YES, No upstream or downstream passage has been requested to date based on consultation with Rod Wentworth of VT Division of Fish &Wildlife. Acceptance of the FERC License is a legally enforceable commitment to provide such passage.
Go to C5

5) Is the Facility in Compliance with Mandatory Fish Passage Prescriptions for upstream or downstream passage of riverine fish?

NOT APPLICABLE. No fish passage requirements have been issued for riverine fish. ***Go to C6***

6) Is the facility in Compliance with Resource Agency Recommendations for Riverine, anadromous and catadromous fish entrainment protection, such as tailrace barriers?

YES. WQS Condition F stipulates consultation with resource agencies on trashrack design if/when trashracks are planned for replacement. There are no plans for trashrack replacement within the next five years; however, if such replacement becomes warranted in the future, CVPS has stated they will comply with WQC Condition F to consult with resource agencies on the trashrack design. The Project currently has 1.75-inch spaced trashracks.

The Project Passes Criterion C - Fish Passage and Protection - Go to D

D. WATERSHED PROTECTION

Goal: The Watershed Protection criterion is designed to ensure that sufficient action has been taken to protect, mitigate and enhance environmental conditions in the watershed.

Standard: A certified facility must be in compliance with resource agency and Federal Energy Regulatory Commission ("FERC") recommendations regarding watershed protection, mitigation or enhancement. In addition, the criterion rewards projects with an extra three years of certification that have a buffer zone extending 200 feet from the high water mark or an approved watershed enhancement fund that could achieve within the project's watershed the ecological and recreational equivalent to the buffer zone and has the agreement of appropriate stakeholders and state and federal resource agencies. A Facility can pass this criterion, but not receive extra years of certification, if it is in compliance with both state and federal resource agencies recommendations in a license-approved shoreland management plan regarding protection, mitigation or enhancement of shorelands surrounding the project.

Criterion:

1) Is there a buffer zone dedicated for conservation purposes (to protect fish and wildlife habitat, water quality, aesthetics and/or low-impact recreation) extending 200 feet from the average annual high water line for at least 50% of the shoreline, including all of the undeveloped shoreline?

NO, *go to D2*

2) Has the facility owner/operator established an approved watershed enhancement fund that: 1) could achieve within the project's watershed the ecological and recreational equivalent of land protection in D.1), and 2) has the agreement of appropriate stakeholders and state and federal resource agencies?

NO, *go to D3*

3) Has the facility owner/operator established through a settlement agreement with appropriate stakeholders, with state and federal resource agencies' agreement, an appropriate shoreland buffer or equivalent watershed land protection plan for

conservation purposes (to protect fish and wildlife habitat, water quality, aesthetics and/or low impact recreation)

NO, *Go to D4*

4) Is the facility in compliance with both state and federal resource agencies recommendations in a license approved shoreland management plan regarding protection, mitigation or enhancement of shorelands surrounding the project.

NOT APPLICABLE. No Shoreland Management Plan, buffer zone or enhancement fund was required for the Middlebury Lower Project.

The Project Passes Criterion D - Watershed Protection - Go to E

E. THREATENED AND ENDANGERED SPECIES PROTECTION

Goal*:* The Threatened and Endangered Species Protection Criterion is designed to ensure that the facility does not negatively impact state or federal threatened or endangered species.

Standard: For threatened and endangered species present in the facility area, the Applicant must either demonstrate that the facility does not negatively affect the species, or demonstrate compliance with the species recovery plan and receive long term authority for a "take" (damage) of the species under federal or state laws.

Criterion:

1) Are threatened or endangered species listed under state or federal Endangered Species Acts present in the Facility area and/or downstream reach?

YES The Indiana bat (*Myotis sodalis*) is federally listed as an endangered species. According to Vermont Fish and Wildlife Department, the bat's summer range in Vermont is limited to the southern Champlain Valley, from West Haven to Hinesburg, a range that potentially includes the Project area. The bald eagle (*Haliaeetus leucocephalus*) is a state-endangered species under the protection of the Vermont Endangered Species Law, and could be present on a transient basis within or near the Middlebury Lower Project.

Osprey *(Pandion haliaetus)* have also been observed in the vicinity of the Project, and the Vermont Fish and Wildlife Department installed at least one-pole mounted nesting platform nearby in Middlebury in 1990. Osprey is listed as uncommon in Vermont and as a "species of greatest conservation need" in the Vermont Wildlife Action Plan, but that designation does not convey legal protection.

The Environmental Assessment for the Project indicated that USFWS confirmed that no federally listed species occurred in the Otter Creek basin where the Middlebury Lower Project is located. The EA further indicated that species such as osprey and bald eagle are assumed to represent transients rather than resident populations.

Go to E2

2) If a recovery plan has been adopted for the threatened or endangered species pursuant to Section 4(f) of the Endangered Species Act or similar state provision, is the Facility in Compliance with all recommendations in the plan relevant to the Facility?

NOT APPLICABLE.

US Fish and Wildlife Service has drafted a Recovery Plan, dated April 2007, for the Indiana bat that does not affect Project operations. Vermont Fish and Wildlife has drafted a recovery plan for the bald eagle, dated October 2010. The plan includes a bald eagle recovery initiative in the Lake Champlain region, to aid in the establishment of breeding pairs along the Lake, and through educational efforts, set the stage for necessary habitat protection for bald eagles on Lake Champlain. Eaglets were located to Dead Creek Wildlife Management Area in Addison, Vermont, and fledglings were observed in other parts of Addison County, not far from Dead Creek WM; however, not in the vicinity of the Middlebury Lower Project.

There is also a state recovery plan for osprey that dates back to 1997. However, osprey are no longer listed as threatened or endangered on state or federal listings.

Go to E3

3) If the Facility has received authority to Incidentally Take a listed species through: (i) Having a relevant agency complete consultation pursuant to ESA Section 7 resulting in a biological opinion, a habitat recovery plan, and/or (if needed) an incidental take statement; (ii) Obtaining an incidental take permit pursuant to ESA Section 10; or (iii) For species listed by a state and not by the federal government, obtaining authority pursuant to similar state procedures; is the Facility in Compliance with conditions pursuant to that authorization?

NOT APPLICABLE, ***Go to E5***

5) If E2 and E3 are not applicable, has the Applicant demonstrated that the Facility and Facility operations do not negatively affect listed species?

YES. The Environmental Assessment notes that the VANR indicated during re-licensing that the continued operation would not adversely affect the Indiana Bat, bald eagle or osprey.

Review of the VT ANR Natural Resources Atlas for current known presence of protected species, as recommended by Shayne Jaquith of VANR, was conducted by the Applicant as part of the Application submission. This review confirmed that no additional protected species are found in the project area.

The Project Passes Criterion E - Threatened and Endangered Species Protection - Go to F

F. CULTURAL RESOURCE PROTECTION

Goal: The Cultural Resource Protection Criterion is designed to ensure that the facility does not inappropriately impact cultural resources.

Standard: Cultural resources must be protected either through compliance with FERC license provisions, or through development of a plan approved by the relevant state or federal agency.

***Criterion*:**

1) If FERC-regulated, is the Facility in compliance with all requirements regarding Cultural Resource protection, mitigation or enhancement included in the FERC license or exemption?

YES. License Article 405 requires implementation of the "Programmatic Agreement Among FERC, the Advisory Council on Historic Preservation and the Vermont State Historic Preservation Officer (SHPO)", which was executed on February 21, 2001. An Historic Properties Management Plan (HPMP) was developed and approved in November 2002 after consultation with the Vermont Division for Historic Preservation.

Most built resources within the Project are assumed eligible for listing in the National Register of Historic Places (Register). At the Middlebury Lower Project, nine documented historic sites were identified within or adjacent to Project lands in the HPMP. These consist of four Native American sites and five European American industrial sites including a gristmill, pulp mill, foundry and shop. The HPMP addresses protective measures for the historic properties, including an evaluation of any site that will be impacted by an activity. Historic resources are evaluated during planning for any alterations to Project facilities, and in consultation with the Vermont SHPO if activities could impact those resources. Any archeological sites discovered during Project activities will also be subject to the HPMP. An ongoing program of condition monitoring of built historic properties are conducted on a five-year schedule.

Review of eLibrary documents provides evidence that CVPS has been in compliance with their HMPM requirements and has been appropriately consulting with, and receiving SHPO approval, for such projects (e.g. a window replacement project received SHPO approval in a letter dated May 4, 2011). Calls to the contact at the state for historical review (Devin Coleman) were not returned.

The Project Passes Criterion F - Cultural Resource Protection - Go to G

G. RECREATION

Goal: The Recreation Criterion is designed to ensure that the facility provides access to the water without fee or charge, and accommodates recreational activities on the public's river.

Standard. A certified facility must be in compliance with terms of its FERC license or exemption related to recreational access, accommodation and facilities. If not FERC-regulated, a

certified facility must be in compliance with similar requirements as recommended by resource agencies. A certified facility must also provide the public access to water without fee or charge.

Criterion:

1) If FERC-regulated, is the Facility in Compliance with the recreational access, accommodation (including recreational flow releases) and facilities conditions in its FERC license or exemption?

YES. The Project is in compliance with License Articles 406 and 407 and WQC Conditions J and K. A recreation plan was developed in consultation with the SHPO, state and federal resource agencies and local communities. FERC approved the recreation plan for the Middlebury Lower Project in 2002. The improvements included a canoe take-out, put-in, and portage trail with signs; improved parking facilities; a picnic table in the existing project recreation area that is accessible to persons with disabilities; a footbridge over the historic mill channel; and measures for re-establishing vegetation on the hillside of the existing recreation area. All features were constructed in 2002. The as-built drawings for these features were approved by FERC on July 22, 2003. A FERC inspection in August 2005 found the facilities "in excellent condition".
Go to G3

3) Does the Facility allow access to the reservoir and downstream reaches without fees or charges?

YES. A statement issued by the applicant indicates that such access is provided free of charge.

The Project Passes Criterion G - Recreation - Go to G

H. FACILITIES RECOMMENDED FOR REMOVAL

Goal: The Facilities Recommended for Removal Criterion is designed to ensure that a facility is not certified if a natural resource agency concludes it should be removed.

Standard: If a resource agency has recommended removal of a dam associated with the facility, the facility will not be certified.

Criterion:

1) Is there a Resource Agency recommendation for removal of the dam associated with the Facility?

NO. No resource agency has recommended removal of this dam.

The Project Passes Criterion H -Facilities Recommended for Removal

APPENDIX A

INDEX OF PRIMARY CONTACT INFORMATION FOR LIHI CRITERIA

LIHI CRITERION	PRIMARY CONTACT INFORMATION
Flows	Shayne Jaquith, VANR, DEC - Water Quality Division
Water Quality	Shayne Jaquith,VANR, DEC - Water Quality Division
Fish Passage & Protection	Shayne Jaquith, VANR, DEC - Water Quality Division Rod Wentworth, VT Dept. of Fish and Wildlife John Warner, USFWS Hydropower Coordinator
Watershed Protection	None required
Threatened & Endangered Species	Shayne Jaquith, VANR, DEC
Cultural Resources Protection	Devin Colman, Vermont State Historic Preservation Office* Scott Dillon, Vermont State Historic Preservation Office
Recreation	None required
Facilities Recommended for Removal	None required

* Individual contacted but no response received.

RECORD OF CONTACTS

NOTE: The information presented below was gathered from contacts by email and/or telephone. Copies of emails follow this page.

Date:	April 13, May 22 and May 30 emails and May 31, 2012 telephone call
Contact Person:	Shayne Jaquith, VANR, Department of Environmental Conservation, Water Quality Division
Contact Information:	802-338-4853; Shayne.jaquith@state.vt.us
Area of Expertise:	Water Quality Certification

See attached emails dated April 13, May 22 and May 30 summarizing communications regarding compliance with conditions under the Water Quality Certifications issued for all of the CVPS the sites seeking LIHI certification. When contacted on May 31 regarding protected species, Shayne suggested I review the VT ANR Natural Resources Atlas for known presence of protected species in lieu of his office conducting such a review. (Note: Such a review was completed as part of the LIHI Application preparation.) Shayne Jaquith also stated that the VANR is appreciative of the LIHI process in that they are seeing projects undergoing improved compliance programs as a result of LIHI conditions required to obtain certification.

Date:	October 25, 2012
Contact Person:	Rod Wentworth, VT Division of Fish & Wildlife
Contact Information:	802-654-8949; rod.wentworth@state.vt.us
Area of Expertise:	Fisheries

Mr. Wentworth stated VT has no plans at this time to pursue management of Lake Champlain migratory fish species (fish such as landlocked Atlantic salmon that use tributaries for spawning and nursery) above Weybridge. Passage has not been required for resident species at either project. The Weybridge bypass contains valuable pool and high gradient habitat, including areas that may provide excellent habitat for walleye spawning and incubation. Therefore, the diversion structure was built so as to accommodate the upstream movement of fish. The diversion structure was completed and inspected by ANR staff a number of years ago. Everything was fine at that time. As his file on the Project was lost in the Irene flood he could not state when the last inspection occurred. It was about 10 years ago. Mr. Wentworth stated he has no more recent knowledge of operation or condition of the diversion structure.

Date:	October 25, 2012
Contact Person:	John Warner, US Fish & Wildlife Service
Contact Information:	603-223-2541 x 15; John_Warner@fws.gov
Area of Expertise:	Fisheries

Mr. Warner stated he was not aware of current passage needs at these two projects. The USFWS defers passage issues at the Otter Creek projects to VTF&W.

Patricia B. McIlvaine

From: Jaquith, Shayne [Shayne.Jaquith@state.vt.us]
Sent: Wednesday, May 30, 2012 10:26 AM
To: 'Patricia B. McIlvaine'
Cc: Wentworth, Rod
Subject: RE: Review of LIHI Certifcation Candidate Projects

Pat,

I cannot confirm that the projects are in compliance. I am only able to confirm that we do not have any information to suggest that the projects are out of compliance. This is respect to all conditions of the water quality certifications.

Please note that my phone number has changed to 802-338-4853

Shayne Jaquith
Streamflow Protection Program
Department of Environmental Conservation
Water Quality Division
103 S. Main St, 10 North, 1st Floor
Waterbury, VT 05671-0408
802-338-4853
shayne.jaquith@state.vt.us

From: Patricia B. McIlvaine [mailto:Pat.McIlvaine@wright-pierce.com]
Sent: Tuesday, May 22, 2012 2:21 PM
To: Jaquith, Shayne
Subject: FW: Review of LIHI Certifcation Candidate Projects

Good afternoon Ms. Shayne

I am the independent reviewer working for the Low Impact Hydropower Institute on the CVPS projects for which certification is being sought. I just wanted to confirm that in the various confirmation statements noted in your email below, whether you are addressing just those aspects of the water quality certification that directly deals with water quality (e.g. flow requirements, etc.) or if you are also confirming that the projects listed are in compliance with ALL of the conditions of the certifications, including those such as dealing with downstream fish passage, installation of recreational features , etc.

Thanks so much for your help on this.

Pat

Pat McIlvaine | Project Manager
Wright-Pierce | Water, Wastewater & Infrastructure Engineers
Please note my new e-mail address: pat.mcIlvaine@Wright-Pierce.com
www.wright-pierce.com
Offices throughout New England
Tel 888.621.8156 | Fax 207.729.8414
Serving New England for Over 60 Years

From: Maryalice Fischer [mailto:MFischer@normandeau.com]
Sent: Friday, April 20, 2012 1:33 PM
To: gabriela@goldfarbconsulting.com; pbm@wright-pierce.com
Cc: fayer@lowimpacthydro.org; John King
Subject: FW: Review of LIHI Certifcation Candidate Projects

Hello Gabriela and Pat,

CVPS was successful with obtaining the information below from Vermont relative to compliance with their water quality certifications. As you know, the WQCs (included as part of the LIHI applications) are not limited strictly to issues of water quality itself, but also to other resource protection measures included as conditions within those certifications.

Please let me know if you have any questions.

Maryalice Fischer
Normandeau Associates, Inc.
917 Route 12
Westmoreland NH 03467

603.757.4011 voice
603.903.4702 mobile

From: Jaquith, Shayne [mailto:Shayne.Jaquith@state.vt.us]
Sent: Monday, April 16, 2012 10:09 AM
To: Eliason, Beth
Subject: RE: Review of LIHI Certifcation Candidate Projects

Beth,

In addition to the reviews I sent you on the 13th, you had requested a review of the Silver Lake project. I've conducted that review and my comments follow.

Silver Lake
The Silver Lake Hydroelectric Project was certified in 2008 by the Department of Environmental Conservation (the Department). Conformance with the conditions of the certification would assure that the project does not violate Vermont Water Quality Standards. At this time the Department has no information to suggest that the project is not operating in full conformance with the conditions of its water quality certification.

If you have any further questions, don't hesitate to contact me.

Take care,
Shayne

Please note that my phone number has changed to 802-338-4853

Shayne Jaquith
Streamflow Protection Program
Department of Environmental Conservation
Water Quality Division

103 S. Main St, 10 North, 1st Floor
Waterbury, VT 05671-0408
802-338-4853
shayne.jaquith@state.vt.us

From: Jaquith, Shayne
Sent: Friday, April 13, 2012 1:17 PM
To: 'bellaso@cvps.com'
Subject: Review of LIHI Certifcation Candidate Projects

Hi Beth,

BT asked me to review the LIHI candidate projects that you had submitted to him. I have completed review of most but not all of the projects you submitted and wanted to provide you with my comments on those projects. I will continue my review of the remaining projects and expect to have comments to you by the end of next week. My comments are provided below.

Cavendish FERC Project No. 2489
The Cavendish Hydroelectric Project was certified in 1993 by the Department of Environmental Conservation (the Department). Conformance with the conditions of the certification would assure that the project does not violate Vermont Water Quality Standards. At this time the Department has no information to suggest that the project is not operating in full conformance with the conditions of its water quality certification.

Middlebury Lower FERC Project No. 2737
The Middlebury Lower Hydroelectric Project was certified in 1999 by the Department of Environmental Conservation (the Department). Conformance with the conditions of the certification would assure that the project does not violate Vermont Water Quality Standards. At this time the Department has no information to suggest that the project is not operating in full conformance with the conditions of its water quality certification.

Weybridge FERC Project No. 2731
The Weybridge Hydroelectric Project was certified in 1993 by the Department of Environmental Conservation (the Department). Conformance with the conditions of the certification would assure that the project does not violate Vermont Water Quality Standards. At this time the Department has no information to suggest that the project is not operating in full conformance with the conditions of its water quality certification.

Pierce Mills FERC Project No. 2396
The Pierce Mills Hydroelectric Project was certified in 1994 by the Department of Environmental Conservation (the Department). Conformance with the conditions of the certification would assure that the project does not violate Vermont Water Quality Standards. At this time the Department has no information to suggest that the project is not operating in full conformance with the conditions of its water quality certification.

Arnold Falls FERC Project No. 2399
The Aronld Falls Hydroelectric Project was certified in 1994 by the Department of Environmental Conservation (the Department). Conformance with the conditions of the certification would assure that the project does not violate Vermont Water Quality Standards. At this time the Department has no information to suggest that the project is not operating in full conformance with the conditions of its water quality certification.

Gage FERC Project No. 2397
The Gage Hydroelectric Project was certified in 1994 by the Department of Environmental Conservation (the Department). Conformance with the conditions of the certification would assure that the project does not violate Vermont Water Quality Standards. At this time the Department has no information to suggest that the

project is not operating in full conformance with the conditions of its water quality certification.

Passumpsic FERC Project No. 2400
The Passumpsic Hydroelectric Project was certified in 1994 by the Department of Environmental Conservation (the Department). Conformance with the conditions of the certification would assure that the project does not violate Vermont Water Quality Standards. At this time the Department has no information to suggest that the project is not operating in full conformance with the conditions of its water quality certification.

Take care,
Shayne

Please note that my phone number has changed to 802-338-4853
Shayne Jaquith
Streamflow Protection Program
Department of Environmental Conservation
Water Quality Division
103 S. Main St, 10 North, 1st Floor
Waterbury, VT 05671-0408
802-338-4853
shayne.jaquith@state.vt.us

Patricia B. McIlvaine

From: Wentworth, Rod <rod.wentworth@state.vt.us>
Sent: Thursday, October 25, 2012 1:45 PM
To: Patricia B. McIlvaine
Cc: John_Warner@fws.gov; Fitzgerald, Brian
Subject: RE: Follow-up On a question from

Pat, see my additions below in red.

Rod Wentworth
VT Dept. of Fish & Wildlife
Waitsfield Office
Mailing address: 103 South Main St.
Waterbury, VT 05671-0501
Office/cell: (802) 595-5179
Email: rod.wentworth@state.vt.us
Vermont: *Respect. Protect. Enjoy*

From: Patricia B. McIlvaine [mailto:pat.mcilvaine@wright-pierce.com]
Sent: Monday, October 22, 2012 10:16 AM
To: 'John_Warner@fws.gov'; Wentworth, Rod
Subject: Follow-up On a question from

John and Rod

Although I have spoken to both of you regarding either CVPS's (now Green Mountain Power) Passumpsic Projects and/or the Silver Lake Project, I cannot confirm that I received any response from either of you regarding the Middlebury Lower or Weybridge Projects. As background:

Weybridge (on Otter Creek RM 19.5) and **Middlebury Lower** (on Otter Creek RM 24) - both separately licensed in August 2001. Neither upstream nor downstream passage for anadromous, catadromous and/or riverine species has been prescribed but reservation by the USFWS for such passage is incorporated into each license. Neither WQC requires fish passage. Downstream barriers are noted as the reason why upstream passage is not currently required (I assume this applies to both anadromous and catadromous species). Both projects have license conditions requiring consultation with USFWS and VDF&W prior to the next planned replacement of the existing trash racks at both sites. These replacement projects have not yet occurred, although CVPS is aware of their requirement for consultation when the trashracks will be replaced.

The **Weybridge Project** has a requirement to and has installed a diversion structure in the tailrace to enhance fisheries habitat for riverine species by creating more consistent flow conditions on the west side of Wyman Island. Annual monitoring of the effectiveness of this diversion structure was conducted for five years. Effective by a FERC Order dated August 7, 2008, this monitoring was reduced to a five year cycle, with the next data collection period being 2013.

My questions are:

Is it still correct that neither upstream nor downstream passage has been required to date at either site due to the lack of migratory species I the area due to downstream barriers? VT has no plan at this time to pursue management of Lake Champlain migratory fish species (fish such as landlocked Atlantic salmon that use tributaries for spawning and nursery) above Weybridge. Passage has not been required for resident species at either project. The Weybridge bypass contains valuable pool and high gradient habitat, including areas that may provide excellent habitat for walleye spawning and incubation. Therefore, the diversion structure was built so as to accommodate the upstream movement of fish.

To your knowledge, have there been any issues associated with the diversion structure installed at Weybridge? The diversion structure was completed and inspected by ANR staff a number of years ago. Everything was fine at that time.

My file was lost in the Irene flood and I cannot tell you when the last inspection occurred. It was about 10 years ago. I have no more recent knowledge of operation or condition.

Thank you very much for your assistance. Please feel free to either call me at 207-798-3785 or email me, although the latter may be easier to avoid "telephone tag"

Pat McIlvaine

Patricia B. McIlvaine

From: John_Warner@fws.gov
Sent: Thursday, October 25, 2012 1:24 PM
To: Patricia B. McIlvaine
Cc: rod.wentworth@state.vt.us
Subject: Re: Follow-up On a question from
Attachments: pic07448.gif

Pat - We am not aware of current passage needs at these two projects. We defer passage issues at the Otter Creek projects to VTF&W so you will need to get a response from Rod -- JW

John P. Warner
Assistant Supervisor, Conservation Planning Assistance and Endangered Species
New England Field Office, U.S. Fish and Wildlife Service
70 Commercial Street, Suite 300
Concord, NH 03301
(603) 223-2541 - ext.15
(603) 223-0104 - FAX

www.fws.gov.northeast/newenglandfieldoffice
"Patricia B. McIlvaine" <pat.mcilvaine@wright-pierce.com>

"Patricia B. McIlvaine" <pat.mcilvaine@wright-pierce.com>

10/22/2012 10:16 AM

To"'John_Warner@fws.gov'" <John_Warner@fws.gov>, "'Rod.wentworth@state.vt.us'" <Rod.wentworth@state.vt.us>

cc

SubjectFollow-up On a question from

John and Rod

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side of Wyman Island. Annual monitoring of the effectiveness of this diversion structure was conducted for five years. Effective by a FERC Order dated August 7, 2008, this monitoring was reduced to a five year cycle, with the next data collection period being 2013.

My questions are:

- Is it still correct that neither upstream nor downstream passage has been required to date at either site due to the lack of migratory species I the area due to downstream barriers?
- To your knowledge, have there been any issues associated with the diversion structure installed at Weybridge?

Thank you very much for your assistance. Please feel free to either call me at 207-798-3785 or email me, although the latter may be easier to avoid "telephone tag"

Pat McIlvaine