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**LOW IMPACT HYDROPOWER QUESTIONNAIRE**  
APPLICATION REVISED JANUARY 16, 2012

Excerpted from Part VI, Section E of the Low Impact Hydropower Certification Program. This Questionnaire must be completed based upon the Line-By-Line instructions available in Chapter VI, Section D of the program, available on-line in Word format at <http://www.lowimpacthydro.org>. PLEASE SUBMIT THIS QUESTIONNAIRE IN WORD FORMAT.

**E. LOW IMPACT HYDROPOWER QUESTIONNAIRE**

<b>Background Information</b>	
1) Name of the Facility as used in the FERC license/exemption.	Cavendish Hydroelectric Project (P-2489)

<p>2) Applicant's name, contact information and relationship to the Facility. If the Applicant is not the Facility owner/operator, also provide the name and contact information for the Facility owner and operator.</p>	<p>Beth Eliason, P.E.  Central Vermont Public Service Corporation  77 Grove Street  Rutland, VT 05701  <a href="mailto:beliaso@cvps.com">beliaso@cvps.com</a>  802-747-5594</p> <p>Applicant Representative:  Maryalice Fischer  Normandeau Associates, Inc.  <a href="mailto:mfischer@normandeau.com">mfischer@normandeau.com</a>  603-664-5097</p>
<p>3) Location of Facility including (a) the state in which Facility is located; (b) the river on which Facility is located; (c) the river-mile location of the Facility dam; (d) the Facility's location relative to other dams on the river upstream and downstream of the Facility, and (e) the exact longitude and latitude of the Facility dam.</p>	<p>Map attached</p> <p>a) The Cavendish Project is located in the Town of Cavendish, in Windsor County, VT</p> <p>b) Black River, a tributary of the Connecticut River.</p> <p>c) The dam is located at RM 20.8</p> <p>d) There are eight small dams upstream of the Project, but none of them include power generation. The eight downstream dams include five with power generation. None of these facilities are owned by CVPS.</p> <p>e) Latitude: 43.3811; Longitude: -72.5983</p>
<p>4) Installed capacity.</p>	<p>1.4 MW licensed capacity</p>
<p>5) Average annual generation.</p>	<p>5918 MWH 10-year average</p>

6) Regulatory status.	Project No. 2489, FERC license was issued on 11/04/1994 for a 30-year term.  There have been no regulatory proceedings or compliance issues since issuance of the License and Water Quality Certificate. See Attachment A for a copy of the License and Water Quality Certificate.
7) Reservoir volume and surface area measured at the normal maximum operating level.	10 acre impoundment with 18.4 acre-feet of usable storage
8) Area occupied by non-reservoir facilities (e.g., dam, penstocks, powerhouse).	Less than ½ acre (garage, penstock, dam, powerhouse, gatehouse and recreation area).
9) Number of acres inundated by the Facility.	Information not required
10) Number of acres contained in a 200-foot zone extending around entire reservoir.	41
11) Contacts for Resource Agencies and non-governmental organizations	See Attachment B - revised
12) Description of the Facility, its mode of operation (i.e., peaking/run of river) and photographs, maps and diagrams.	Run-of-river operation  A description of the facility, photos, and maps/diagrams are included in Attachment C.
<p><b>Questions for “New” Facilities Only:</b></p> <p>If the Facility you are applying for is “new” (i.e., an existing dam that added or increased power generation capacity after August of 1998) please answer the following questions to determine eligibility for the program</p>	N/A
13) When was the dam associated with the Facility completed?	

14) When did the added or increased generation first generate electricity? If the added or increased generation is not yet operational, please answer question 18 as well.	
15) Did the added or increased power generation capacity require or include any new dam or other diversion structure?	
16) Did the added or increased capacity include or require a change in water flow through the facility that worsened conditions for fish, wildlife, or water quality (for example, did operations change from run-of-river to peaking)?	
<p>17 (a) Was the existing dam recommended for removal or decommissioning by resource agencies, or recommended for removal or decommissioning by a broad representation of interested persons and organizations in the local and/or regional community prior to the added or increased capacity?</p> <p>(b) If you answered “yes” to question 17(a), the Facility is not eligible for certification, unless you can show that the added or increased capacity resulted in specific measures to improve fish, wildlife, or water quality protection at the existing dam. If such measures were a result, please explain.</p>	
<p>18 (a) If the added or increased generation is not yet operational, has the increased or added generation received regulatory authorization (e.g., approval by the Federal Energy Regulatory Commission)? If not, the facility is not eligible for consideration; and</p> <p>(b) Are there any pending appeals or litigation regarding that authorization? If so, the facility is not eligible for consideration.</p>	
<b>A. Flows</b>	PASS
	FAIL

<p>1) Is the Facility in <i>Compliance with Resource Agency Recommendations</i> issued after December 31, 1986 regarding flow conditions for fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations) for both the reach below the tailrace and all bypassed reaches?</p>	<p>YES – A variety of flow and reservoir conditions were included in the License and Water Quality Certification. See Attachment D.</p> <p>Agency letter requested</p> <p><b>YES = Pass, Go to B</b> N/A = Go to A2</p>	<p>NO = Fail</p>
<p>2) If there is no flow condition recommended by any Resource Agency for the Facility, or if the recommendation was issued prior to January 1, 1987, is the Facility in Compliance with a flow release schedule, both below the tailrace and in all bypassed reaches, that at a minimum meets Aquatic Base Flow standards or “good”_habitat flow standards calculated using the Montana-Tennant method?</p>	<p>YES = Pass, go to B NO = Go to A3</p>	
<p>3) If the Facility is unable to meet the flow standards in A.2., has the Applicant demonstrated, and obtained a letter from the relevant Resource Agency confirming that demonstration, that the flow conditions at the Facility are appropriately protective of fish, wildlife, and water quality?</p>	<p>YES = Pass, go to B</p>	<p>NO = Fail</p>
<p><b>B. Water Quality</b></p>	<p>PASS</p>	<p>FAIL</p>
<p>1) Is the Facility either:</p> <p>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</p> <p>b) 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?</p>	<p>a) YES - No specific water quality monitoring or mitigation requirements were included in the Water Quality Certification, in Attachment A.</p> <p>Agency letter requested</p> <p><b>YES = Go to B2</b></p>	<p>NO = Fail</p>

<p>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?</p>	<p>NO - The Project area is not included on the 2010 Vermont List of Priority Waters, nor on the List of Impaired Waters. However, areas of the Black River upstream, and well downstream of the Project, are included on one or both lists.</p> <p>Two excerpts from the 2010 VT Water Quality reports are attached.</p> <p>YES = Go to B3 NO = Pass</p>	
<p>3) If the answer to question B.2 is yes, has there been a determination that the Facility does not cause, or contribute to, the violation?</p>	<p>YES – The project does not contribute to water quality impairment. Refer to 2010 VT WQ Report excerpts.</p> <p>YES = Pass</p>	<p>NO = Fail</p>
<p><b>C. Fish Passage and Protection</b></p>	<p>PASS</p>	<p>FAIL</p>
<p>1) Is the Facility in Compliance with <i>Mandatory Fish Passage Prescriptions</i> for upstream and downstream passage of anadromous and catadromous fish issued by Resource Agencies after December 31, 1986?</p>	<p>YES - See Attachment D.</p> <p>Agency letter requested</p> <p><b>YES = Go to C5</b> N/A = Go to C2</p>	<p>NO = Fail</p>

<p>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 (<i>e.g.</i>, because passage is blocked at a downstream dam or the fish no longer have a migratory run)?</p> <p>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?</p> <p>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?</p>	<p>YES = Go to C2a NO = Go to C3</p> <p>YES = Go to C2b N/A = Go to C2b</p> <p>YES = Go to C5 N/A = Go to C3</p>	<p>NO = Fail</p> <p>NO = Fail</p>
<p>3) If, since December 31, 1986:</p> <p>a) Resource Agencies have had the opportunity to issue, and considered issuing, a Mandatory Fish Passage Prescription for upstream and/or downstream passage of anadromous or catadromous fish (including delayed installation as described in C2a above), and</p> <p>b) The Resource Agencies declined to issue a Mandatory Fish Passage Prescription,</p> <p>c) Was a reason for the Resource Agencies' declining to issue a Mandatory Fish Passage Prescription one of the following: (1) the technological infeasibility of passage, (2) the absence of habitat upstream of the Facility due at least in part to inundation by the Facility impoundment, or (3) the anadromous or catadromous fish are no longer present in the Facility area and/or downstream reach due in whole or part to the presence of the Facility?</p>	<p>NO = Go to C5 N/A = Go to C4</p>	<p>YES = Fail</p>

<p>4) If C3 was not applicable:</p> <p>a) Are upstream and downstream fish passage survival rates for anadromous and catadromous fish at the dam each documented at greater than 95% over 80% of the run using a generally accepted monitoring methodology? Or</p> <p>b) If the Facility is unable to meet the fish passage standards in 4.a, has the Applicant either i) demonstrated, and obtained a letter from the U.S. Fish and Wildlife Service or National Marine Fisheries Service confirming that demonstration, that the upstream and downstream fish passage measures (if any) at the Facility are appropriately protective of the fishery resource, or ii) committed to the provision of fish passage measures in the future and obtained a letter from the U.S. Fish and Wildlife Service or the National Marine Fisheries Service indicating that passage measures are not currently warranted?</p>	<p>YES = Go to C5 N/A = Go to C6</p>	<p>NO = Fail</p>
<p>5) Is the Facility in Compliance with Mandatory Fish Passage Prescriptions for upstream and/or downstream passage of <i>Riverine</i> fish?</p>	<p>N/A - There is no federal mandatory prescription for the passage of riverine fish within the Project although FERC reserves authority in Article 408 of the License.</p> <p>YES = Go to C6 N/A = <b>Go to C6</b></p>	<p>NO = Fail</p>

<p>6) Is the Facility in Compliance with Resource Agency Recommendations for Riverine, anadromous and catadromous fish entrainment protection, such as tailrace barriers?</p>	<p><b>YES</b> – The Facility’s Water Quality Certification Condition H (2) included provisions to minimize impingement of fish. From 1996 through 2001, CVPS conducted studies on the effectiveness of downstream passage measures, including minimizing impingement/ entrainment through the use of a flow inducer and blocking curtain to redirect fish away from intake racks and toward the preferred downstream passage route (sluice gate, spillway). These studies and the downstream passage methods put in place were verbally approved by USFWS during an onsite visit at that time, and in a letter dated 04/17/2002 (attached with study results).</p> <p>Agency letter requested</p> <p><b>YES = Pass, go to D</b> N/A = Pass, go to D</p>	<p>NO = Fail</p>
<p><b>D. Watershed Protection</b></p>	<p>PASS</p>	<p>FAIL</p>
<p>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 normal maximum reservoir level of the reservoir for at least 50% of the shoreline, including all of the undeveloped shoreline?</p>	<p>YES = Pass, go to E and receive 3 extra years of certification</p>	<p>NO <b>NO = go to D2</b></p>
<p>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?</p>	<p>YES = Pass, go to E and receive 3 extra years of certification</p>	<p>NO <b>NO = go to D3</b></p>

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)?	YES = Pass, go to E	NO <b>NO = go to D4</b>
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?	N/A YES = Pass, go to E <b>N/A = Pass go to E</b>	No = Fail
<b>E. Threatened and Endangered Species Protection</b>	PASS	FAIL
1) Are threatened or endangered species listed under state or federal Endangered Species Acts present in the Facility area and/or downstream reach?	YES – See Attachment D. <b>YES = Go to E2</b> NO = Pass, go to F	
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?	Yes – See Attachment D. <b>YES = Go to E3</b> N/A = Go to E3	NO = Fail
3) If the Facility has received authorization to incidentally <i>Take</i> 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 authorization pursuant to similar state procedures; is the Facility in Compliance with conditions pursuant to that authorization?	N/A YES = Go to E4 <b>N/A = Go to E5</b>	NO = Fail

<p>4) If a biological opinion applicable to the Facility for the threatened or endangered species has been issued, can the Applicant demonstrate that:</p> <p>a) The biological opinion was accompanied by a FERC license or exemption or a habitat conservation plan? Or</p> <p>b) The biological opinion was issued pursuant to or consistent with a recovery plan for the endangered or threatened species? Or</p> <p>c) There is no recovery plan for the threatened or endangered species under active development by the relevant Resource Agency? Or</p> <p>d) The recovery plan under active development will have no material effect on the Facility's operations?</p>	<p>YES = Pass, go to F</p>	<p>NO = Fail</p>
<p>5) If E.2 and E.3 are not applicable, has the Applicant demonstrated that the Facility and Facility operations do not negatively affect listed species?</p>	<p>YES – See Attachment D. <b>YES = Pass, go to F</b></p>	<p>NO = Fail</p>
<p><b>F. Cultural Resource Protection</b></p>	<p>PASS</p>	<p>FAIL</p>
<p>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?</p>	<p>YES – Article 412 of the License stipulates requirements. See Attachment D.  Agency letter requested  <b>YES = Pass, go to G</b> N/A = Go to F2</p>	<p>NO = Fail</p>
<p>2) If not FERC-regulated, does the Facility owner/operator have in place (and is in Compliance with) a plan for the protection, mitigation or enhancement of impacts to Cultural Resources approved by the relevant state or federal agency or <i>Native American Tribe</i>, or a letter from a senior officer of the relevant agency or Tribe that no plan is needed because Cultural Resources are not negatively affected by the Facility?</p>	<p>YES = Pass, go to G</p>	<p>NO = Fail</p>
<p><b>G. Recreation</b></p>	<p>PASS</p>	<p>FAIL</p>

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 – Articles 413 and 415 of the License, and Conditions M and N of the WQC stipulate requirements. See Attachment D.  Agency letter requested  <b>YES = Go to G3</b> N/A = Go to G2	NO = Fail
2) If not FERC-regulated, does the Facility provide recreational access, accommodation (including recreational flow releases) and facilities, as Recommended by Resource Agencies or other agencies responsible for recreation?	YES = Go to G3	NO = Fail
3) Does the Facility allow access to the reservoir and downstream reaches without fees or charges?	YES  <b>YES = Pass, go to H</b>	NO = Fail
<b>H. Facilities Recommended for Removal</b>		
1) Is there a Resource Agency Recommendation for removal of the dam associated with the Facility?	PASS  NO – There are no Resource Agency Recommendations for removal of the dam associated with the Project.  <b>NO = Pass, Facility is Low Impact</b>	FAIL  YES = Fail