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## LOW IMPACT HYDROPOWER QUESTIONNAIRE

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 <a href="http://www.lowimpacthydro.org">http://www.lowimpacthydro.org</a>. PLEASE SUBMIT THIS QUESTIONNAIRE IN WORD FORMAT.

## E. LOW IMPACT HYDROPOWER QUESTIONNAIRE

Background Information	
1) Name of the Facility as used in the FERC license/exemption.	Passumpsic River Projects:
	• Pierce Mills (P-2396)
	• Arnold Falls (P-2399)
	• Gage (P-2397)
	• Passumpsic (P-2400)
2) Applicant's name, contact information and relationship to the Facility. If the Applicant is	Central Vermont Public Service Corporation
not the Facility owner/operator, also provide the name and contact information for the	77 Grove Street
Facility owner and operator.	Rutland, VT 05701
	Attn: Michael Scarzello, P.E.

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.	Passumpic River facilities are located on the Passumpsic River (a tributary of the Connecticut River) in and near St. Johnsbury Vermont. Additional facility information is provided in Attachment C.			
		Project	<b>River Mile</b>	L	at/Long
		Pierce Mills	15.2		1, -72.0081
		Arnold Falls	9.7	44.424	5, -72.0136
		Gage	7.2	44.3979	9, -72.0235
		Passumpsic	5.5	44.3748	8, -72.0261
4)	Installed capacity.	Project	Capaci	ty	
		Pierce Mills	250 kW		
		Arnold Falls	350 kW		
		Gage	700 kW		
		Passumpsic	700 kW		
5)	Average annual generation.	Project	Average Annual Generation		
		Pierce Mills	1.3 GWH		
		Arnold Falls	1.3 GWH		
		Gage	3.0 GWH		
		Passumpsic	2.3 GWH		
6)	Regulatory status.	All Facility FERC licenses were issued on December 8, 1994 for a term of 40 years. See Attachment A.			
7)	Reservoir volume and surface area measured at the normal maximum operating level.	Project	Reservoir Volume (acre-feet)		urface Area (acres)
		Pierce Mills	24.7	24.	
		Arnold Falls	10.8	7.2	
		Gage	13.8	15.	
		Passumpsic	18.4	18	.3

8) Area occupied by non-reservoir facilities ( <i>e.g.</i> , dam, penstocks, powerhouse).	Project	Plant Area	
	Pierce Mills	4754 sq. ft. and 54,722	
		sq. ft. for recreation	
	Arnold Falls	4063 sq. ft.	
	Gage	11,477 sq. ft. and	
		24,000 sq. ft. for	
		recreation	
	Passumpsic	7585 sq. ft.	
9) Number of acres inundated by the Facility.	Project	Acres Inundated	
	Pierce Mills	n/a	
	Arnold Falls	n/a	
	Gage	n/a	
	Passumpsic	n/a	
		UESTED, BUT NOT RE	QUIRED
		- , ,	-
10) Number of acres contained in a 200-foot zone extending around entire reservoir.	Project	Acres within 200' of	
		Reservoir	
	Pierce Mills	n/a	
	Arnold Falls	n/a	
	Gage	n/a	
	Passumpsic	n/a	
11) Contacts for Resource Agencies and non-governmental organizations			
	See Attachment B		
12) Description of the Facility, its mode of operation ( <i>i.e.</i> , peaking/run of river) and			
photographs, maps and diagrams.	All Projects are op	perated as run-of-river facili	ties.
	Summary of facili	ties, photos, and maps/diagi	ams are
	included in Attach	iment C.	
Questions for "New" Facilities Only:			
If the Facility you are applying for is "new" (i.e., an existing dam that added or increased	N/A		
power generation capacity after August of 1998) please answer the following questions to			
determine eligibility for the program			

<ul><li>13) When was the dam associated with the Facility completed?</li><li>14) When did the added or increased generation first generate electricity? If the ad increased generation is not yet operational, please answer question 18 as well.</li></ul>	ded or	
<ul><li>15) Did the added or increased power generation capacity require or include any no other diversion structure?</li></ul>	ew dam or	
16) Did the added or increased capacity include or require a change in water flow the facility that worsened conditions for fish, wildlife, or water quality (for example operations change from run-of-river to peaking)?		
17 (a) Was the existing dam recommended for removal or decommissioning by resagencies, or recommended for removal or decommissioning by a broad represe interested persons and organizations in the local and/or regional community pradded or increased capacity?	entation of	
(b) If you answered "yes" to question 17(a), the Facility is not eligible for certification you can show that the added or increased capacity resulted in specific measure improve fish, wildlife, or water quality protection at the existing dam. If such were a result, please explain.	s to	
<ul> <li>18 (a) If the added or increased generation is not yet operational, has the increased generation received regulatory authorization (e.g., approval by the Federal Energulatory Commission)? If not, the facility is not eligible for consideration; a</li> <li>(b) Are there any pending appeals or litigation regarding that authorization? If so is not eligible for consideration.</li> </ul>	rgy nd	
A. Flows	PASS	FAIL

1)	Is the Facility in <i>Compliance</i> with <i>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?	YES – A variety of flow and reservoir conditions were included in the Licenses and Water Quality Certifications for these facilities. See Attachment D. <b>YES = Pass, Go to B</b> N/A = Go to A2	NO = Fail
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?	YES = Pass, go to B NO = Go to A3	
	f 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?	YES = Pass, go to B	NO = Fail
<b>B</b> . '	Water Quality	PASS	FAIL
1) a) b)	Is the Facility either: 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?	<ul> <li>a) YES – The Projects are in compliance with all conditions of the Clean Water Act Section 401 water quality certifications (included in Attachment A). See Attachment D.</li> <li>YES = Go to B2</li> </ul>	NO = Fail
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 - See Attachment D. NO = Pass	

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?	YES – See Attachment D. YES = Pass	NO = Fail
C.	Fish Passage and Protection	PASS	FAIL
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?	YES – The Projects are in compliance with applicable anadromous fish passage requirements. See Attachment D. YES = Go to C5	NO = Fail
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)?	N/A = Go to C2 YES = Go to C2a NO = Go to C3	
	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 = Go to C2b N/A = Go to C2b	NO = Fail
	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 = Go to C5 N/A = Go to C3	NO = Fail

	<ul> <li>If, since December 31, 1986:</li> <li>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</li> <li>b) The Resource Agencies declined to issue a Mandatory Fish Passage Prescription,</li> <li>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?</li> </ul>	NO = Go to C5 N/A = Go to C4	YES = Fail
a) b)	If C3 was not applicable: 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 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?	YES = Go to C5	NO = Fail

5) Is the Facility in Compliance with Mandatory Fish Passage Prescriptions for upstream and/or downstream passage of <i>Riverine</i> fish?	N/A - There is no federal mandatory prescription for the passage of riverine fish within any of the Projects, however License Articles for each Project reserve future FERC authority to order such fishways as prescribed by the US Department of Interior. YES = Go to C6 N/A = Go to C6	NO = Fail
6) Is the Facility in Compliance with Resource Agency Recommendations for Riverine, anadromous and catadromous fish entrainment protection, such as tailrace barriers?	YES – As part of downstream passage requirements, trashracks with 1-inch clear spacing and forebay guidance systems were installed at the Projects to protect Atlantic salmon smolts from entrainment Pierce Mills, Arnold Falls and Gage have 1-inch racks that are permanent. Passumpsic has 1-inch racks that are lowered for fish passage season (April 1 – June 15, and September 15 – November 15) and pulled back up in other times. <b>YES = Pass, go to D</b> N/A = Pass, go to D	NO = Fail
<ul> <li>D. Watershed Protection</li> <li>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?</li> </ul>	PASS YES = Pass, go to E and receive 3 extra years of certification	FAIL 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?	YES = Pass, go to E and receive 3 extra years of certification		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)?	YES = Pass, go to E		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?	N/A YES = Pass, go to E N/A = Pass go to E		No = Fail
E. Threatened and Endangered Species Protection	PASS		FAIL
<ol> <li>Are threatened or endangered species listed under state or federal Endangered Species Acts present in the Facility area and/or downstream reach?</li> </ol>	Project	T&E Species Present?	
	Pierce Mills	No	
	Arnold Falls	No	
	Gage	Yes	
	Passumpsic	No	
	YES - See Attachment D.		
	YES = Go to E2		
	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	YES - See Attachment D.		NO = Fail
Facility?	<b>YES = Go to E3</b> N/A = Go to E3		

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 that authorization?	N/A YES = Go to E4 N/A = Go to E5	NO = Fail
4)	<ul> <li>If a biological opinion applicable to the Facility for the threatened or endangered species has been issued, can the Applicant demonstrate that:</li> <li>a) The biological opinion was accompanied by a FERC license or exemption or a habitat conservation plan? Or</li> <li>b) The biological opinion was issued pursuant to or consistent with a recovery plan for the endangered or threatened species? Or</li> <li>c) There is no recovery plan for the threatened or endangered species under active development by the relevant Resource Agency? Or</li> <li>d) The recovery plan under active development will have no material effect on the Facility's operations?</li> </ul>	YES = Pass, go to F	NO = Fail
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?	YES – See Attachment D, Section E.1 YES = Pass, go to F	NO = Fail
F	Cultural Resource Protection	PASS	FAIL
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 - See Attachment D. YES = Pass, go to G N/A = Go to F2	NO = Fail

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?	YES = Pass, go to G	NO = Fail
G.	Recreation	PASS	FAIL
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 - See Attachment D.	NO = Fail
		<b>YES = Go to G3</b> N/A = Go to G2	
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 – All Projects allow free public access to appropriate areas, in accordance with Project public safety provisions. YES = Pass, go to H	NO = Fail
н	Facilities Recommended for Removal	PASS	FAIL
<b>n.</b> 1)	Is there a Resource Agency Recommendation for removal of the dam associated with the Facility?	ProjectRecommended for Removal?Pierce MillsNoArnold FallsNoGageNoPassumpsicNo	YES = Fail