

LIHI CERTIFICATION HANDBOOK

-- PART VII -- CERTIFICATION QUESTIONNAIRE

** PLEASE SUBMIT THIS QUESTIONNAIRE IN WORD FORMAT **

| Background Information | |
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| 1) Name of the Facility as used in the FERC license/exemption. | Webster-Pembroke Project |
| 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>Appendix 1 says that the project is owned and operated by Eagle Creek Renewable Energy LLC, but the e-mail in Appendix E-3 states that the dam is owned by the NH Water Resources Board. Please clarify.</p> <p><i>Eagle Creek owns and operates both dams. Any reference to state ownership was an error.</i></p> <p>Essex Power Services Inc. (agent) For Eagle Creek Renewable Energy LLC (owner and operator) 55 Union Street, 4th Floor Boston, MA 02108 ATTN: Stephen Hickey tel: (617) 367-0032 email: sjh@essexhydro.com</p> <p>Eagle Creek Renewable Energy LLC 65 Madison Avenue, Suite 500 Morristown, NJ 07960</p> |

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| | tel: 973-998-8400 email: dave.youlen@eaglecreekre.com |
| 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 river's drainage area in square miles at the Facility intake; (e) the location of other dams on the same river upstream and downstream of the Facility; and (f) the exact latitude and longitude of the Facility dam. | (a) New Hampshire (b) Suncook River (c) River Mile 34.25 (of 36) (d) 270 miles (e) see attached appendix 3-a (f) Lat. 43° 7'46.29"N, Long. 71°27'1.42"W |
| 4) Installed capacity. | 2..6 MW |
| 5) Average annual generation. | 10,100 MWh |
| 6) Regulatory status. | FERC Exemption Project No. 3185 dtd February 24, 1983 (see Appendix 1-1) |
| 7) Reservoir volume and surface area measured at the normal maximum operating level. | Reservoir Volume: 147 acre-feet Surface Area: 26 acres |
| 8) Area occupied by non-reservoir facilities (<i>e.g.</i> , dam, penstocks, powerhouse). | 4.5 acres |
| 9) Number of acres inundated by the Facility. | Approximately 26 acres at elevation 278.0 NGVD |
| 10) Number of acres contained in a 200-foot zone extending around entire reservoir. | Approximately 6.4 acres |
| 11) Contacts for Resource Agencies and non-governmental organizations | Please provide local contact information for NMFS. Sean McDermott One Blackburn Drive F/GARFO Gloucester, MA 01930-2298 |

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| | <p>Phone: (978) 281-9113 sean.mcdermott@noaa.gov</p> |
| <p>12) Description of the Facility, its mode of operation (<i>i.e.</i>, peaking/run of river) and photographs, maps and diagrams.</p> | <p>Thank you for the pictures of the generating station and impoundments. Please provide additional photographs of the facilities, such as tailrace, reservoir, and recreational areas</p> <p>Pictures will be provided in the next few days.</p> <p>See Appendix 3</p> |
| <p>Questions for “New” Facilities Only:</p> <p>If the Facility you are applying for is “new” (<i>i.e.</i>, 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> | <p>N/A</p> |
| <p>13) When was the dam associated with the Facility completed?</p> | <p>N/A</p> |
| <p>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.</p> | <p>N/A</p> |
| <p>15) Did the added or increased power generation capacity require or include any new dam or other diversion structure?</p> | <p>N/A</p> |
| <p>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> | <p>N/A</p> |

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| <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> | N/A | |
| <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> | N/A | |
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| A. <i>Flows</i> | 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>N/A</p> <p>See Appendix A</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> | NO = Go to A3 | |

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| <p>3) <i>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?</i></p> | <p>Please provide the results of the minimum flow review (Due December 1, 2014) and any further communications with USFWS and NHFWD relating to the MOA, as they become available. No issue expected if documentation confirming compliance with the MOA by each deadline. Appendix 3 and Appendix A of your application state that the FERC exemption requires “9 cfs,” but the FERC exemption in Appendix 1-1 says “10 cfs.” Please confirm that it should read 10 cfs.</p> <p>The minimum flow is 10 cfs. The applicant recognizes this is low</p> | |
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| | <p>and is committed to working with USFWS after the spring 2015 freshet to determine the appropriate flow. The applicant proposes a condition be added to its LIHI certification requiring the applicant copy LIHI on all correspondence with USFWS and NHFGD regarding minimum flow. The applicant, USFWS and NHFGD have agreed to an annual review of the MOA, the results of which LIHI will be copied on.</p> <p>YES = Pass, go to B</p> | |
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| <p>B. Water Quality</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>Please provide the letter from NHDES confirming completion of the 2013 water quality assessment program</p> <p>YES = Go to B2</p> | |

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| | <p>Based on NH DES review of the data collected in 2013, it is apparent the data loggers suffered a mechanical error during deployment. The applicant will re test the river in 2015 and has secured a commitment from NH DES to work with the applicant. Re testing of the river should be a condition of the applicant's LIHI certification. LIHI will be copied on all communications with NH DES.</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>Please provide a letter from NHDES, or a reference to the most recent state water quality report/303(d) confirming this. NO = Pass</p> <p>The portion of the Suncook River on which the Webster Pembroke project is located is not listed as not meeting state water quality standards. See final</p> | |

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| | <p>2012 303d list accessible at http://des.nh.gov/organization/divisions/water/wmb/swqa/2012/ 2012 is the most recent list available from NH DES.</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? | N/A | |
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| 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 = Go to C5 See Appendix C | |
| 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)? | YES = Go 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 = 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 | YES = Go to C5 | |

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| <p>commitment to provide such passage?</p> | | |
| <p>3) If, since December 31, 1986:</p> <ul style="list-style-type: none"> 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 b) The Resource Agencies declined to issue a Mandatory Fish Passage Prescription, 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>N/A = Go to C4</p> | |
| <p>4) If C3 was not applicable:</p> <ul style="list-style-type: none"> 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 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 | <p>YES = Go to C5</p> <p>See Appendix C</p> <p>Please provide communications with USFWS and NHFGD relating to river herring under the MOA (i.e., operation of sluice gate at trashracks, review of intake velocities, modifications to facilities by Sept. 1,</p> | <p>NO = Fail</p> |

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| warranted? | <p>2015).</p> <p>The applicant has been advised by John Warner of USFWS that herring passage is not a priority on the Suncook River at this time. The applicant will work with USFWS to address the issues covered under the MOA based on whatever schedule USFWS deems appropriate. USFWS would first like to establish an appropriate bypass flow at the project. The applicant proposes a condition be added to its LIHI certification requiring the applicant to copy LIHI on all communications related to the MOA.</p> | |
| 5) Is the Facility in Compliance with Mandatory Fish Passage Prescriptions for upstream and/or downstream passage of <i>Riverine</i> fish? | <p>YES See Appendix C</p> | NO = Fail |
| 6) Is the Facility in Compliance with Resource Agency Recommendations for Riverine, anadromous and catadromous fish entrainment protection, such as tailrace barriers? | <p>Please provide communications with USFWS and NHFGD relating to river herring under the</p> | NO = Fail |

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| | <p>MOA (i.e., operation of sluice gate at trashracks, review of intake velocities, modifications to facilities by Sept. 1, 2015).</p> <p>The applicant has been advised by John Warner of USFWS that herring passage is not a priority on the Suncook River at this time. The applicant will work with USFWS to address the issues covered under the MOA based on whatever schedule USFWS deems appropriate. USFWS would first like to establish an appropriate bypass flow at the project. The applicant proposes a condition be added to its LIHI certification requiring the applicant to copy LIHI on all communications related to the MOA.</p> | |
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| <p>D. Watershed Protection</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</p> | | <p>NO = go to D2</p> |

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| average annual high water line for at least 50% of the shoreline, including all of the undeveloped shoreline? | | |
| 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? | N/A = Pass go to E | |
| E. Threatened and Endangered Species Protection | 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? | <p>Please contact NMFS about the presence of any threatened or endangered species under its jurisdiction. Please provide NHDFG's response regarding the project's effects on endangered Blanding's Turtle and threatened Brook Floater and Bald Eagle.</p> <p>Emails were sent to Jeff Murphy, Sean McDermott (NMFS) and Carol Henderson (NHFG) on 2/16/15. Their response will be</p> | |

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| | provided to LIHI upon receipt | |
| 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? | <p>Please provide NHDFG's response regarding the project's effects on endangered Blanding's Turtle and threatened Brook Floater and Bald Eagle.</p> <p>An email was sent to Carol Henderson (NHFG) on 2/16/15. Her response will be provided to LIHI upon receipt</p> | |
| 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? | <p>Please provide NHDFG's response regarding the project's effects on endangered Blanding's Turtle and threatened Brook Floater and Bald Eagle.</p> <p>An email was sent to Carol Henderson (NHFG) on 2/16/15. Her response will be provided to LIHI upon receipt</p> | |
| 4) If a biological opinion applicable to the Facility for the threatened or endangered species has been issued, can the Applicant demonstrate that: | | NO = Fail |
| a) The biological opinion was accompanied by a FERC license or exemption or a habitat | | |

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| <p>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> | | |
| 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>YES = Pass, go to F</p> <p>See Appendix E-1</p> | |
| 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 = Pass, go to G | |
| 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? | | |
| 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? | <p>YES = Go to G3</p> <p>See Appendix G</p> | |
| 2) If not FERC-regulated, does the Facility provide recreational access, | N/A | |

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| accommodation (including recreational flow releases) and facilities, as Recommended by Resource Agencies or other agencies responsible for recreation? | | |
| 3) Does the Facility allow access to the reservoir and downstream reaches without fees or charges? | <p>YES = Pass, go to H</p> <p>Response from NHFGD confirming that the project provides access free of charge. Please also clarify why there is no recreational access between the Webster and Pembroke Dams.</p> <p>Response still outstanding from NHFGD. Steep banks prohibit recreational activity between the Webster and Pembroke dams.</p> | |
| H. Facilities Recommended for Removal | PASS | FAIL |
| 1) Is there a Resource Agency Recommendation for removal of the dam associated with the Facility? | <p>NO = Pass, Facility is Low Impact</p> <p>NMFS. Please provide resource agency communications as you receive them.</p> <p>The applicant will forward all resource</p> | |

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| | agency communications as they are received. | |
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Appendix 1

Ownership/Regulatory Status

The Webster-Pembroke hydroelectric project (the “Pembroke project”) is owned and operated by Eagle Creek Renewable Energy LLC (“Eagle Creek”), a Delaware corporation. The history of development, ownership and operation of the Pembroke project is described below.

The Pembroke project has a total installed capacity of is a 2.6 MW and is located in the towns of Pembroke and Allenstown, New Hampshire. The waters of Suncook River were harnessed in the 1730s, eventually powering saw and grist mills, forge shops, and paper mills. The first cotton factory, owned by Major Caleb Stark, was built here in 1811. The Webster Mill and the Webster Dam were built in 1865 and utilized hydroelectric power to produce 225,000 yards of cloth per week. The Pembroke Mill and Pembroke Dam located roughly 1,000 feet downstream of the Webster Dam was built in 1860 and was originally operated by hydromechanical power and later converted to hydroelectric power produced 110,000 yards of cloth per week. Roughly 600 feet below the Pembroke dam is the China Mill and the China Mill Dam which were built in 1868 and utilized a combination of hydromechanical and hydroelectric power to produce roughly 665,000 yard of cloth per week. The three mills and associated dams were built and managed by Micajah Pope and employed more than 1,500 workers, mostly recruited from the Province of Quebec, to make 35 million yards of cotton cloth each year.

Yarn is still produced today at the China Mill facility using a combination of conventional and hydroelectric power. The Pembroke and Webster Mill facilities were closed in the early 1900’s and all hydroelectric generating equipment was removed from the facilities. The existing mill buildings were converted in apartments and hydroelectric generation remained inactive at the Pembroke and Webster dams until competing applications for an exemption from licensing were filed with the Federal Energy Regulatory Commission by the Pembroke Hydro Corporation and Suncook Hydro Corporation in 1982. On February 24, 1983, the Federal Energy Regulatory Commission issued an Order Granting Exemption from Licensing for a Small Hydroelectric Project of 5 MW or Less and Denying

Major License Application to the Pembroke Hydro Corporation for the operation of the Webster-Pembroke Project. (see Appendix 1-1)

Pembroke Hydro Corporation later reorganized as Pembroke Hydro Associates Limited Partnership and remained the exemptee for the Pembroke project. Pembroke Hydro Associates LP was acquired by Algonquin Power Co. in 2003 along with all rights and privileges include in the exemption, FERC Project No. 3185. On June 29, 2013, Eagle Creek Renewable Energy LLC, the applicant and current owner of the Pembroke project purchased one-hundred percent of the partnership interests in Pembroke Hydro Associates LP and holds all rights and privileges to FERC Exemption No. 3185. (see Appendix 1-2)

Appendix 2

Listing of Authorities/Agencies Contacted

Federal

John Warner
 U.S. Fish & Wildlife Service
 U. S. Department of Interior
 70 Commercial Street, suite 300
 Concord, NH 03301-5087
 Tel: 603-223-2541 ext 15
 Email: John_Warner@fws.gov
 Date last contacted: Sept 25, 2013
 Nature of last contact: Request for
 Comment

State

Carol Henderson
 Fish & Wildlife Ecologist
 New Hampshire Fish and Game
 Department
 11 Hazen Drive
 Concord, NH 03301
 Tel: 603-271-3511
 Email:
 Carol.Henderson@wildlife.nh.gov
 Date last contacted: July 18, 2013
 Nature of last contact: Request for
 Comment

Ted Walsh
 Surface Water Monitoring
 Coordinator
 New Hampshire Dept. of Environ
 Services

29 Hazen Drive
Concord, NH 03301
Tel: 603-271-2083

State continued

Email: Ted.Walsh@des.nh.gov
Date last contacted: Sept 24, 2013
Nature of last contact: Sent water
quality data for DES analysis

Kim Tuttle
Certified Wildlife Biologist
New Hampshire Fish and Game
Department
11 Hazen Drive
Concord, NH 03301
Tel: 603-271-6544
Email:
Kim.Tuttle@wildlife.nh.gov
Date last contacted: May 31, 2012
Nature of last contact: Request for
Comment

NH Division of Historical
Resources
State Historic Preservation Office
Attn: Review and Compliance
19 Pillsbury Street
Concord, NH 03301-3570
Tel: N/A
Email: N/A
Date last contacted: October 10,
2013
Nature of last contact: Received
Project Review no impact
determination

State continued

NH Natural Heritage Bureau
DRED
Division of Forests and Lands
172 Pembroke Road
Concord, NH 03302-1856
Tel: 603-271-6488
Email:
Melissa.Coppola@dred.state.nh.us
Date last contacted: Aug 30, 2013
Nature of last contact: Receipt of
Review

New Hampshire Division of Parks
and Recreation
172 Pembroke Road
P.O. Box 1856
Concord, NH 03302-1856
Email: nhparks@dred.state.nh.us
Tel: (603) 271-3556
Date last contacted: Oct, 2013
Nature of last contact: Sent Rqst
for Project Review

Richard Fink, Chief
New Hampshire Fish and Game
Facilities and Land Division
11 Hazen Drive
Concord, NH 03301
Tel: 603-271-1134
Email:
Richard.Fink@wildlife.nh.gov
Date last contacted: Oct 10, 2013
Nature of last contact: Request for
Comment re Recreational Access

Appendix 3

Project Location and Operations

The Webster-Pembroke hydroelectric project (“the Pembroke project”) is located at river mile 34.25 on the Suncook River, in the towns of Pembroke and Allenstown, Merrimack County, New Hampshire. (see Appendix 3-1)

The Stevens Mill project is located is located approximately one half mile upstream of the confluence of the Suncook and the Merrimack Rivers and about 7 miles downstream of the USGS gage number 01089100 at Concord. As shown in Appendix 3-1, Irish Pond is formed by the Webster Dam impoundment.

The Pembroke project consists of utilizing the total hydrostatic head available between the headwater of the Webster Dam, with 4 feet of flashboards (elevation 278 NGVD), and the tailwater of the Pembroke Dam (elevation 226 NGVD) which utilizes a gross head of about 52 feet. Flows are diverted through the existing Webster Canal, through a 460-foot-long, 8-foot diameter, 3/8” welded steel penstock to a full Kaplan Turbine rated at 2,600 MW, located in the old Pembroke Powerhouse which is immediately downstream of the Pembroke Dam.

The Pembroke project is operated as a run-of-river facility. Outflows from the project equal inflows on an instantaneous basis, and water levels above the dam are maintained at the crest of the dam and are not drawn down for the purposes of generating power. The Pembroke project consists of a stone masonry gravity dam, a 460-foot-long penstock, a powerhouse, one generation unit and appurtenant project equipment. The exemptee is required to maintain a minimum flow of 9 cfs or inflow, whichever is less at all times through the roughly 1,400-foot-long bypass. See Appendix 1-1.

Appendix A

Description of Project flows

River flow History

The Suncook River is a 35.7-mile-long river located in central New Hampshire. It is a tributary of the Merrimack River, which flows to the Gulf of Maine. The Suncook River begins at the outlet of Crystal Lake in the town of Gilmanton, New Hampshire. The village of Gilmanton Ironworks is located at the lake's outlet. The Suncook flows south two miles to the Suncook Lakes (Upper and Lower) in Barnstead. Below the lakes, the river passes through the village of Center Barnstead and enters the town of Pittsfield, whose village is centered around a 19th century dam on the river.

The river continues south through the towns of Chichester and Epsom, and then forms the town boundary between Pembroke and Allenstown. Shortly before reaching the Merrimack River, the Suncook drops 70 feet in 0.5 miles a natural waterpower site that led to the growth of the village of Suncook.

The total drainage area of the river is approximately 270 square miles.

The mean annual flow at the site is 390 cfs with great seasonal variations from an instantaneous high in excess of 13,000 cfs in March 1936 to average daily lows of about 3 cfs.

The Pembroke project is required by its FERC license to discharge 9 cfs or inflow, whichever is less, through the project bypass reach. (See Appendix 1-1). The project maintains a minimum flow of 10 cfs through the bypass reach at all times. Please see Appendix A-1 for the past five years of annual minimum flow certifications sent to the Federal Energy Regulatory Commission.

Appendix B

Water Quality

A water-sampling program of the Suncook River was completed in September 2013 in accordance with a New Hampshire Department of Environmental Services (“NHDES”) sampling protocol created for the project. Due to environmental conditions, flows in the Suncook River never fell to the 3X7Q10 value of 11.1 cfs required by NH DES in order to monitor dissolved oxygen content. As a result, the applicant has asked NH DES to analyze the 30 days of DO data collected at the project and issue a statement to LIHI regarding the adequacy of that data. Total phosphorus and chlorophyll-a samples were collected at the project in accordance with the sampling protocol. The applicant is fully willing to repeat the DO sampling in 2014 under the required flow conditions and submit that data to NH DES for analysis and production of a statement to LIHI. In the interim, the applicant asks that LIHI grant low impact certification of the Pembroke project and include a condition in the certification that the applicant complete the DO testing and produce the letter from NH DES in 2014. The project fully expects that DES will confirm that the operation of the project is not causing or contributing to violations of New Hampshire state water quality standards.

Appendix C

Fish Passage and Protection

Fish passage has not been requested at the project to date. Article 2 of the Pembroke project’s FERC Exemption from Licensing dated February 24, 1983 requires compliance with any terms and conditions that Federal or State fish and wildlife agencies have determined appropriate to prevent loss of, or damage to, fish and wildlife resources. (see Appendix 1-1).

On July 18, 2013 requests for comment were submitted to Carol Henderson, Environmental Review Coordinator with the New Hampshire Fish and Game Department (NHF&G) and John Warner, Hydropower Coordinator with the United States Fish and Wildlife Service)(USFWS). (see Appendix

C-1) Responses from both agencies will be sent to LIHI upon receipt.

Appendix D

Description of Watershed Protection

Discharges from Irish Pond are controlled by the New Hampshire Department of Environmental Services based upon years of data and experience, to balance the many and diverse interests within the basin. There are 2 hydroelectric sites downstream of Irish Pond that use the river flows to generate hydroelectric power. NHDES also has obligations to reach and maintain certain target elevations for the purposes of promoting the reasonable use and enjoyment of Irish Pond and to minimize the risk and effects of damaging flooding.

Day to day lake levels and discharges are coordinated to stay within an operating range that best serves these interests. In general terms, stored water is preserved during the summer recreational season and released in the fall to serve the needs of the hydroelectric interests along the basin and to enhance the lake's ability to safely store flood waters during the typically high runoff months of March through May. During extreme events, the goal of NHDES is to strike a balance between high lake levels and high stream flows, both of which can be significantly damaging.

The Suncook River watershed is highly developed around the centers of Gilmanton, Allenstown, and Pembroke. High levels of impervious surface contribute to increased levels of stormwater runoff into the watershed.

Appendix E

Description of Threatened and Endangered Species Protection

Requests were submitted to the United States Fish and Wildlife Service and the New Hampshire Natural Heritage Bureau for a complete list of all threatened and/or endangered species found within the Pembroke project boundary. By letter dated January 7, 2013, the United States Fish and Wildlife Service confirmed that no federally listed threatened or endangered species or critical habitat is known to occur in the Project area. (see Appendix E-1)

Conversely, the New Hampshire Natural Heritage Bureau (the “NHB”), in its project review dated July 30, 2013, indicated the possible presence of the threatened Brook Floater and Bald Eagle, and the endangered Blanding’s Turtle within the project area. (see Appendix E-2) A request for further review was sent to Kim Tuttle, certified wildlife biologist with the New Hampshire Department of Fish and Game for a further review of the Pembroke project’s impact on the Brook Floater, Bald Eagle and Blanding’s Turtle. (see Appendix E-3) The response from Ms. Tuttle will be forwarded to LIHI upon receipt.

As a condition of issuance, the Stevens Mill FERC exemption requires compliance with any terms and conditions that the Federal or State Fish and Wildlife agencies have determined appropriate to prevent loss of, or damage to, fish and wildlife resources. There have been no deficiencies noted by any agency with jurisdiction for the facility.

Appendix F

Cultural Resources

A Request for Project Review was submitted on August 16, 2013 (see Appendix F-1) to the New Hampshire Division of Historical Resources (the DHR) for a list of known sites of historic or archaeological significance that occur within the Stevens Mill project boundary. A response was received from DHR on October 10, 2013 indicated that the Pembroke project possesses no potential to cause Effects to any structure of historical or archaeological significance. (see Appendix F-2)

Appendix G

Recreation

Recreational access is provided across project lands for angling and boating in Irish Pond behind Webster Dam and in the pond behind China Mill Dam, the hydroelectric project owned by New Hampshire Hydro Associates immediately below the Pembroke project tailrace. On October 10, 2013 a request was submitted to the Mr. Richard Fink, Chief of the

Facilities and Land Division of the New Hampshire Fish and Game Department for confirmation that the project permits recreational activity free of charge within the project boundary (see Appendix G-1). Mr. Fink's response will be forwarded to LIHI as Appendix G-2 upon receipt.