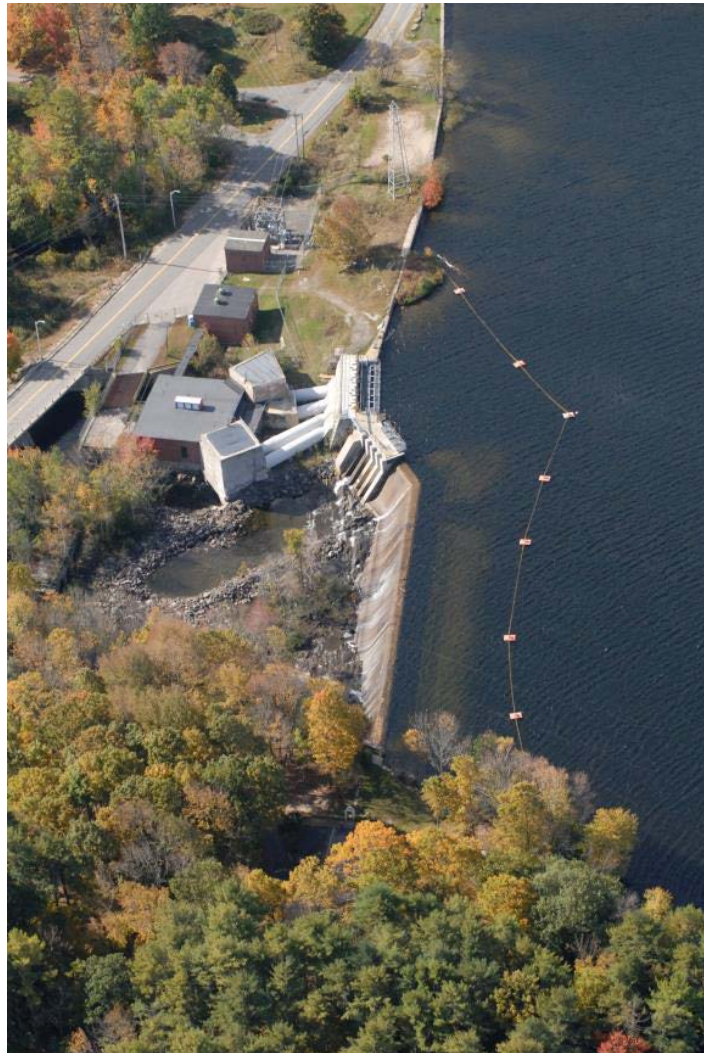


**APPLICATION REVIEW FOR  
LOW IMPACT HYDROPOWER INSTITUTE CERTIFICATION  
of the  
BROOKFIELD WHITE PINE HYDRO LLC  
NORTH GORHAM PROJECT NO. P-2519**



October 11, 2016

Application Reviewer: Patricia McIlvaine

# **REVIEW OF APPLICATION FOR CERTIFICATION BY THE LOW IMPACT HYDROPOWER INSTITUTE OF THE NORTH GORHAM PROJECT**

Prepared by:  
Patricia McIlvaine  
October 11, 2016

## **I. INTRODUCTION AND OVERVIEW**

This report reviews the original application submitted by Brookfield White Pine Hydro LLC (BWPH), an indirect subsidiary of Brookfield Renewable Energy Group (BWPH or Applicant) on December 17, 2015 to the Low Impact Hydropower Institute (LIHI) for Low Impact Hydropower Certification for the North Gorham Hydroelectric Project (North Gorham or Project). A LIHI Intake Review was completed January 12, 2016. BWPH provided supplemental information for review in response to the Intake Review and subsequent inquiries from the application Reviewer on July 22, 2016.

At the time of issuance of the current FERC license, the Project was owned by Central Maine Power. The Project was acquired by FPL Energy (now NextEra Energy Resources LLC) in late 1999, and was subsequently purchased by BWPH on December 21, 2012.

North Gorham has a gross nameplate capacity of 2.25 MW and a reported annual generation of 10,403 MWh. Construction of the North Gorham Project was completed in 1901, and the turbines and generators installed in 1925 and 1926. The facility began commercial operation in January, 1925.

## **II. PROJECT'S GEOGRAPHIC LOCATION**

The North Gorham facility is a run-of-river hydroelectric generating facility located on the Presumpscot River in Gorham, Standish, and Windham, Cumberland County, Maine. The Presumpscot River extends twenty-five miles, from Sebago Lake to Casco Bay, and has a watershed of 648 square miles. It is the main outlet of Sebago Lake. There are eight dams on the river (starting at the most upstream): the Eel Weir Dam, North Gorham Dam, Dundee Dam, Gambo Dam, Little Falls Dam, Mallison Dam, Sacarappa Dam, and Cumberland Mills Dam. All but the Cumberland Mills Dam are FERC licensed hydropower projects. The Dundee Dam is about 2.0 miles downstream and Eel Weir Dam is 2.1 miles upstream. The Smelt Hill Dam, formerly in Falmouth, was removed in 2002. The owner of the Sacarrappa Dam filed a license surrender application in 2015 with plans to remove the spillways and install upstream passage for anadromous species. Figure 1 in Appendix A illustrates the location of the dams that currently remain on the river.

### **III. PROJECT AND IMMEDIATE SITE CHARACTERISTICS**

North Gorham Project works consist of the following:

1. A stone masonry and concrete dam about 1,009 ft long, having from west to east
  - a non-overflow masonry wall section about 600.5 feet long
  - an intake section about 51.5 ft long and 28 feet high with four gates 9.5 feet wide by 9.5 feet high, protected by trashracks with 1.25 inch clear spacing
  - a sluice gate section about 47 feet long with four submerged sliding gates 4 feet wide by 5 feet high
  - a spillway section about 256.5 feet long
  - a sluice section about 15.5 feet long
  - a cutoff wall section about 38 feet long
2. Four 8 foot diameter steel penstocks extending approximately 50 – 70 feet downstream to two surge chambers
3. Two Surge chambers
4. A brick powerhouse about 58 feet wide and 71 feet long with two 1,460 hp turbines connected to two generating units each having 1,125 kw of generating capacity at a power factor of 0.75 kw/kVA

The maximum height of the dam is approximately 24 feet. Crest of the spillway is at elevation 221.8 feet. The sluice was recently sealed with concrete to elevation 221.8 feet. The east abutment extends from the sluice to high ledge at elevation 225.5 feet.

The site diagram in Figure 2 and aerial photograph (Figure 3) (see Appendix A) shows the primary features of the project. Land area occupied by the features described above is estimated at 1.7 acres. Gross storage capacity of the reservoir is 1,300 ac-ft, with a surface area of 98 acres. Land under the ownership of Brookfield is limited essentially to the high water mark around the impoundment and at the powerhouse as illustrated on Figure 4 in Appendix A.

### **IV. REGULATORY AND COMPLIANCE STATUS**

#### **FERC License**

The initial FERC license was issued in December 1966, with a new license issued on November 22, 1993, having an expiration date of December 31, 2034. That license included requirements for minimum flows, downstream fish passage for salmonid fisheries, improvements of access to the tailrace area for recreation use, and several cultural resource enhancement activities. The license also includes a Section 18 reservation of authority to mandate additional fish passage facilities. These are discussed in more detail under the applicable Criteria discussions. The license was amended in February 1997 to include the new as-built drawings following

completion of the recreational facilities in 1995, and in June 2002 to revise the due date of the annual cultural resource reports to February 15 of each year.

#### Water Quality Certification (WQC)

A Water Quality Certification was issued September 24, 1992 by the Maine Department of Environmental Protection (MEDEP). It contains requirements for minimum flow, headpond fluctuation limits, downstream fish passage for salmon and enhancement and continued monitoring of recreational attributes at the Project which parallel those contained in the FERC License. It does not contain cultural resource monitoring requirements.

#### Compliance Review

Review of FERC's eLibrary records for the North Gorham Project for the last five years and comments received from the MEDEP indicated that no non-compliance issues have occurred at the project. See discussions under Criterion A - Flows and Criterion B - Water Quality for further discussion of this review and MEDEP comments.

### **V. PUBLIC COMMENT RECEIVED BY LIHI**

The deadline for submission of comments on the certification application was October 7, 2016. The only comment received by LIHI was from D. Watts of Friends of Sebago Lake. Mr. Watts was contacted by P. McIlvaine to ensure that his brief comment email was fully understood. A summary of that conversation, as well as those with other stakeholders contacted by the Reviewer, is contained in Appendix B.

BWPH included letters they received from the MEDEP, Maine Department of Marine Resources (MDMR), Maine Natural Areas Program, Maine Department of Inland Fisheries and Wildlife (MIF&W), and the State Historic Preservation Officer (SHPO) in their LIHI application or in response to follow-up questions. Copies of these are posted on LIHI's website.

### **VI. SUMMARY OF COMPLIANCE WITH CRITERIA AND ISSUES IDENTIFIED**

**Criterion A - Flows** – Currently the project is operating as run-of-river with a minimum flow of 222 cfs, or inflow whichever is less, and a headpond fluctuation limit of one foot of the normal water surface elevation of 221.8. As noted in a February 26, 2016 letter from MEDEP, they found that the flow and headpond limits were consistently met except during very low flow periods and dam maintenance periods during the ten year period of 2005 - 2015.

**Criterion B - Water Quality** – In the above noted letter from MEDEP, they confirmed that the North Gorham Project appears to be in compliance with all requirements of its WQC. The section of the Presumpscot River in which the Project is located is classified as Class A water by the MEDEP's latest Integrated Water Quality Monitoring and Assessment Report (dated 2012).

**Criterion C - Fish Passage and Protection.** Upstream passage for anadromous species has not been required to date at the Project. The required downstream passage has been installed and appears to be operated successfully according to annual reports submitted to the FERC and fisheries agencies. A condition has been recommended addressing eel passage, which has been recommended by MDMR, USFWS and D. Watts of the Friends of Sebago Lake.

**Criterion D - Watershed Protection** - There are no requirements for a buffer zone, shoreline protection fund or shoreline management plan for the Facility. Thus, this Facility passes for this criterion. No additional term for certification is appropriate.

**Criterion E - Threatened and Endangered Species Protection** – Two federal threatened species, and several state listed species have been identified as possibly occurring in the area although none have been specifically reported as being onsite. It is not expected that normal operations will impact these species. However a condition has been recommended for significant impoundment lowering and onsite construction activities should they occur.

**Criterion F - Cultural Resources** –The requirements of a Programmatic Agreement that included the North Gorham Project were satisfied in 1995. A 2016 letter from the Maine SHPO confirmed this compliance.

**Criterion G - Recreation** - The FERC license and WQC required 1) the improvement of tailrace access and construction of a parking lot at the tailrace that was completed in 1995 and 2) that the Licensee consult with the agencies and towns as part of monitoring recreational use at the project. These ongoing consultations have been confirmed to be routinely completed.

**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, additional documentation identified, review of FERC's eLibrary records and websites of the USFWS and MIF&W, public comments received by LIHI, and comments obtained through my consultations with various resource agencies and D. Watts of the Friends of Sebago Lake, I believe that this project should be conditionally certified at this time for a certification term of five years with the following conditions:

- 1. The Owner shall proactively initiate discussion with MDMR and USFWS regarding future construction of an upstream eel passage facility at the site and appropriate measures to facilitate safe downstream passage for eel. These discussions shall be initiated within 90 days of LIHI certification of the project. Construction of the upstream passage shall be completed within the five-year LIHI certification period. The downstream passage measures timeline shall be determined and a formal commitment for installation shall be established within this Certification period, if their implementation extends beyond this five-year period. The Owner shall advise LIHI of the status of these discussions, along with the plan and schedule for passage implementation as part of the annual compliance statement to LIHI.*
- 2. The Owner shall proactively contact the MIF&W and USFWS a minimum of 60 days prior to any construction activities affecting lands not already developed, to determine if any special measures are needed to ensure no, or minimal impact occurs to state and/or federally listed protected species identified as possibly occurring at the site. The MIF&W shall also be contacted within 60 days prior to any planned drawdown of the impoundment that would expose a significant portion of the river bottom, to avoid impacts to the Brook Floater. The Owner shall work with the MIF&W and USFWS to implement appropriate measures should they be needed. The Owner shall advise LIHI of any such events, including the results of any activities conducted to minimize such impacts. Such notification shall be provided as part of the annual compliance statement to LIHI.*

### **THE NORTH GORHAM PROJECT CONDITIONALLY 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.** As discussed below, the project appears to meet these criteria thresholds under the current minimum flow and headpond fluctuation limit requirements.

The North Gorham Project is operated as a run-of-river facility. Flows to the Project are entirely dependent upon releases from the upstream Eel Weir Project, owned by S.D. Warren Company, which releases water from Sebago Lake. The Eel Weir recently received a new FERC license and Water Quality Certificate (WQC) in March 2015. The former license required the Lake to be held at a consistent high water level for about 15 years while the new license allows more natural lake level fluctuations. This change likely allows more flow to be released downstream from Eel Weir during low flow conditions.

Both the FERC License and WQC for the North Gorham Project have requirements for a minimum flow of 222 cfs, or inflow, whichever is less and headpond fluctuation limit of one foot of the normal water surface elevation of 221.8. The FERC license and WQC also required development of plans by which the minimum flows and headpond levels will be monitored that must be approved by the MEDEP and FERC. The plan received final approval on May 2, 1994.

No deviation reports were required to be filed by the Applicant for the North Gorham Project for the last five years, based by applicant provided information and FERC eLibrary data review. As noted in a February 26, 2016 letter from the MEDEP, they found that during the ten year period of 2005 – 2015, the minimum flows limits were consistently met except during very low river flow periods, and that headpond limits were complied with except during two dam maintenance periods. The MEDEP concluded the Project is in compliance with the WQC flow 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.** - A WQC was issued for the project on September 24, 1992 by MEDEP. It contains requirements for minimum flow, headpond fluctuation limits, the need for downstream fish passage and enhancement and continued monitoring of recreational attributes at the Project which parallel those contained in the FERC License. The WQC states that provided the Project remains in compliance with the WQC conditions, the Class A water quality standards will continue to be satisfied in this section of the river.

In their February 26, 2016 letter, the MEDEP confirmed that the North Gorham Project appears to be in compliance with all requirements of its WQC, and that the September 1992 WQC remains 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?**

No, this section of the Presumpscot River is not on the 303(d) list and in fact, meets the requirements of a Class A river as noted in MEDEP's latest Integrated Water Quality Monitoring and Assessment Report, dated 2012.

***This 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) Are anadromous and/or catadromous fish present in the Facility area or are they known to have been present historically?**

**YES.** This section of the Presumpscot River historically supported migratory runs of Atlantic salmon and shad, as well as alewife, although these species no longer migrate through the area due to the presence of the downstream dams. Currently landlocked salmon are a managed fishery in Sebago Lake by MIF&W, and often pass downstream over Eel Weir and North Gorham dams during high flow events.

The current presence of American Eel both upstream and downstream of North Gorham has been noted in the application submitted by BWPH and in a number of documents reviewed as part of this certification review, including studies prepared for nearby dams for more recent FERC filings. Several documents attribute the data of these records from survey done by MDMR.

#### **2) 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?**

**YES for Anadromous species.** As identified on page 73 of the Environmental Assessment prepared by FERC during re-licensing of the Project, the Department of Interior, US Fish and Wildlife Service (USFWS), prescribed downstream fish passage facilities for the North Gorham Project for salmonids, pursuant to Section 18 of the Federal Power Act (FPA). This prescription was identified in a letter dated January 13, 1993 from William Patterson, Regional Environmental Officer, U.S. Department of the Interior. Article 404 of the FERC license addresses the requirements for the noted downstream fish passage, although the license does not

specifically identify it as a Section 18 mandate. The license also includes a Section 18 reservation of authority to mandate future additional passage facilities. Downstream fish passage was determined to be consistent with the MIF&W's fisheries management plan which included stocking salmon and trout in the project area. This downstream passage, via use of the deep gates in combination with a plunge pool, was constructed in compliance with the mandate and has been operated since. Annual Operations and Maintenance Reports for the Downstream Fish Passage Facility are filed with FERC and the resource agencies (USFWS, MDMR, MIF&W and MEDEP). No issues were identified by the resource agencies regarding this downstream passage in their comments on the Project or when contacted by the Reviewer.

As noted in the EA at the time of re-licensing, the MDMR had plans to restore anadromous fishes--American shad and alewives--to the Presumpscot River, but only as far upstream as the Cumberland Mills Dam. The Atlantic Sea-Run Salmon Commission (which no longer exists) had no plans to restore anadromous Atlantic salmon to the Presumpscot River. Thus, upstream passage was not mandated. As noted in their April 7, 2016 letter, the MDMR is still not recommending upstream passage at North Gorham as the most recent Fish Management Plan for the river calls for anadromous species restoration only up to the Dundee Dam, which is located about two miles downstream of North Gorham. MIF&W manages Sebago Lake and the Presumpscot River down to and including the North Gorham impoundment for land-locked salmon and bass. In response to my inquiry about fish passage needs, Mr. John Perry of MIF&W stated MDMR has lead responsibility for the state on such issues.

**NA for catadromous species** – No passage requirements under Section 18 have been issued to date for catadromous species. However, the Department of Interior reserved its right to prescribe fish passage, as stated in both the EA and in Article 405 of the FERC license. While to date the USFWS has not mandated eel passage, when contacted as part of this LIH review, Steve Shepard of USFWS stated that both upstream and downstream passage for American Eel should be provided at the North Gorham project. Both upstream and downstream passage measures are currently in place at all of the dams downstream of North Gorham, and both are required by the FERC license and WQC for the upstream Eel Weir Project. A Settlement Agreement (SA) between Friends of Sebago Lake and Douglas H. Watts (collectively "FOSL") and SAPPI Paper (S.D. Warren Company) was signed in July 2016 in which SAPPI has committed to install upstream passage at Eel Weir by March 2017. The SA does not address downstream passage although discussion with SAPPI indicated downstream passage measures are also planned. The MDMR also stated that they believe that installation and operation of passage measures for American Eel should be required in order for the project to be considered "low impact". Their letter making this recommendation is available on LIHI's website.

*Go to C3 (to address catadromous species)*

- 3) 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)?**

**NOT APPLICABLE (for catadromous species)** – As noted above, American Eel currently exist both upstream and downstream of North Gorham dam.

*Go to C4 (to address catadromous species)*

**4) If, since December 31, 1986:**

- 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 C.3.a 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?**

**NOT APPLICABLE.** This criterion question is Not Applicable because the USFWS had the opportunity to issue a Mandatory Fish Passage Prescription for catadromous species as part of the FERC relicensing, but did not, although they reserved their authority to mandate future fish passage requirements. According to Steve Shepard of USFW, they have not exercised this authority to date due to other priorities preventing the dedication of resources to initiate such actions, and not due to the lack of upstream habitat, technological infeasibility to provide passage or absence of eel in the area.

*Go to C5 (to address catadromous species)*

**5) If C4 was not applicable:**

- 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 5.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?**

**CONDITIONALLY YES** – Based on the letter issued by MDMR and discussion with the USFWS, both agencies believe that if both upstream and downstream passage were installed at the North Gorham Project, then appropriate protection for this species would be provided. Absent compliance with the condition recommended in section VII General Conclusions and

Reviewer Recommendations, this criterion would not be passed as neither C5a nor C5b has been satisfied.

*Go to C6*

**6) 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 C7*

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

**NOT APPLICABLE** – No such measures were required by the FERC license nor WQC and such protection was not identified as a concern by any of the fisheries agencies reached during this review.

*The Project Conditionally 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 North Gorham 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, possibly.** In a letter dated September 13, 2016, the USFWS identified that the Small-Whorled Pogonia and the Northern Long-eared Bat, both listed as federally threatened, may potentially occur at the North Gorham site. Critical habitat has not been designated for either species, but a Recovery Plan for the Small-Whorled Pogonia was issued in 1992.

Based on email correspondence between BWHP and John Perry, Environmental Review Coordinator for the MIF&W, the state threatened Brook Floater Mussel has been reported in the

general vicinity of the Project. The email from MIF&W also noted the Little Brown Bat and Northern Long-eared Bat, both endangered state species, and the state threatened Eastern Small-footed Bat may also potentially be found at the Project, although no surveys have been conducted that indicate any have been found onsite. In their May 24, 2016 letter to BWHP, Maine Natural Areas Program stated that no state protected botanical species were documented as occurring at the Project.

It is BWHP's position that only the Northern Long-eared Bat and Brook Floater Mussel may possibly occur on the North Gorham site.

**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?**

**YES for one species.** Recovery plans do not appear to exist for any of the species except for the Small Whorled Pogonia. This USFWS Recovery Plan is dated 1992. Assuming that a survey for this species is conducted before any construction activities are conducted onsite, than it appears that the Project would be in compliance with applicable recommendations in this Recovery Plan.

**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?**

**NA.** Neither a Biological Opinion nor Incidental Take Permit have been issued for the North Gorham Project.

**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.** In their email to BWHP regarding impacts to any of the state listed species, the MIF&W stated "It is not known what effects, if any, the operations of the project may have on any of these species."

BHPW noted that the run-of-river operation of the Project would not likely affect the Brook Floater Mussel, should they exist in the impoundment. However, such mussels, as would any mussel, can be impacted if they become dry due to significant draw-down of the impoundment. A condition is suggested to address this possible concern.

Regarding the terrestrial species, BWHP noted that the habitat requirements for the Small Whorled Pogonia, is typically older hardwood stands of beech, birch, maple, oak, and hickory that have an open understory. This type of habitat is limited on lands under their control at the Project, given the small amount of owned land around the impoundment at the normal full pond elevation and the approximate 1.3 acres of land adjacent to the project structures and hand-carry boat launch. Thus, BWHP determined that the Small Whorled Pogonia would not be found onsite. Regarding the presence of the listed bat species, the limited amount of land owned by Brookfield would also limit the habitat available for use by these species.

The USFWS denoted in their letter that activities constituting a Major Federal Actions would trigger a formal review for these protected species under the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). However, to ensure avoidance of impacts to the two federally listed species (Small Whorled Pogonia and Northern Long-eared Bat), they also suggested that consultation with USFWS and performance of a field survey should be done prior to construction activities at the site, even for those not considered a major Federal Action. A condition has been recommended to satisfy this concern.

***The Project Conditionally 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.** A Programmatic Agreement involving FERC, the Advisory Council on Historic Preservation and the Maine State Historic Preservation Officer (SHPO) was signed on December 9, 1993 addressing ten hydropower projects, including North Gorham, being licensed by the then owner Central Maine Power. The specific measures required at North Gorham involved protection of cultural artifacts discovered when the required new recreational facilities were developed. This area included the Great Falls archaeological site identified during re-licensing and required to be addressed in the FERC license. This work was completed in 1995 as part of the recreational improvements made at the tailrace and the Great Falls site (located in this area) was determined to not meet National Registry eligibility criteria. Thus, the Programmatic Agreement was satisfied for North Gorham. This was confirmed in a letter dated January 27, 2016 from the SHPO.

***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?**

The FERC license required 1) the improvement of tailrace access and construction of a parking lot at the tailrace and 2) that the Licensee consult with the agencies and towns as part of monitoring recreational use at the project. The work on the tailrace improvement was completed in 1995. These ongoing consultations have been confirmed to be routinely completed. The last recreational review report (dated April 2015) indicated that this consultation is being done. I contacted the Town Managers of both Gorham (David Cole) and Windham (Tony Plante) as part of this review. Both stated they have no concerns with the recreational facilities of this Project located in their communities.

**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?**

**NA.**

***Go to G3***



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

**YES.** The application denotes that access for fishing via safe areas around the Project is permitted free of charge by BWPH.

***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?**

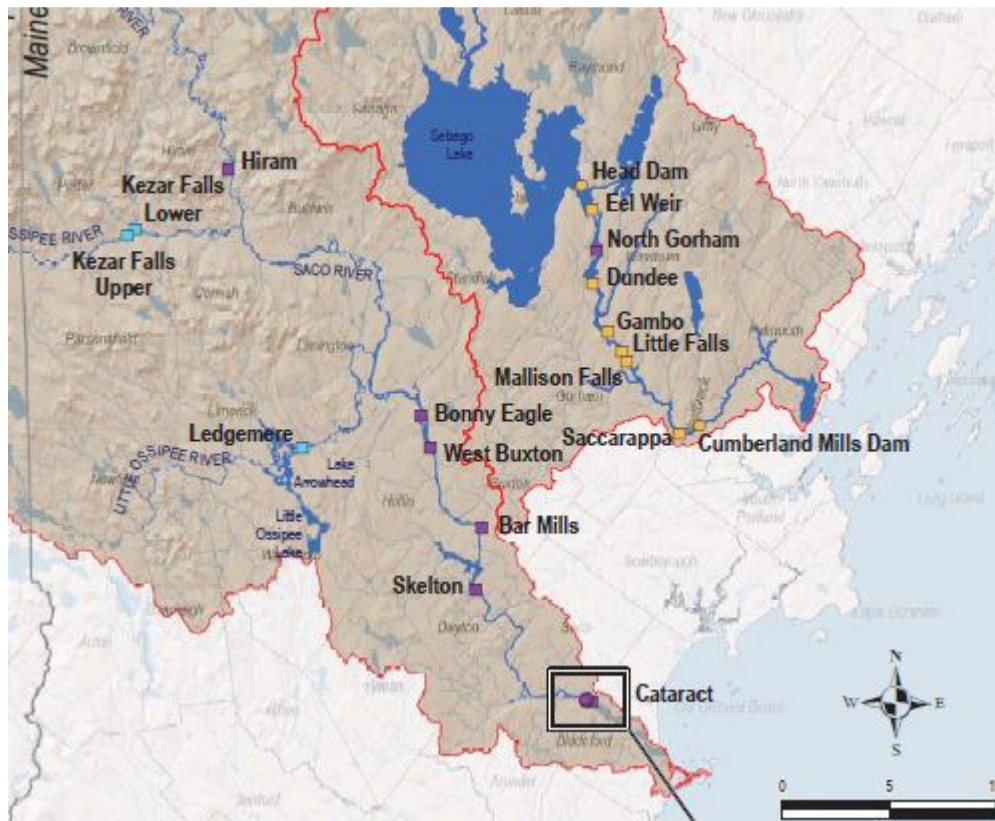
**NO.** No resource agency has recommended removal of this dam.

***The Project Passes Criterion H -Facilities Recommended for Removal***

## APPENDIX A

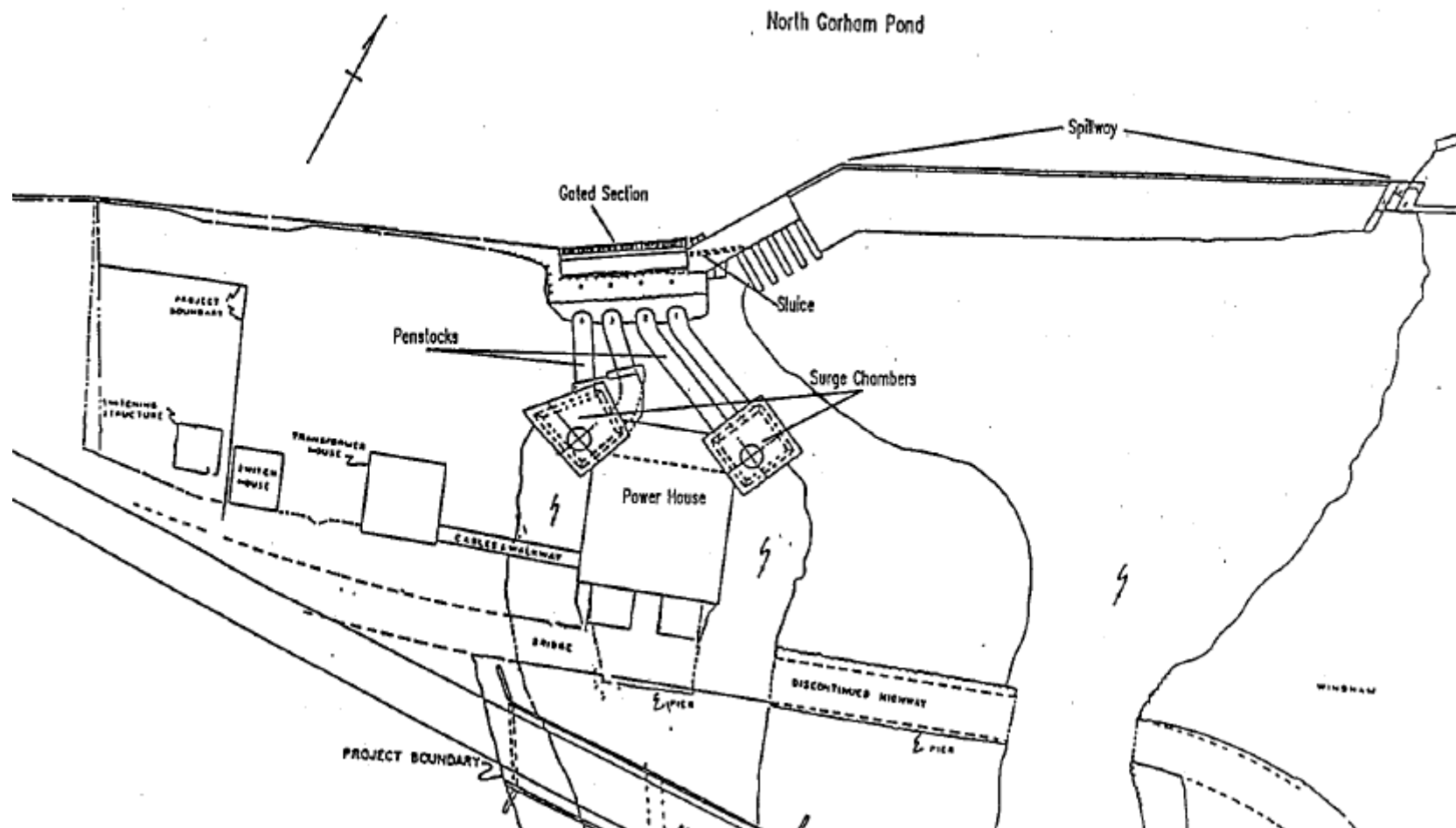
### FIGURES

**Figure 1**  
**Dams along the Presumpscot River**



The dams along the Presumpscot River are located on the right-side of the above map.

**Figure 2**  
**Key Features of the North Gorham Project**



**Figure 3**  
**Aerial of the Noth Gorham Project**





**Figure 4**  
**Estimated Boundaries of Brookfield Owned Property at the Powerhouse**



The red lines indicate the approximate boundary of the property owned by Brookfield at the powerhouse.

## **APPENDIX B STAKEHOLDER COMMUNICATIONS**

The following lists direct consultation initiated by the Reviewer and a summary of these communications.

<b>LIHI CRITERION</b>	<b>PRIMARY CONTACT INFORMATION</b>
<b>Flows</b>	None required
<b>Water Quality</b>	None required
<b>Fish Passage &amp; Protection</b>	Steve Shepard, USFWS; John Perry, MIF&W; Doug Watts, FOSL and Brad Goulet, SAPPI Paper (S.D. Warren)
<b>Watershed Protection</b>	None required
<b>Threatened &amp; Endangered Species</b>	None required
<b>Cultural Resources Protection</b>	None required
<b>Recreation</b>	David Cole, Gorham Town Manager and Tony Plante, Windham Town Manager
<b>Facilities Recommended for Removal</b>	None required

An email received from John Perry of MIF&W in response to my inquiry follows the conversation summaries.

## **RECORD OF CONTACTS**

**NOTE:** The information presented below was gathered by telephone communication between the Reviewer and representative listed below.

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Date: 8/23/16

Contact Person: Steven Shepard; USFWS

Contact Information: 207-902-1572; Steven.Shepard@fws.gov

Area of Expertise: Fish passage

Steve stated that the USFWS's position is that upstream passage for anadromous species is not required at North Gorham at this time. However, both upstream and downstream measures for eel are needed to ensure their safe passage through the Project. Such installation will allow the existing measures at the downstream dams (and planned for the upstream Eel Weir dam) to be fully productive. He also stated that limitation of staff resources is the reason why USFWS has not initiated formal proceedings under their reservation of authority to mandate fish passage. He acknowledged this has been discussed with MDMR who is also anxious to have eel passage installed at the project.

---

Date: 8/22/16

Contact Person: Doug Watts, Friends of Sebago Lake (FOSI)

Contact Information: 207-622-1003; info@dougwatts.com

Area of Expertise: Fish passage

I contacted Doug Watts to confirm my understanding of his brief email comment to LIHI. In summary, he feels very strongly that eel passage (upstream and downstream) must be installed at North Gorham, otherwise all of the existing measures in place at the downstream dams and recently negotiated for the upstream Eel Weir project will not effectively allow for safe passage for eel in the river. His position is that the fact that Eel Weir has a FERC license and WQC requirement to install such passage, makes it legally mandatory for Brookfield to install such measures at North Gorham, otherwise SAPPI Paper (a separate entity) cannot be in compliance with its license and WQC requirements. Doug ultimately provided a copy of the recent Settlement Agreement signed by SAPPI, Doug Watts and a representative of FOSL establishing the plans for upstream, but not downstream, passage.

---

Date: 8/23/16

Contact Person: Brad Goulet, SAPPI Paper (S.D. Warren)

Contact Information: 207- 856 4083; brad.goulet@sappi.com

Area of Expertise: Hydro Operation and Licensing

Brad confirmed that a Settlement Agreement was signed establishing the plan for installation of an eel ramp for upstream passage by March 2017 assuming all agency approvals are secured. The agreement also stated that appeals by D. Watts and FOSL of minor revisions to the WQCs at the Eel Weir Project and Saccarappa Dam (another dam owned by SAPPI for which the license has been surrendered) would be vacated, and that they would not challenge the proposed location of the eel ramp at Eel Weir.

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Date: 9/2/16

Contact Person: Tony Plante, Windham Town Manager

Contact Information: 207-892-1907

Area of Expertise: Recreational Facilities

Mr. Plante stated that he does review the reports received from Brookfield for the North Gorham project and has no concerns with the facility in his community.

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Date: 9/12/16

Contact Person: David Cole, Gorham Town Manager

Contact Information: 207-207-222-1650

Area of Expertise: Recreational Facilities

As follow-up to my initial call on September 2, 2016, Mr. Cole stated that he does review the reports received from Brookfield for the North Gorham project and has no concerns with the facility in his community.

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**Print**

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Date: Friday, September 30, 2016 12:56 PM  
From: Perry, John <John.Perry@maine.gov>  
To: 'pbmwork@maine.rr.com' <pbmwork@maine.rr.com>  
Subject: RE: Question on North Gorham Project

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Hi Pat,

I apologize for the late response: MDIFW generally defers to MDMR, USFWS, and NMFS for mainstem fish passage requirements for nonresident, migratory fish passage needs. Also, as the responsibility to determine compliance with the project's WQC or FERC license falls with the MDEP and FERC, respectively, we have no comment on the operation of the North Gorham project at this time.

John

John Perry  
Environmental Review Coordinator  
Maine Department of Inland Fisheries and Wildlife  
284 State Street, 41 SHS  
Augusta, Maine 04333-0041  
Tel (207) 287-5254; Cell (207) 446-5145  
Fax (207) 287-6395  
[www.mefishwildlife.com](http://www.mefishwildlife.com)

Correspondence to and from this office is considered a public record and may be subject to a request under the Maine Freedom of Access Act. Information that you wish to keep confidential should not be included in email correspondence.

-----Original Message-----

From: [pbmwork@maine.rr.com](mailto:pbmwork@maine.rr.com) [[pbmwork@maine.rr.com](mailto:pbmwork@maine.rr.com)]  
Sent: Tuesday, August 30, 2016 12:19 PM  
To: Perry, John  
Subject: Question on North Gorham Project

Hi John

I am the independent reviewer for Brookfield's application to the Low Impact Hydropower Institute for possible certification as "low impact". I can see you provided some data regrading possible presence of protected species at this location.

My question however has to do with fish passage. It appears that MDMR is the lead state agency for this site for fish passage, and they have submitted letter regrading their desire for eel passage but have stated that anadromous species passage is not currently requested. However I wanted to check with you to see if IF&W has any input on the need for such passage. Also, if you believe this project has not be operated in compliance with their WQC or FERC license for any environmental issue, please let me know what you believe is the problem.

Please feel free to respond by email or by calling me at 688-4236. Please leave me a message should I not be here when you call.

Thanks  
Pat McIlvaine