REVIEW OF APPLICATION FOR CERTIFICATION OF NEWFOUND HYDROELECTRIC PROJECT

This report provides review findings and recommendations related to the application originally submitted to the Low Impact Hydropower Institute (LIHI) by Newfound Hydroelectric Corporation for Low Impact Hydropower Certification of the Newfound Hydroelectric Project (the Project) on the Newfound River in the town of Bristol, New Hampshire. Ownership of the Project was recently transferred to Bob King and Rolland Zeleny, d.b.a. KTZ Hydro LLC (Applicant).

I. PROJECT'S GEOGRAPHIC LOCATION

The Newfound Hydroelectric Project is located in Bristol, NH. Bristol is in the Lakes Region of central New Hampshire. The Newfound River drains Newfound Lake and courses southward about 3½ miles before entering the Pemigewasset River in Bristol. As shown in Figure 1, below, the Pemigewasset River flows south seven miles to join the Winnipesaukee River, forming the Merrimack River. The Merrimack River then flows south to Massachusetts where it turns northeastward to empty into the Atlantic at Newburyport.

Figure 1. Merrimack River basin. The Newfound River enters the Pemigewasset River where the river changes direction from west to south flowing downstream of the Squam Lake tributary. (source: Karl Musser)

A terrain map showing the Bristol area can be found here:

http://maps.google.com/maps?hl=en&ll=43.632845,71.683731&spn=0.240537,0.441513&t=p&z=12&vpsrc=6

II. PROJECT AND IMMEDIATE SITE CHARACTERISTICS

The Facility originally was developed in 1927 by the Public Service Company of New Hampshire, which discontinued operation of the facility in 1948. As shown in Figure 2, below, the Facility diverts water from the Newfound River (labeled "Newfound diversion" in Figure 2) and then bypasses the remaining 870 feet of the river channel, discharging directly into the Pemigewasset River just upstream of the confluence of the two rivers. In Figure 2, the tailrace is visible running parallel and just to the north of the natural channel.

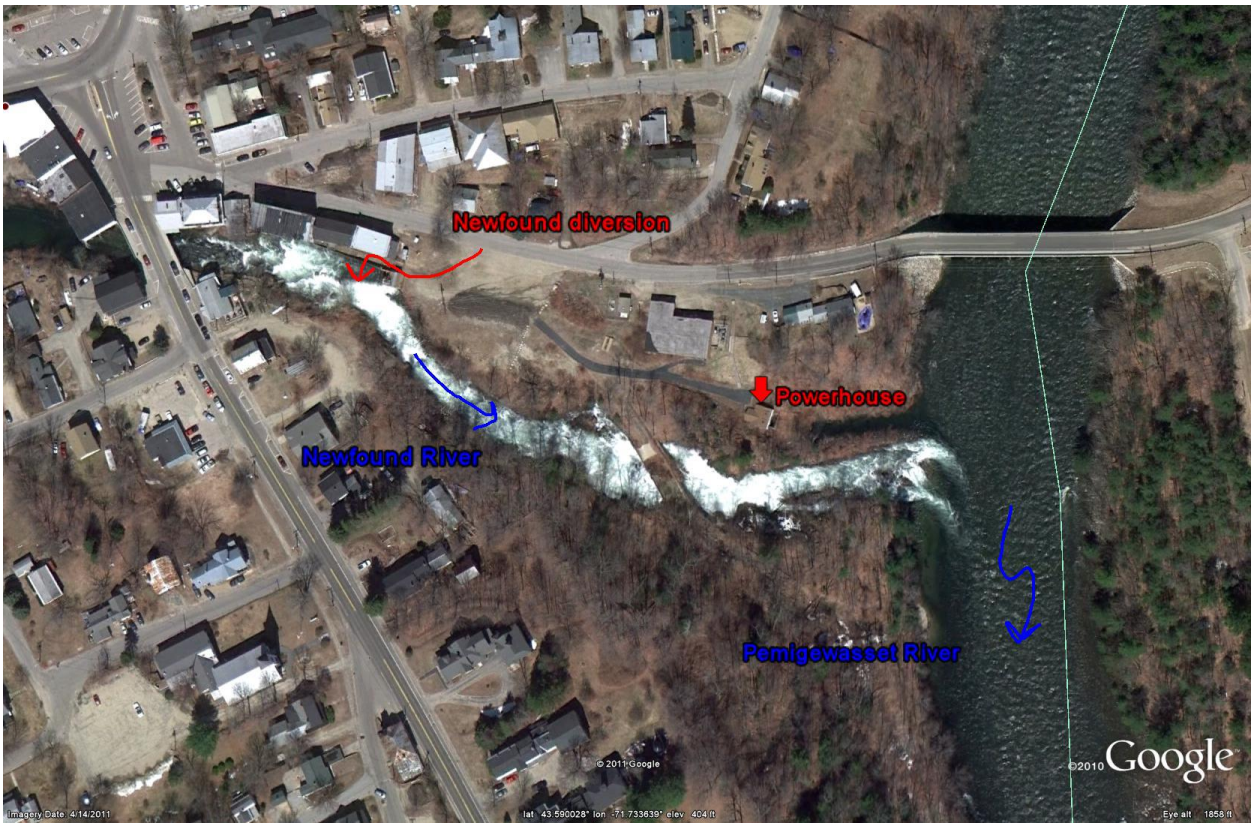

Figure 1. Layout of the Newfound Hydroelectric Project.

The project works consist of: (a) a diversion dam surmounted by one-foot-high wooden flashboards and totaling 10 feet in height; (b) a 0.23-acre reservoir with a storage capacity of 0.69 acre-feet; (c) a concrete intake channel; (d) a powerhouse containing two generating units (870 kW and 617 kW); (e) a 6-foot diameter wooden penstock 420 feet long; (f) a 30-foot wide tailrace extending 175 feet to the Pemigewasset River; (g) a 160-foot-long underground cable from the powerhouse to an existing pole owned by the power purchaser, Public Service Company of New Hampshire; and (h) appurtenant works. The powerhouse is new and is located

800 feet downstream of the Water Street bridge. The installed capacity of the Project is 1,500 kW, and the Facility has an average annual production of 5,749,000 kWh.

According to the license, the Project is located within the flood pool of the Corps of Engineers Franklin Falls Flood Control Project, located on the Pemigewasset. Article 23 of the license holds harmless the Corps of Engineers up to elevation 395 feet NGVD.

Figure 3. Newfound Hydro powerhouse; buried penstock enters from right.

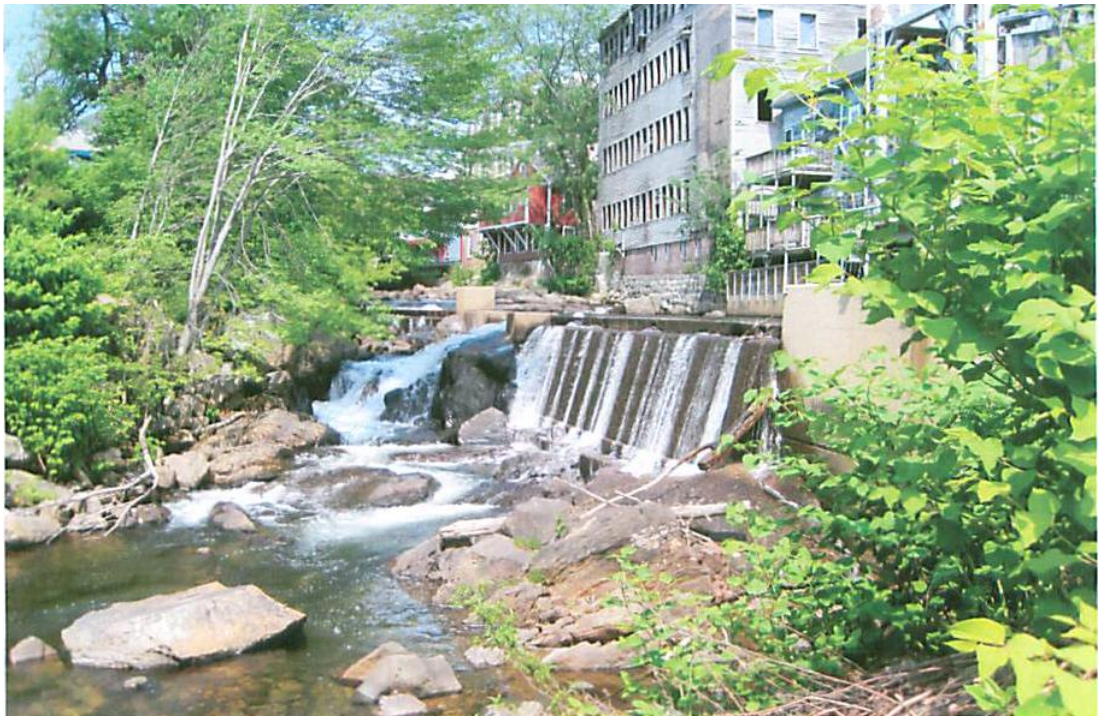

Figure 4. Diversion dam.

Figure 5. Bypassed reach looking downstream.

III. REGULATORY AND COMPLIANCE STATUS

The Federal Energy Regulatory Commission (FERC) granted the Project a 50-year license on November 6, 1981 as Project No. 3107. No compliance issues were revealed in my review of the last ten years of documents in eLibrary. The library did not include any annual operations compliance reports, however. None of the resource agencies I contacted raised any compliance issues.

IV. PUBLIC COMMENT RECEIVED BY LIHI

The LIHI application was publicly noticed on May 16, 2011. No comments were received during the notice period, which ended July 16, 2011.

V. LIHI CRITERIA REVIEW

Under each of the issue sections that follow, I include a table that contains the related LIHI questionnaire sections and my analysis and conclusions.

General Conclusions and Recommendations. I recommend that the facility be conditionally certified for the standard period of five years. The three recommended conditions, set forth below, address LIHI's flow (two of the conditions) and fish passage criteria. The Applicant has indicated that it has no objection to any of the conditions.

Regarding other LIHI criteria, there are no known listed T&E species at the site. Recreational access is available with no fees charged. No outstanding cultural resource issues are apparent in the record. The watershed protection criteria do not apply, and there is no watershed enhancement fund that would qualify the facility for extension of the certification term by three years. The Project will meet all LIHI criteria in the reviewer's opinion if the conditions recommended below are imposed upon certification.

• Condition #1, regarding Flows: The Facility maintains true run-of-river operation consistent with license requirements, and the Applicant proposes to increase the minimum flow in the bypassed reach to a level that the fisheries agencies consider to be appropriately protective. However, the Facility does not maintain records for monitoring and demonstrating compliance with the flow management requirements of the license.

Recommended Condition # 1:

> *KTZ Hydro LLC shall develop a system for maintaining records sufficient to demonstrate compliance with the headpond elevation and flow management limitations of instantaneous run-of-river operation and maintenance of a minimum bypass flow of 12.7 cfs, or instantaneous inflow if less. The 12.7 cfs minimum flow may be modified as provided for in Condition #2. Within three months of the date of issuance of the certification, KTZ Hydro LLC shall provide LIHI with a written flow management plan that outlines the systems to be used to properly manage flows and headpond levels and to produce compliance records. This shall include the design for the notch in the*

flashboards for the minimum bypass flow and a staff gage, if determined to be warranted by the U.S. Fish and Wildlife Service. Prior to filing the plan, KTZ Hydro LLC shall obtain plan approval from U.S. Fish and Wildlife Service and New Hampshire Department of Environmental Services; written confirmation of the approvals will be filed with the plan.

• Condition #2, regarding Flows: This condition addresses the need for the Facility to provide adequate protection of fish and other aquatic organisms in the bypassed reach. To do this, the minimum flow needs to be increased from 5 cfs to an estimated 12.7 cfs, and the estimate for the field-observed flow needs to be confirmed. These changes are required in order to meet the LIHI "appropriately protective" flow criterion (A.3 criterion). The New Hampshire Department of Environmental Services (NHDES) requested certain information from the Applicant to enable it to reach a conclusion on compliance with state water quality standards for the purpose of the LIHI application; the information was provided, and NHDES furnished a letter of compliance so long as the flow in the bypass was increased.

Recommended Condition No. 2:

KTZ Hydro LLC shall increase the bypass minimum flow to 12.7 cfs immediately and shall notify LIHI within 7 days of taking such action. KTZ Hydro LLC shall also validate the 12.7 cfs flow estimate in consultation with the U.S. Fish and Wildlife Service and provide the results to LIHI by no later than October 1, 2012, including written concurrence from the U.S. Fish and Wildlife Service.

• Condition #3, regarding Fish Passage: The Facility does not incorporate fish passage facilities. Such facilities are not considered a current need by the fisheries agencies; however, circumstances could change in the future. I am recommending Condition #3 to cover the provision of fish passage should a fisheries agency request such facilities during the term of the certification.

Recommended Condition No. 3:

In the event that within the 5-year term of the certification a fisheries agencies requests or prescribes upstream or downstream fish passage at the Project, KTZ Hydro LLC shall notify LIHI within 30 days of such action and the steps that KTZ Hydro LLC is prepared to take to install appropriate passage at the Project dam. In the event that KTZ Hydro LLC notifies LIHI that it does not intend to install appropriate passage, or that KTZ Hydro LLC cannot reach an agreement with resource agencies as to the nature of this passage, LIHI reserves the right to withdraw its certification should LIHI determine that KTZ Hydro LLC's position is inconsistent with the LIHI fish passage criteria at that time.

A. Flows

The majority of the watershed is controlled by releases at Newfound Lake dam, which was owned by PSNH until 1974 when NHDES assumed ownership. Water levels and releases are managed to consider several uses and factors, including environmental protection, shoreline flooding, recreation, and downstream hydropower. NHDES's 1982 rule curve for water level management has the lake gradually drawn down 2.5 feet from the spring high to the late winter low. Following the rule curve, storage is managed to provide flow augmentation during the summer months and to attenuate high flow releases in order to make more water available for downstream hydropower production. Formerly two other hydrodams were on the Newfound River between the lake and the Project; they are no longer operating.

The facility is operated as a fully automated instantaneous run-of-river project. As originally licensed, a bypass flow of 5 cfs was to be maintained. Such a flow is substantially less than the USFWS regional summer aquatic base flow, which would be 49 cfs for this site (98.6 square mile drainage area). On October 6, 2011, USFWS and NHDFG participated in a flow demonstration study at the Project to determine an adequate bypass flow for protection of aquatic resources. The conclusions from the study are contained in an email dated October 25, 2011 from USFWS (see Appendix). The estimated flow acceptable to the fisheries agencies is 12.7 cfs, although there is some uncertainty as to the accuracy of the estimate. USFWS asked that the flow be confirmed next summer and that the 12.7 cfs be considered a target interim minimum flow, and that a staff gage be installed if it decides such action is appropriate. The flow would be provided by notching the flashboards near the Project intake.

NHDES, by letter dated May 24, 2011, requested certain information to enable it to reach a conclusion as to whether the Project complies with New Hampshire water quality standards, specifically with regard to 1) impact on ambient water quality criteria (dissolved oxygen, temperature, total phosphorus, and chlorophyll-a; 2) impact of pond fluctuations on aquatic habitat; 3) maintenance of adequate minimum flows to protect downstream aquatic life; and 4) adequate upstream and downstream fish passage. Essex Power Services, Inc. (EPS, the Applicant's representative) responded that the run-of-river operation minimizes artificial pond level fluctuations and prevents dewatering of the headpond's littoral zone habitat. EPS also noted that the Applicant does not maintain records of minimum flow compliance. By letter dated November ^, 2011 to LIHI, NHDES provided its conclusion that the river immediately upstream and downstream of the Project is "attaining water quality standard[s] at this time." In reaching this conclusion, NHDES noted that bypass minimum flow requirements could change.

LIHI Questionnaire: Flows	
A.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 rate conditions, and seasonal and episodic instream flow variations) for both the reach below the tailrace and all bypassed reaches?**
	Reviewer Analysis/Conclusions: The Project was licensed in 1981. This subcriterion only applies when the Recommendations are from or after 1987. **N/A = Go to A.2**

A.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?**
	Reviewer Analysis/Conclusions: With respect to the below-tailrace reach, the Facility meets the Flow criterion under A.2, as the Facility is operated strictly run-of-river. To assure compliance, Recommended Condition #1, which requires on-site record keeping, should be adopted. With respect to the bypassed reach, neither the current minimum flow (5 cfs) nor the proposed minimum flow (12.7 cfs) meets ABF or Montana-method standards. **YES with respect to the below-tailrace reach (subject to Recommended Condition #1)** **NO with respect to the bypassed reach = Go to A.3**
A.3	**If the Facility is unable to meet the flow standards in A.2., has the Applicant demonstrated, and obtained a letter from the relevant Resource Agency confirming that demonstration, that the flow conditions at the Facility are appropriately protective of fish, wildlife, and water quality?**
	Reviewer Analysis/Conclusions: With respect to the bypassed reach, the Applicant has agreed to maintain a flow that the USFWS and NHDFG find to be appropriately protective. Recommended Condition #2, which provides for field confirmation of the flow estimate, should be adopted. **YES with respect to the bypassed reach (subject to Recommended Conditions #1 and #2) = PASS**

B. Water Quality

The Project received a state water quality certification in 1981. The Applicant was unable to furnish a copy; however, the certification pre-dates 1987 and, therefore, cannot be used for the purposes of LIHI criteria compliance. As mentioned above under *Flows*, NHDES in its November ^, 2011 letter concluded that the river currently attains state water quality standards at the Project based on sampling completed by the Applicant in Summer 2011.

The Newfound River in the Project vicinity is not listed as a Category 5 water (impaired in need of a TMDL) in the 2010 303(d) list. At the time of assessment, there was a lack of data upon which to make a determination of use support. The recently collected data did not reveal any use impairments.

LIHI Questionnaire: Water Quality	
B.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** **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?**

	Reviewer Analysis/Conclusions: The Project does not have a post-1986 water quality certification. NHDES analyzed the Project's impact on water quality and concluded that the current operation is compliant. **YES to (b) = Go to B.2**
B.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?**
	Reviewer Analysis/Conclusions: The Newfound River is not 303(d) listed either immediately upstream (Assessment Unit NHIMP700010603-014) or immediately downstream (Assessment Unit NHRIV700010603-12) of the Facility dam. **NO = PASS**

C. Fish Passage and Protection

According to *Strategic Plan & Status Review, Anadromous Fish Restoration Plan, Merrimack River* (Technical Committee for Anadromous Fishery Management of the Merrimack River Basin and Advisors to the Technical Committee, October 16, 1997), anadromous fish were well distributed in the upper Merrimack River basin historically. The Pemigewasset River basin served as the principal source of salmon production, while shad and river herring (alewives and blueback herring) more likely utilized the Winnipesaukee, the Merrimack River mainstem and other Merrimack tributaries. In 1847, the Essex Dam in Lawrence, Massachusetts was constructed at River Mile 30, blocking anadromous fish runs to critical upstream habitat. Atlantic salmon became extirpated, while shad and river herring maintained diminished populations by using available habitat downstream of Essex Dam.

The Newfound hydroelectric project is not currently required by state or federal resource agencies to construct or maintain upstream and/or downstream fish passage facilities. The federal license indicated that the USFWS had determined that the Newfound River does not provide suitable habitat for anadromous fish. It is certainly correct that there is a limited amount of habitat between the Project and Newfound Lake; there are no significant tributaries in the reach, and the river length between the Project and the Lake is relatively short. The Newfound River is not currently targeted for anadromous fish restoration. NHDFG stated in a letter dated November 7, 2011 that a waterfall in the Project bypass would be a barrier to upstream movement of migratory fish, except for eels. The "waterfall" is actually an abandoned dam according to John Warner, USFWS (personal conversation, November 7, 2011; see Figure 6). Since the dam obscures the natural cascade, it is impossible to judge whether it would be a barrier to salmon.

Figure 6. Abandoned dam in bypassed reach.

There are ongoing efforts by state and federal agencies to protect and enhance the depleted coastwise stock of American eel. Although there are eel populations in Squam Lake and Lake Winnipesaukee, NHDFG has not documented a presence in the Newfound River watershed, although there have not been any surveys specifically to determine eel presence according to John Warner, USFWS (personal conversation, November 7, 2011).

The fisheries agencies have not indicated that will be a need for passage facilities at the Project. While there are no plans for use of the Newfound River basin as part of the Merrimack River anadromous fish restoration effort and eels have not been documented in the watershed, the USFWS recommended that certification be conditioned on the Applicant's cooperation should there be a request to institute passage.

LIHI Questionnaire: Fish Passage and Protection	
C.1	**Is the Facility in Compliance with *Mandatory Fish Passage Prescriptions* for upstream and downstream passage of anadromous and catadromous fish issued by Resource Agencies after December 31, 1986?**
	Reviewer Analysis/Conclusions: No prescription exists or is planned. **N/A = Go to C.2**
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 (*e.g.*, because passage is blocked at a downstream dam or the fish run is extinct)?**
	Reviewer Analysis/Conclusions: No historic records available. It is unknown whether salmon would have been able to ascend above the natural cascade that is presently

	obscured by the abandoned dam in the bypassed reach; however, the cascade and the dam site would not have been barriers to upstream eel passage. **Yes to catadromous fish (eels) = Go to C.2.a** **No to anadromous fish = Go to C.3**
C.2.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?**
	Reviewer Analysis/Conclusions: There is a lack of knowledge as to why American eel have not been documented in the watershed; however, NHDES does not believe that the diversion dam creates a barrier to upstream eel movement. **Yes to catadromous fish (eels) = Go to C.2.b**
C.2.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?**
	Reviewer Analysis/Conclusions: No such request has been made to date.
C.3	**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 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?**
	Reviewer Analysis/Conclusions: Based on the record, the agency have not considered a formal prescription. **N/A for both anadromous and catadromous fish = Go to C.4**
C.4	**If C3 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 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?**

	Reviewer Analysis/Conclusions: The Applicant has not attempted to demonstrate effective eel passage as no measures are currently in place nor requested. The fisheries agencies consider the present conditions to be appropriately protective of the fishery resource. The basin is not targeted for use by anadromous fish, and the agencies do not believe there is a current need for eel passage; however, I recommend Condition #3 to address a change in circumstances during the certification term. **YES to (b) (subject to Recommended Condition #3) = Go to C.5**
C.5	**Is the Facility in Compliance with Mandatory Fish Passage Prescriptions for upstream and/or downstream passage of *Riverine* fish?**
	Reviewer Analysis/Conclusions: There are no prescriptions for riverine fish. **N/A = Go to C.6**
C.6	**Is the Facility in Compliance with Resource Agency Recommendations for Riverine, anadromous and catadromous fish entrainment protection, such as tailrace barriers?**
	Reviewer Analysis/Conclusions: There are no Resource Agency Recommendations for entrainment protection measures. Should downstream passage measures be necessary in the future for eels, entrainment protection would be a consideration. **N/A = PASS**

D. Watershed Protection

The Facility dam creates an impoundment with a surface area of only about 1/4 acre. The backwatered reach does not appear to extend more than half way to the Water Street bridge, a short distance upstream. The Facility is located in downtown Bristol, a developed urban area. No protected buffer zones have been created along the short impoundment through a settlement agreement or the federal exemption.

LIHI Questionnaire: Watershed Protection	
D.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 high water mark in an average water year around 50 - 100% of the impoundment, and for all of the undeveloped shoreline?**
	Reviewer Analysis/Conclusions: There are no buffer zones at this project. **NO = Go to D.2**
D.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?**
	Reviewer Analysis/Conclusions: There is no watershed enhancement fund. The facility does not qualify for an extension of the LIHI certification term by three years. **NO = Go to D.3**
D.3	**Has the facility owner/operator established through a settlement agreement with appropriate stakeholders and that has 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).**

	Reviewer Analysis/Conclusions: There is no settlement agreement. **NO = Go to D.4**
D.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?**
	Reviewer Analysis/Conclusions: There are neither recommendations nor a shoreline management plan related to the exemptee's activities. **N/A = PASS**

E. Threatened and Endangered Species Protection

On May 5, 2011 a request was submitted to the New Hampshire Natural Heritage Bureau for a comprehensive list of federally listed threatened or endangered species that occur in the vicinity of the Project. The New Hampshire Natural Heritage Bureau confirmed via its project impact report dated May 5, 2011 that its database does not include any occurrences of federal- or state-listed threatened or endangered species. This is consistent with FERC's determination in the license that no federally listed plant or animal species have been identified within the project boundary.

LIHI Questionnaire: Threatened and Endangered Species Protection	
E.1	**Are threatened or endangered species listed under state or federal Endangered Species Acts present in the Facility area and/or downstream reach?**
	Reviewer Analysis/Conclusions: There is no record of state or federally listed T&E species at the Project presently. **NO = PASS**

F. Cultural Resource Protection

There is no evidence of conflicts with respect to cultural resources protection. By letter dated June 1, 2011 (Appendix), the New Hampshire Division of Historic Resources commented that the Project does not present a risk since no activities outside of normal operation are planned.

Article 19 of the license addresses general cultural resource protection as well as specific protection of a historic mill on the site. EPS indicates that the mill building is no longer within the Project boundaries (email of November 5, 2011, see Appendix).

LIHI Questionnaire: Cultural Resource Protection	
F.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?**
	Reviewer Analysis/Conclusions: No conflicts were identified in the record. **YES = PASS**

G. Recreation

Recreational access, accommodation and facilities conditions were not included as a part of the FERC license issued on November 6, 1981. The application indicates that steep terrain within the project boundary provides for little recreational access at the project, but that minimal hiking and angling occurs within the project boundary. Access is provided free of charge.

In 2011, the former licensee granted an easement to the Town of Bristol for a public parking area to be used by residents when accessing a riverfront park that the Town is developing at the site of two old buildings, which abut the project boundary and are to be demolished in 2012. (See Figure 7 and Town letter in Appendix).

Figure 7. Planned Town riverfront park.

LIHI Questionnaire: Recreation	
G.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?**
	Reviewer Analysis/Conclusions: No formal requirements or Recommendations apparently exist. **YES = Go to G.3**
G.3	**Does the Facility allow access to the reservoir and downstream reaches without fees or charges?**
	Reviewer Analysis/Conclusions: Access is provided without charge. **YES = PASS**

H. Facilities Recommended for Removal

The record does not indicate an interest on the part of resource agencies in removing the dam.

LIHI Questionnaire: Facilities Recommended for Removal	
H.1	**Is there a Resource Agency Recommendation for removal of the dam associated with the Facility?**
	Reviewer Analysis/Conclusions: No. **NO = PASS**

APPENDIX

Contents

From: Stephen Hickey [mailto:sjh@essexhydro.com]
Sent: Wednesday, October 26, 2011 10:34 AM
To: Walsh, Ted
Cc: Jeffrey Cueto
Subject: Re: Fwd: RE: Newfound bypass flow follow up

As soon as possible

On 10/26/2011 10:26 AM, Walsh, Ted wrote:
Steve,
When will the owner implement this?

Ted

> -----Original Message-----
> **From:** Stephen Hickey [mailto:sjh@essexhydro.com]
> **Sent:** Tuesday, October 25, 2011 2:50 PM
> **To:** Walsh, Ted; Jeffrey Cueto
> **Subject:** Fwd: Fwd: RE: Newfound bypass flow follow up
>
> Ted,
>
> Please see below the conditions imposed by USFWS and NHFG with regards to the Low Impact Hydropower Institute's pending certification of the Newfound Hydroelectric facility. KTZ Hydro, LLC, the new project owners, have agreed to implement these conditions. Please let me know if you need any additional information for inclusion in your water quality impact letter for the facility.
>
> Thank you,
> Steve
>
> -------- Original Message --------
> **Subject:**RE: Newfound bypass flow follow up
> **Date:**Tue, 25 Oct 2011 14:28:53 -0400
> **From:**John A Magee <john.a.magee@wildlife.nh.gov>
> **To:**<John_Warner@fws.gov>, "Stephen Hickey" <sjh@essexhydro.com>
> **CC:**Bob King <bking@gaw.com>
>
> I agree with that which John Warner wrote in his email dated Tuesday, October 25, 2011 8:57 AM.
>
> Thank you,
>
> John

John Magee
Fish Habitat Biologist
New Hampshire Fish and Game Department
11 Hazen Drive
Concord, NH 03301
p (603) 271-2744
f (603) 271-1438
john.a.magee@wildlife.nh.gov

New Hampshire Fish and Game Department - Connecting You to Life Outdoors

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From: John_Warner@fws.gov [mailto:John_Warner@fws.gov]
Sent: Tuesday, October 25, 2011 8:57 AM
To: Stephen Hickey
Cc: Bob King; John A Magee
Subject: Re: Newfound bypass flow follow up

Steve,

Based on our discussion yesterday and review of the information below, we have the following recommendations for LIHI Certification of Newfound Hydro.

We can support the Newfound Hydroelectric Project's application for certification by the Low Impact Hydropower Institute if the project owner agrees to the release of a minium flow of 12.7cfs into the bypass reach. While the exact flow we identified in the field on October 6, 2011 as being acceptable is uncertain, the best approximation of that flow is 12.7 cfs and that discharge should be the target minimum flow. This bypass flow would be passed through a notch in the project flashboards close to the project's trash racks. We will want to review the flow in the field (likely next summer) to verify that the calculated flow achieves the habitat conditions we observed in the field and found acceptable. Newfound Hydro would need to coordinate with me and NHFGD to schedule the observations when river flows are appropriate. Adjustment of flows for observations may be needed to verify that the 12.7 cfs flow is adequate or some other flow is needed. Once a final flow is verified, it may be appropriate to install a staff gage in the lower bypass to permit verification of compliance with the correct flow. We can discuss this further at the time of the flow demonstration but would like Newfound to commit to installing a gage if its determined to be needed.

I believe that John Magee at New Hampshire Fish and Game is in agreement with the above.

Thanks - JW

John P. Warner
Assistant Supervisor, Conservation Planning Assistance and Endangered Species
New England Field Office, U.S. Fish and Wildlife Service

70 Commercial Street, Suite 300
Concord, NH 03301
(603) 223-2541 - ext.15

NHDES LETTER TO GO HERE

New Hampshire
Fish and Game Department

11 Hazen Drive, Concord, NH 03301-6500
Headquarters: (603) 271-3421
Web site: www.WildNH.com

TDD Access: Relay NH 1-800-735-2964
FAX (603) 271-1438
E-mail: info@wildlife.nh.gov

Glenn Normandeau
Executive Director

November 7, 2011

Mr. Stephen Hickey
Essex Power Services, Inc.
on behalf of KTZ Hydro LLC
55 Union Street, 4th Floor
Boston, MA 02108

RE: Newfound River, Bristol

Dear Mr. Hickey:

Staff from the Department either conducted a site walk and/or reviewed the proposed LIHI hydro project on the Newfound River in Bristol and offer the following information for your files:

"The NH Fish and Game Department has no specific data on the occurrence of American eel in the Newfound River or its watershed. However, American eel are well known to be able to get around large waterfalls like the one in the bypass of the Newfound River. The existing dam and operation appear to be passable by American eel, and as such, the Department expects that the 12.7 cfs bypass flow agreed to be released by the Newfound Hydroelectric Project will be appropriately protective of American eel at this time. There is no evidence that the project has caused the extirpation of American eel from the Newfound River. Fish passage, for species other than American eel, is currently a low priority for the NH Fish and Game Department at this site due to the impassable waterfall in the bypass reach."

In addition, the Department does agree with the US Fish and Wildlife Services' recommendation noted in John Warners' email dated November 7th (copied to the Department), 2011, that "the LIHI certification should be contingent upon an agreement by the licensee to implement both upstream and downstream passage measures for American eel in a timely manner if passage is found to be necessary by the Service and/or NHFGD.

I hope this information has been helpful. If you need any additional information, please do not hesitate to contact me at 603-271-3511. Thank you.

Sincerely;

Carol B. Henderson

Carol B. Henderson
Environmental Review Coordinator

From: John_Warner@fws.gov [mailto:John_Warner@fws.gov]
Sent: Monday, November 07, 2011 10:54 AM
To: Stephen Hickey
Cc: Rolland Zeleny; John A Magee; Walsh, Ted; ompompanoo@aol.com
Subject: Re: Request for comment re fish passage at Newfound Hydro

Hi Steve - Here are our comments on fish passage needs at Newfound Hydro:

At this time there are no plans for restoration activities for anadromous fish in the Newfound River. However, there may be a need for passage measures for catadromous American eel at a future date. The Service agrees with the NH Fish and Game Department that there are no specific data on the occurrence of American eel in the Newfound River or its watershed. However, American eel are known to be able to get around large waterfalls and dams like the one in the bypass reach of the project and the project site may currently be passable to some extent by American eel. However, existing passage measures for American eel at downstream dams on the Merrimack River system is limited. While eel passage facilities are in place at Amoskeag Dam and in planning at Lawrence Dam, good passage is not available at all downstream facilities at this time. Although some eels ascend the river past dams without passage, we are uncertain how many eels migrate to the Newfound River and attempt upstream passage at the project site. Likewise, we have no information on the success rate of any passage attempts or outmigrant numbers from Newfound Lake.

Therefore, it is premature to require either upstream or downstream passage measures at the Newfound Hydro facility at this time. Based on improved upstream passage measures at downstream dams and/or better information on eel abundance in the Newfound River or Newfound Lake, eel passage may be warranted. We recommend that LIHI Certification be contingent upon an agreement by the

licensee to implement both upstream and downstream passage measures for American eel in a timely manner if passage is found to be necessary by the Service and/or NHFGD.

Please let me know if you need this in a letter format.

-- jw

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

www.fws.gov.northeast/newenglandfieldoffice
Stephen Hickey <sjh@essexhydro.com>

Stephen Hickey
<sjh@essexhydro.com>

11/01/2011 02:07 PM

ToJohn_Warner@fws.gov

ccJohn A Magee <john.a.magee@wildlife.nh.gov>, Rolland Zeleny <indigoharbor@yahoo.com>

SubjectRequest for comment re fish passage at Newfound Hydro

Dear Mr. Warner and Mr. Magee,

As you are aware, Essex Power Services, Inc. (EPSI) has been hired by KTZ Hydro, LLC, the owner, operator and licensee of the Newfound Hydroelectric Project (the Project) located on the Newfound River in the town of Bristol, County of Grafton, NH to write an application to the Low Impact Hydropower Institute ("LIHI") for the low impact certification of the Project. As a requirement of the LIHI application, applicants are required to seek comment from the relevant hydroelectric agencies regarding the Project's compliance with the requirements of its FERC license or exemption. In addition to the comments you provided regarding bypass flows, LIHI has requested the projectseek any comments you have regarding the Project's compliance with the upstream and downstream fish passage requirements of its license (FERC Project No.3107). At the time the license was issued in November of 1981, the U.S. Fish and Wildlife Service (USFWS) determined

that the Newfound River does not provide suitable habitat for anadromous fish. No state or federal agency has recommended fish passage be installed at the Project to date.

I have attached a copy of the Newfound Hydroelectric project license for your reference.

Thank you in advance for your comments.

Sincerely,

Stephen Hickey
Essex Power Services, Inc.
on behalf of Newfound Hydroelectric Company
55 Union Street, 4th Floor
Boston, MA 02108
tel: 617-367-0032

From: sjh@essexhydro.com [mailto:sjh@essexhydro.com]
Sent: Saturday, November 05, 2011 2:35 PM
To: Jeffrey Cueto
Subject: Re: Responses to Newfound Hydroelectric intake review

Jeff,

The diversion intake structure at Newfound hydro is a concrete diversion weir approximately 100' long, founded in rock ledge and varrying in height from 2' to 11'. The weir is fitted with 1' hight wooden flashboards. Dam abutments offer 3' of freeboard. There are 4' flashboards on the north side of the intake structure to prevent leakage into the adjacent mill buildings in the event of very high flows. Please let me know if you would like me to send pictures of the weir on Monday.

With regards to the historical mill building, it was purchased in the 1980s by Henry Harris, a former owner and is no longer within the project bounds.

Please let me know if you need anything else.

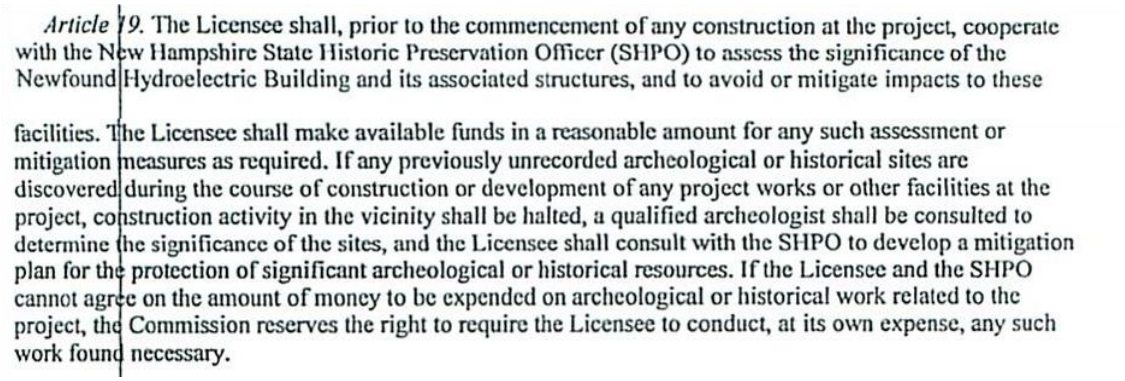
Steve
Sent from my Verizon Wireless BlackBerry

From: "Jeffrey Cueto" <ompompanoo@aol.com>
Date: Sat, 5 Nov 2011 09:46:43 -0400
To: <sjh@essexhydro.com>
Cc: 'Rolland Zeleny'<indigoharbor@yahoo.com>
Subject: RE: Responses to Newfound Hydroelectric intake review

I can live without the water quality certification copy.

Please clarify the dam and flashboard heights.

Could you also explain what happened with respect to license Article 19:



Article 19. The Licensee shall, prior to the commencement of any construction at the project, cooperate with the New Hampshire State Historic Preservation Officer (SHPO) to assess the significance of the Newfound Hydroelectric Building and its associated structures, and to avoid or mitigate impacts to these facilities. The Licensee shall make available funds in a reasonable amount for any such assessment or mitigation measures as required. If any previously unrecorded archeological or historical sites are discovered during the course of construction or development of any project works or other facilities at the project, construction activity in the vicinity shall be halted, a qualified archeologist shall be consulted to determine the significance of the sites, and the Licensee shall consult with the SHPO to develop a mitigation plan for the protection of significant archeological or historical resources. If the Licensee and the SHPO cannot agree on the amount of money to be expended on archeological or historical work related to the project, the Commission reserves the right to require the Licensee to conduct, at its own expense, any such work found necessary.

Is the Newfound Hydroelectric Building gone now?

I don't think you've given me the cultural resources and recreation responses asked for in the Intake Review.

NEW HAMPSHIRE DIVISION OF HISTORICAL RESOURCES
State of New Hampshire, Department of Cultural Resources
19 Pillsbury Street, Concord, NH 03301-3570
TDD Access: Relay NH 1-800-735-2964
www.nh.gov/nhdhr
603-271-3483
603-271-3558
FAX 603-271-3433
preservation@dcr.nh.gov

June 1, 2011

Stephen Hickey
Essex Power Services, Inc.
55 Union Street, 4th Floor
Boston, MA 02108

Re: Newfound Hydroelectric Project, Water Street, Bristol, NH
RPR #2959

Dear Mr. Hickey:

In conformance with *36 CFR 800.4(c)(1)* and *(2)* of the Advisory Council on Historic Preservation procedures, *36 CFR Part 800: Protection of Historic Properties*, staff of the Division of Historical Resources has reviewed the materials you submitted regarding the proposed project. The DHR understands that your organization is requesting a review to determine if normal operating procedures will affect historic properties.

Edna Feighner, Archaeologist and Review and Compliance Manager, has reviewed the Request for Project Review Form and concurs that no archaeological survey is necessary at this time. The property and its associated features appear to be more than fifty years old. The property has not been previously evaluated and therefore it is unknown as to whether or not the property is eligible for listing in the National Register of Historic Places.

Based on an understanding that this "project" merely entails normal operating procedures, the project as described will constitute "***No Adverse Effect***" under 36 C.F.R. Part 800.5(a)(1).**However,** should any future project have the potential to alter character-defining features or entail ground disturbing activities, additional Section 106 coordination may be required that may include the preparation of a New Hampshire Inventory Form or archaeological studies.

Should you have any questions or concerns, please feel free to call Nadine Peterson, Preservation Planner, at 603-271-6628.

Sincerely,

Elizabeth H. Muzzey
Director/State Historic Preservation Officer

EHM:nmp

cc: Bristol Historic District Commission
Town of Bristol

TOWN OF BRISTOL
230 Lake Street, Bristol, NH 03222

August 5, 2011

Mr. Nathan Wechsler
c/o Newfound Hydroelectric Company
71 Bristol Drive
Boynton Beach, FL 33436

Dear Mr. Wechsler,

The purpose of this correspondence is to provide you with an update regarding a project in downtown Bristol that abuts your Hydro-electric facility. You may recall, that in October of last year I wrote to let you know about our plans to remove the MICA building on Central Street and the possible removal of the adjacent properties as well. The removal of these structures would afford us the opportunity to create an open space along the Newfound River for residents and visitors to enjoy. In addition, a link to a trail contemplated along the old Water Street right of way down to the Pemigewasset River, would be accessed by a sidewalk from the open space along Central Street with parking in the established Town parking easement area.

We were most grateful to receive your phone call in support of our efforts after receipt of our letter in October. It is reassuring to know that you and the other neighbors with whom we have spoken are in support of our plan.

I wanted to let you know that we were successful in obtaining a grant from the United States Environmental Protection Agency (USEPA) to assist with the removal of the Mica building. Our goal is to have the building taken down before the end of the year. This is a very ambitious schedule and we hope we will be successful in meeting our objective.

I also wanted to let you know that the building removal will have many levels of oversight from both USEPA and the New Hampshire Department of Environmental Services (NHDES). All work will be done to strict State and Federal guidelines under the direction of an environmental consulting firm. USEPA and NHDES representatives visited the site with Town officials on August 2, to begin the process of defining the scope of the project.

We are also continuing in our efforts to obtain the two structures below the Mica Building. If we are successful in obtaining those buildings as well, and the necessary funding for their removal, we will be able to expand the riverfront park.

"Gateway to Newfound Lake"

Phone: 603-744-3354 ~ Fax: 603-744-2521 ~ www.townofbristolnh.org

We plan to keep everyone in the loop as we move forward with the project. In the interim, if you have any questions or require any additional information, please feel free to contact me by phone 603-744-3354 X 14 or email townadmin@townofbristolnh.org. We thank you for your continued support of our project.

Best Regards,

Michael R Capone

Michael R. Capone
Bristol Town Administrator

CONTACTS

Entity	Authorized Representatives	Contact Information
KTZ Hyro LLC (applicant)	Bob King Rolland Zeleny Stephen Hickey	42 Hurricane Rd. Keene, NH 03431 Telephone: (603) 352-3444 Email: bking@gaw.com 18 Washington St. PMB#18 Canton, MA 02021 Telephone: (603) 498-8089 Email: indigoharbor@yahoo.com Essex Power Services, Inc. 55 Union Street, 4th Floor Boston, MA 02108 Telephone: (617) 367-0032 Email: sjh@essexhydro.com
United States Fish and Wildlife Service	John P. Warner Assistant Supervisor	Conservation Planning Assistance and Endangered Species New England Field Office, U.S. Fish and Wildlife Service 70 Commercial Street, Suite 300 Concord, NH 03301 Telephone: (603) 223-2541 - ext.15 Email: John_Warner@fws.gov
NH Department of Environmental Services	Ted Walsh Surface Water Monitoring Coordinator	NHDES, Watershed Management Bureau 29 Hazen Drive, P.O. Box 95 Concord, New Hampshire 03301-0095 Telephone: (603) 271-2083 Email: Ted.Walsh@des.nh.gov
New Hampshire Water Resources Board	Delbert F. Downing Chairman	37 Pleasant Street Concord, NH 03301
New Hampshire Department of Fish and Game	Carol Henderson Fish & Wildlife Ecologist	New Hampshire Department of Fish and Game 11 Hazen Drive Concord, NH 03301 Email: Carol.Henderson@wildlife.nh.gov
	John Magee Fish Habitat Biologist	New Hampshire Department of Fish and Game 11 Hazen Drive Concord, NH 03301 Telephone: (603) 271-2744 Email: john.a.magee@wildlife.nh.gov
State Historical Preservation Office	Nadine Peterson Preservation Planner	New Hampshire Division Of Historical Resources 19 Pillsbury Street Concord, NH 03301 Telephone: (603) 271-6628

		Nadine.Peterson@dcr.nh.gov
National Park Service Rivers and Special Studies Branch	Kevin Mendik	Telephone: (617) 223-5299 Email: kevin_mendik@nps.gov