



October 6, 2016

Ms Dana Hall, Deputy Director  
Low Impact Hydropower Institute  
239 Old Tappan Road  
Old Tappan, New Jersey 07675

Subject: Recertification of Newfound Hydroelectric Project

Dear Ms Hall,

On behalf of KTZ Hydro, LLC, enclosed please find a check for \$2000 for the review of the LIHI recertification application for Newfound Hydroelectric Project, Certificate 82. In conjunction with the transmittal of the review fee, KTZ Hydro, LLC will forward the recertification application via e-mail to Dr. Michael Sale.

Please contact me if you need any further information.

Regards,

Robert A. Gates  
Eagle Creek Renewable Energy  
EVP Operations

**Eagle Creek Renewable Energy**  
**65 Madison Avenue, Suite 500 – Morristown, NJ 07960, USA**  
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**[www.eaglecreekre.com](http://www.eaglecreekre.com)**

**Table B-1. Facility Description Information for Newfound Hydroelectric Project (LIHI #82).**

<b>Information Type</b>	<b>Variable Description</b>	<b>Response (and reference to further details)</b>
<b>Name of the Facility</b>	Facility name (use FERC project name if possible)	Newfound Hydroelectric Project
	River name (USGS proper name)	Newfound River
<b>Location</b>	River basin name	Merrimack River Basin
	Nearest town, county, and state	Bristol, Grafton County, New Hampshire
	River mile of dam above next major river	Newfound Dam is located approximately 0.16 miles upstream of the confluence of the Pemigewasset River
	Geographic latitude	Stateplane Coordinate NAD83 x-966,000 Or 71°44'05.50"W
	Geographic longitude	Stateplane Coordinate NAD83 y-397,495 Or 43°35'25.93"N
	Application contact names (IMPORTANT: you must also complete the Facilities Contact Form):	Robert A. Gates, KTZ Hydro, LLC, VP
<b>Facility Owner</b>	- Facility owner (individual and company names)	KTZ Hydro, LLC owns and operates the facility
	- Operating affiliate (if different from owner)	Same as above
	Representative in LIHI certification	Robert A. Gates, KTZ Hydro, VP

<b>Regulatory Status</b>	FERC Project Number (e.g., P-xxxxx), issuance and expiration dates	FERC Project No. 3107  Issuance Date: November 6, 1981 Expiration Date: October 31, 2031
	FERC license type or special classification (e.g., "qualified conduit")	FERC issued a 50-year license (Minor) for the Newfound Project
	Water Quality Certificate identifier and issuance date, plus source agency name	As noted in the November 10, 2011 LIHI Reviewer's Report, the Newfound Project was issued a Water Quality Certificate in 1981 by the NHDES; because the certification pre-dates 1987, it cannot be used for the purposes of LHI criteria compliance. The Newfound Hydroelectric Corporation (owner at the time of previous LIHI Certification) was unable to furnish a copy of the Water Quality Certificate. KTZ Hydro, also, does not have a copy of the Water Quality Certificate.
	Hyperlinks to key electronic records on FERC e-library website (e.g., most recent Commission Orders, WQC, ESA documents, etc.)	September 8, 2011 Order approving transfer of license P-3107 from Newfound Hydroelectric Company to KTZ Hydro, LLC <a href="https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=12759193">https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=12759193</a>  July 17, 2015 Notice by Eagle Creek Renewable Energy, LLC of acquisition of KTZ Hydro, LLC, P-3107 <a href="https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13934823">https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13934823</a>
<b>Power Plant Characteristics</b>	Date of initial operation (past or future for operational applications)	The Newfound Project was originally constructed in 1927 by Public Service of New Hampshire (PSNH). In 1948 the Harris Brothers purchased the Newfound Project and used it for furniture storage for their growing furniture supply business. Circa 1981, The Newfound Hydroelectric Company purchased the Project, constructed the diversion weir, penstocks, powerhouse and was issued a FERC license.
	Total name-plate capacity (MW)	1.5 MW
	Average annual generation (MWh)	6115 MWh/year based on generation records from 1990 through 2014, with adjustments for outages in 2006 and 2014.

	Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit	Two Francis turbines Max rating 750 kw each Maximum and minimum hydraulic capacity of 118 cfs and 40 cfs respectively, each.
	Modes of operation (run-of-river, peaking, pulsing, seasonal storage, etc.)	Run of river
	Dates and types of major equipment upgrades	There have been no major equipment upgrades since the Project's last LIHI certification or completion of construction under the issuance of the FERC license.
	Dates, purpose, and type of any recent operational changes	There have been no recent operational changes.
	Plans, authorization, and regulatory activities for any facility upgrades	There are currently no plans for facility upgrades.
<b>Characteristics of Dam, Diversion, or Conduit</b>	Date of construction	The Newfound Project was originally constructed in 1927 by Public Service of New Hampshire (PSNH). In 1948 the Harris Brothers purchased the Newfound Project and used it for furniture storage for their growing furniture supply business. Circa 1981, The Newfound Hydroelectric Company purchased the Project, constructed the diversion weir, penstocks, powerhouse and was issued a FERC license.
	Dam height	The dam, surmounted by 1' high wooden flashboards, totals 10' in height.
	Spillway elevation and hydraulic capacity	Spillway elevation, including top of flashboards is 441' MSL. The hydraulic capacity of the spillway is approximately 3500 cfs.
	Tailwater elevation	Normal tailwater elevation is 347' MSL

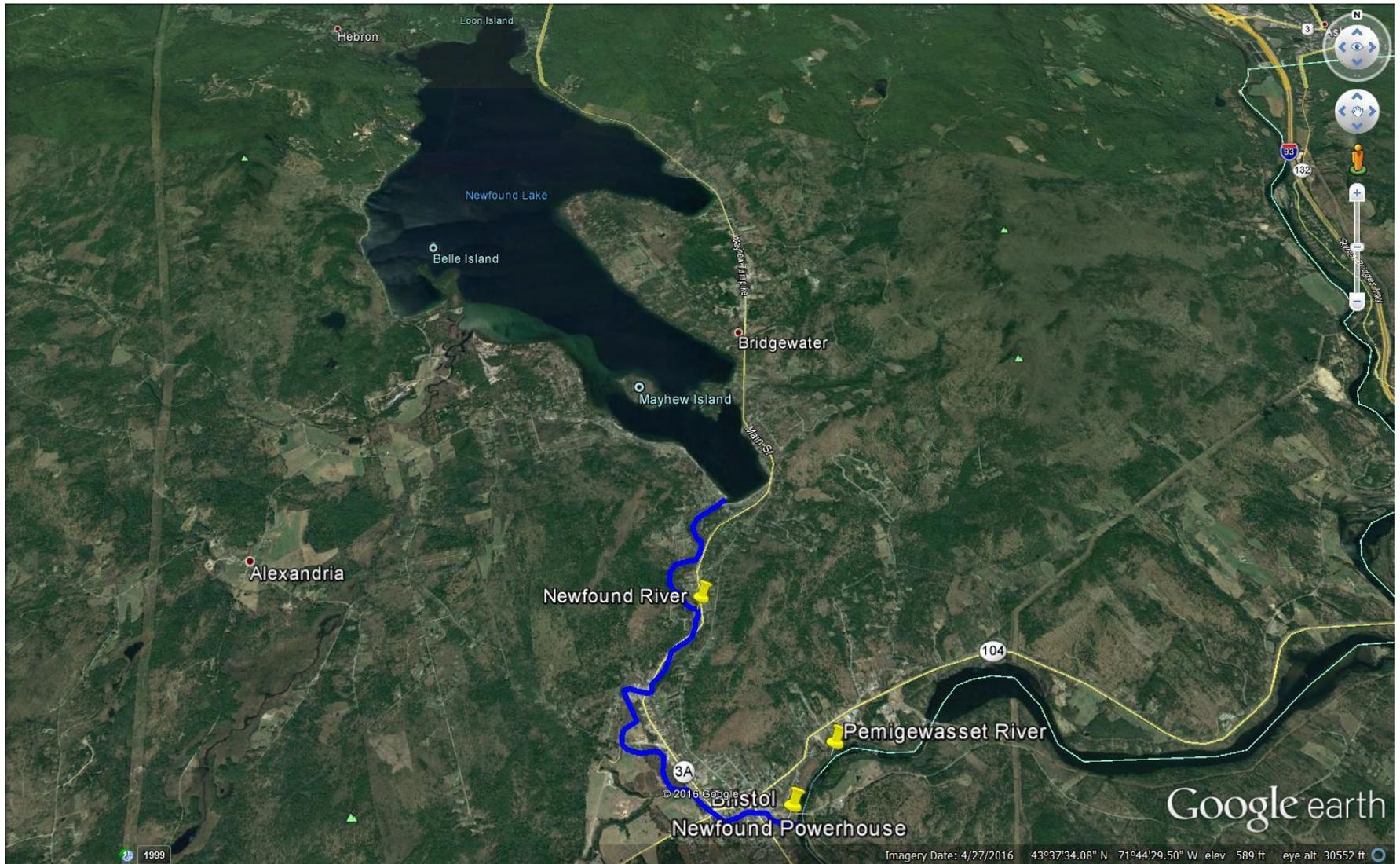
	Length and type of all penstocks and water conveyance structures between reservoir and powerhouse	The Project has two 6-foot diameter concrete to steel penstocks, approximately 420' long leading from the reservoir to the powerhouse.
	Dates and types of major, generation-related infrastructure improvements	There have been no major generation-related infrastructure improvements since the Project's last LIHI certification or completion of construction under the issuance of the FERC license.
	Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.)	Power
	Water source	Newfound River
	Water discharge location or facility	Newfound Project tailrace
<b>Characteristics of Reservoir and Watershed</b>	Gross volume and surface area at full pool	From the FERC license (Appendix C1): Gross volume at full pool is 0.69 acre-feet. Surface area at full pool is 0.23 acres.  Under normal conditions, the pond elevation extends to the upstream end of the dam/diversion weir, measured off Google Earth to be about 172' from the intake, with an associated approximated surface area of 0.13 acre-feet.
	Maximum water surface elevation (ft. MSL)	441' MSL (top of flashboards) Flashboards are maintained in place year round.
	Maximum and minimum volume and water surface elevations for	Not applicable, operated as run of river.

	designated power pool, if available		
	Upstream dam(s) by name, ownership, FERC number (if applicable), and river mile	The Newfound Lake Dam, owned by the New Hampshire Department of Environmental Services, is located approximately 2.3 miles upstream of KTZ Hydro's Newfound Project dam. The Newfound Lake Dam does not have a FERC number.	
	Downstream dam(s) by name, ownership, FERC number (if applicable), and river mile	There are no dams located downstream of the Newfound Project on the Newfound River.  The Franklin Falls Flood Control Dam, owned and operated by the USACOE, is located approximately 11 river miles downstream from the Newfound Project on the Pemigewasset River.	
	Operating agreements with upstream or downstream reservoirs that affect water availability, if any, and facility operation	The NHDES controls releases from their Newfound Lake Dam affecting the operation of KTZ Hydro's Newfound Project. The NHDES coordinates outflow from Newfound Lake Dam with KTZ Hydro Operations. The NHDES releases a minimum flow of 40 cfs from the Newfound Lake Dam.	
	Area inside FERC project boundary, where appropriate	Approximately 3.4 acres.	
<b>Hydrologic Setting</b>	Average annual flow at the dam	211 cfs	
	Average monthly flows	January	185 cfs
		February	163 cfs
		March	249 cfs
		April	511 cfs
		May	262 cfs
		June	183 cfs
		July	115 cfs
		August	104 cfs
		September	78 cfs
		October	194 cfs
		November	236 cfs
		December	258 cfs

	Location and name of relevant stream gauging stations above and below the facility	<p>The Newfound Lake Gauging Station is located at the NH DES Newfound Lake Dam approximately 2.3 miles upstream of KTZ Hydro's Newfound Project. Information for the gauging station may be accessed via phone (603-744-9202) or via the DES website:</p> <p><a href="http://www4.des.state.nh.us/Rti_home/station_information_display.asp?WID=pemibaker&amp;ID=NFLNH&amp;NAME=Newfound+Lake&amp;FULLPOND=Full+Lake+=+6+ft.+Local+=+587.88+ft.+above+sea+level">http://www4.des.state.nh.us/Rti_home/station_information_display.asp?WID=pemibaker&amp;ID=NFLNH&amp;NAME=Newfound+Lake&amp;FULLPOND=Full+Lake+=+6+ft.+Local+=+587.88+ft.+above+sea+level</a></p> <p>There are no relevant gauging stations downstream.</p>
	Watershed area at the dam	98.6 sq mi
<b>Designated Zones of Effect</b>	Number of zones of effect	<ul style="list-style-type: none"> <li>There are two Zones of Effect for the Newfound Project: <ul style="list-style-type: none"> <li>Zone 1 is the bypass reach of the river extending from the dam downstream to the Pemigewasset River, about .16 miles (870 ft)</li> <li>Zone 2 is the reach from the tailrace to the confluence of the Pemigewasset River, about .03 miles (175 ft).</li> </ul> </li> </ul>
	Upstream and downstream locations by river miles	<p>Zone 1 extends from the Newfound Project Dam approximately .16 miles downstream to the confluence of the Pemigewasset River.</p> <p>Zone 2 extends from the Project tailrace at the Powerhouse discharge approximately .03 miles to the confluence with the Pemigewasset River.</p>
	Type of waterbody (river, impoundment, by-passed reach, etc.)	<p>Zone 1 – bypass reach</p> <p>Zone 2 – tailrace</p>
	Delimiting structures	<p>Zone 1 – Newfound Dam</p> <p>Zone 2 – Newfound Powerhouse</p>
	Designated uses by state water quality agency	The Newfound River, in both Zones 1 and 2, is designated as Class B water, considered acceptable for fishing, swimming and other recreational purposes, and, after adequate treatment, for use as water supplies.
<b>Additional Contact Information</b>	Names, addresses, phone numbers, and e-mail for local	Please see Contacts Form

	state and federal resource agencies	
	Names, addresses, phone numbers, and e-mail for local non-governmental stakeholders	KTZ Hydro is not aware of any local or non-governmental stakeholders.
<b>Photographs and Maps</b>	Photographs of key features of the facility and each of the designated zones of effect	Please see separate document entitled "Table B-1 Photos of Newfound Project".
	Maps, aerial photos, and/or plan view diagrams of facility area and river basin	Please see separate document entitled "Table B-1 Aerial Photo of Newfound Project Area and River Basin".

Table B-1 Aerial Photo of Newfound Project Area and River Basin



**Table B-1 Photos - Photographs of key features of the facility and each of the designated zones of effect**

**Aerial Photo of Newfound Project identifying key features**



**Aerial Photograph of Newfound Project identifying Zones of Effect**



View upstream from intake, towards forebay and spillway (left side of photo)



View downstream, towards intake



Spillway



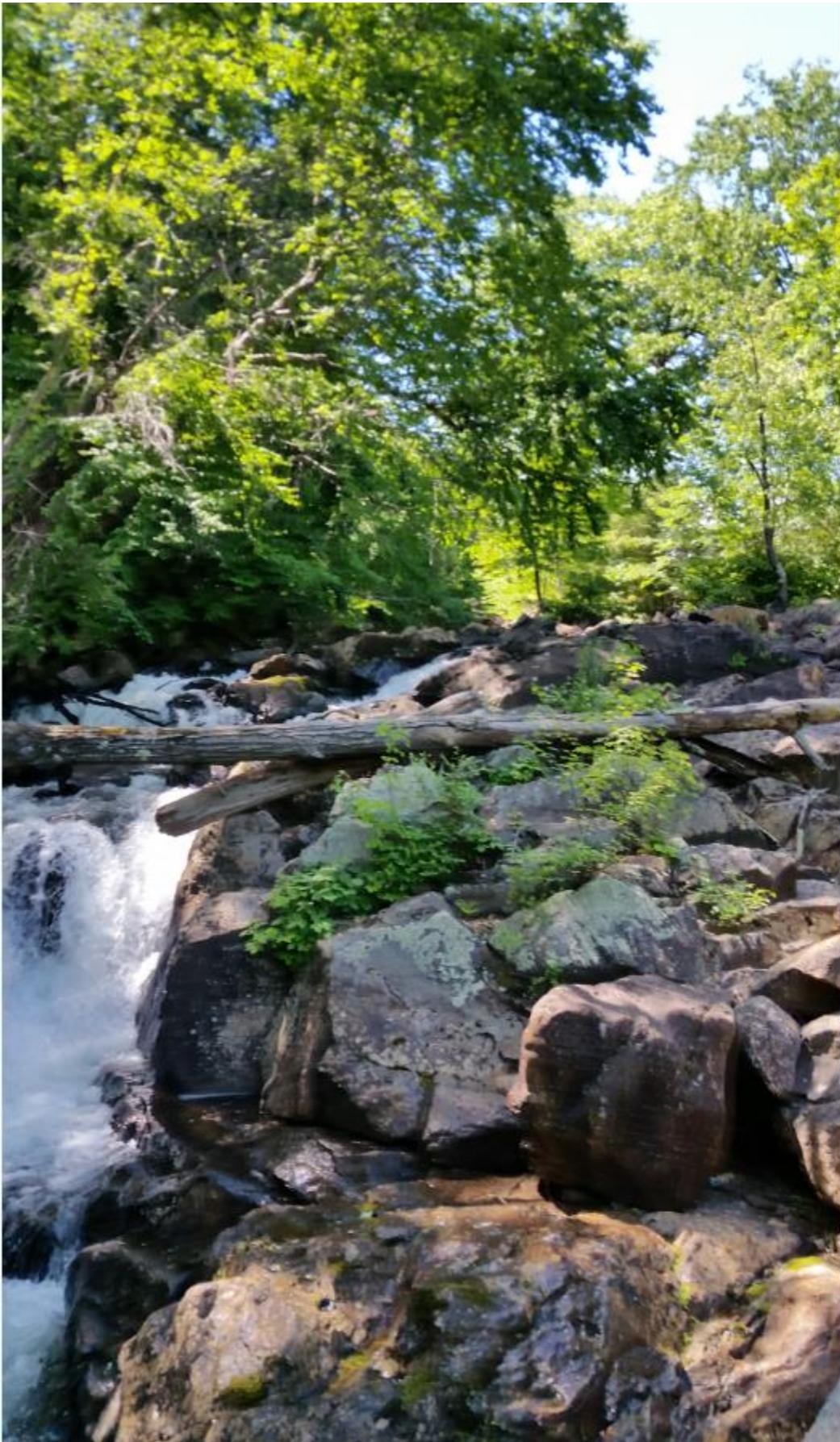
Flashboards removed for min flow section of spillway



Bypass, view downstream from dam (Zone 1)



Bypass, view upstream towards dam (Zone 1)



View downstream towards powerhouse and Pemigewasset River



Station discharge to tailrace, backwater from the Pemigewasset River reaches station discharge (beginning of Zone 2)



Tailrace, view upstream (Zone 2)



View downstream of confluence of tailrace with the Pemigewasset River ( Zone 2)



View from bypass (Zone 1) towards tailrace (Zone 2) at confluence with Pemigewasset River

