Shannon Ames – Executive Director
Low Impact Hydropower Institute
329 Massachusetts Ave, Suite 2
Lexington, MA 02420

Subject: Follow-up to Public Comments

Reference:  
-Letter to LIHI from Fisher Forestry, LLC dated July 14, 2018
-Email to LIHI from Ms. Barbara Schenck dated September 10, 2018
-Letter to LIHI from Ms. Christa Seibert Dillabaugh dated September 21, 2018
-Letter to LIHI from Ms. Carolyn Seibert dated September 24, 2018
-Letter to LIHI from Henry O & Anna Y. Schaab dated September 25, 2018
-Letter to LIHI from Mr. Edward Earl dated September 27, 2018

Dear Ms. Ames,

During the public comment period of the Low Impact Hydropower Institute (LIHI) recertification process for the Beaver River Project (the Project), five letters and an e-mail were submitted to LIHI with respect to the relationship between the Project and Beaver Lake. Brookfield Renewable, on behalf of licensee Erie Boulevard Hydropower, LP (Erie), is herein providing LIHI background information to address these concerns.

The FERC license for the Project was issued August 6, 1996. Prior to and throughout the FERC relicensing process, Beaver Lake residents raised concerns regarding Beaver Lake water levels similar to those mentioned in the recent letters received by the LIHI. These concerns were addressed in the context of the FERC relicensing process itself and following relicensing.

As a condition of Erie’s FERC license and the associated Settlement Agreement, and in order to address the concerns of Beaver Lake residents, the Beaver River Fund and Advisory Council (BRAC) was formed consisting of the parties to the Settlement Agreement as well as other stakeholders interested in the Beaver River watershed. The purpose of BRAC is to keep stakeholders informed of overall Beaver River water management objectives and changing conditions that may affect flows. Beaver Lake residents are represented on the BRAC by the Town of Watson. Beaver Lake residents may voice their concerns to the BRAC or directly to ERIE, as they have done in the past. Erie has provided information regarding its operation to the residents of Beaver Lake and the BRAC when these concerns have been presented.

Since its acquisition of the Project in July 1999, Erie’s operations have been in compliance with the Project’s FERC license and the Settlement Agreement. Furthermore, Erie’s operations have not changed since the previous LIHI certification in July 2013.
**Moshier Facility and its relation to Beaver Lake**

Flows reaching the Moshier facility, which is the Project’s first (most upstream) facility on the Beaver River, consist of controlled releases from the Hudson River-Black River Regulating District’s (HRBRRD) Stillwater Reservoir, located approximately three miles upstream, together with unregulated tributary discharges into the Moshier reservoir. Erie works diligently with the HRBRRD to coordinate releases into the Beaver River to meet all applicable regulatory requirements and to minimize downstream impacts. This coordination includes monthly meetings along with daily communication to discuss hydrological conditions.

**Beaver Lake**

Beaver Lake is located between the Moshier and Eagle facilities and is formed by a natural constriction and shallow topographic depression in the channel leading to the Eagle impoundment and dam. The main tributaries consist of Alder Creek, Beaver Meadow Brook, Slough Brook, Three Mile Creek, and Sunday Creek. During high rainfall, when the HRBRRD curtails flows, the only flows entering Beaver Lake are from the unregulated portion of the basin and minimum release and leakage from the Moshier facility.

**Eagle Falls Facility and its relation to Beaver Lake**

Erie operates the Eagle impoundment with the addition of static one-foot tall flashboards year-round, a request made to Erie’s predecessor by the Beaver Lake Association years ago. This additional flashboard elevation benefits the local wetlands and habitat and further improves boating and other recreational activities at Beaver Lake.

As noted in License Article 410, “Flashboards [at the Eagle facility] will not be erected or replaced during the period May 1 through June 30 so as to protect nests of reservoir spawning fish and of nesting birds.” This is true for times when the flashboards are down or fail during this period.

**Efforts to understand Beaver Lake’s Hydraulics**

In response to concerns raised by Beaver Lake residents in the late 1990s, the BRAC hired the United States Geological Survey (USGS) in 1999 to perform an independent analysis of the hydrological relationship between Beaver Lake and the Moshier facility.

One of the findings from the study addressed how the two generating units at the Moshier facility influence Beaver Lake elevations. It was determined that when one of the two generating units is operating at full capacity it will cause a rise of eight (8) inches in Beaver Lake’s elevation. When both generating units are operating at full capacity, a rise of fifteen (15) inches can be expected. This is mainly due to Beaver Lake’s hydrological constraint at its outlet.

Based on the study, it was also determined that the Moshier Reservoir makes up approximately 23% of the total unregulated drainage area above the Beaver Lake outlet. Other tributaries including Alder Creek and Sandy Creek account for the remaining 77%. Based on these findings, it was determined that the Moshier facility “is not likely to provide a major control to flooding on the lake during significant run-off events or rainy seasons.” Additional inflows to Beaver Lake come from Alder Creek and Sunday Creek which are unregulated and thus subject to greater fluctuations. Due to the narrow geometry of Beaver Lake’s outlet, water often leaves Beaver Lake at a much slower rate than the rate at which it enters the Lake. This was evidenced in late April/early May 2011 when many areas around New York experienced record or near record stream flows.
Current operations and ongoing efforts

Erie remains cognizant of the well-known hydraulic challenges associated with Beaver Lake and Erie acts to minimize the impact of precipitation event on Beaver Lake residents through adjustments to flow from generation at the Moshier Facility and coordination with the HRBRRD.

Erie actively engages with Beaver Lake residents when advised of water level concerns and Erie is currently working with adjacent landowners around Beaver Lake to re-install a staff gage which was originally located on Beaver Lake.

We hope the information set out above will be helpful in enabling the LIHI to understand the context surrounding the concerns raised by residents of Beaver Lake and the measures which have been taken and continue to be deployed to address these concerns.

As always, please feel free to contact me with any questions or concerns.

Respectfully submitted,

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