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Thursday, March 19, 2015

Dr. Michael J. Sale  
Executive Director  
Low Impact Hydropower Institute

Subject: Recertification Recommendation for the Ashuelot River Hydroelectric Projects

Dear Mike:

This letter contains my recommendation for recertification of the Ashuelot Hydroelectric Project, comprised of the Ashuelot Hydroelectric Project (FERC #7791) and the Lower Robertson Hydroelectric Project (FERC #8235) (collectively, the "Project").

### **I. Recertification Standards**

The December 27, 2013 letter to applicant notifying of upcoming expiration of Low Impact Hydropower Institute certification, included the Standards for Recertification providing that a "request for renewal of a previously-issued LIHI certification ("recertification") will be granted at the conclusion of the term of the existing certification if re-certification is desired by the certificate holder, and so long as (1) there have been no "material changes" at the facility that would affect the certification and (2) LIHI's certification criteria have not been revised since the previous certification was issued by LIHI."

The Recertification review criteria also provides that "If the Application Reviewer can definitively determine from the submitted application materials, a review of the LIHI file containing the past certification decision(s), any public comments received during the application process, and any limited reviewer-initiated questioning by LIHI of the applicant and/or third parties, that the answer to both questions above is "no," the Application Reviewer will recommend re-certification approval to LIHI's Executive Director, and there will be no further application review."

### **II. No Further application review is recommended.**

The Project received an Exemption (#7791, 8235) from the Federal Energy Regulatory Commission on July 31, 1986. The Project was initially certified by LIHI as "Low Impact" in June 24, 2009. The applicant submitted a timely application for recertification on April 9, 2014. Due to an administrative backlog at LIHI in processing applications, a certification extension was provided until December 31, 2015.

The application was public noticed and received one comment from Barbara Skuly of the Ashuelot River Local Advisory Committee (ARLAC) on November 3, 2014. The letter recognized the efforts of the owner and that the facilities have "shown themselves to qualify as low impact." However, the letter noted concerns regarding impact of the facilities on resident non-migratory fish populations, and suggested the owner support studies to determine the impact of the facilities on passage of resident fish species.

Downstream fish passage facilities were installed at the facilities in 1999 and 2001 (Robertson and Ashuelot, respectively.) During migration season, ARH passes 25 cfs through downstream sluices, and installs bars on the facility's trashracks at approximately ¾ inch spacing to keep fish out of the turbines. Upstream passage facilities are required to be installed when certain fish passage triggers at downstream Fiske Mill project are met, specifically within 2 years after 750 American Shad are passed or within 4 years after 150 shad are passed. ARH has agreed to construct alternative fishway designs in consultation with and according to the schedule prescribed by the resource agencies. Upstream fish passage at the Fiske Mill project was completed in 2012. Melissa Grader, Fish and Wildlife Biologist from the USFWS was contacted to determine whether this trigger had been reached, and confirmed it had not.

In the original 2009 certification, the Connecticut River Watershed Council made a similar comment regarding fish passage effectiveness. In the Reviewer's Report: "LIHI acknowledges and respects the CRWC's position, but we disagree with it. LIHI's consistent approach to delayed implementation, is to certify projects where the Applicants have accepted their FERC license (includes FERC Exemptions), and by doing so have made a legal commitment to comply with license conditions, even those that don't come in to play for years."

In addition to maintaining downstream fish passage facilities, the applicant has maintained a legal commitment to comply with upstream fish passage once the trigger is met, and therefore has maintained compliance with LIHI criteria. Due to the good-faith efforts of the applicant to maintain effective passage needs at the project site, additional studies for non-migratory fish are not warranted at this time.

### **III. There have been no "material changes" at the facility that would affect the certification.**

In accordance with the Recertification Standards, "material changes" mean non-compliance and/or new or renewed issues of concern that are relevant to LIHI's criteria. Based on my review of materials provided, review of FERC's public records, and consultation with the noted individuals, I found that there are no instances of noncompliance or new or renewed issues of concern.

Since the original certification, the only changes to the physical facility are the installation of a canoe portage trail (referenced below,) and the replacement of flashboards and stop logs with two Obermeyer Crest Gate systems. However, this is for safety reasons and they are not changing the impoundment level, therefore no effect on LIHI criteria should have resulted from the changes.

The LIHI Board provided the following nonstandard project conditions for the Ashuelot River Project during its certification in 2009:

1. The certificate holder shall complete a recreational access plan, obtain the concurrence of appropriate stakeholders, and submit the plan to FERC by February 28, 2010; thereafter, the certificate holder shall abide by the terms of that plan; and,
2. No later than December 31, 2010, file a report with LIHI demonstrating that the Ashuelot River Project meets applicable New Hampshire surface water quality standards.

The recreational access plan was required in response to a comment from ARLAC about better recreational access at the site in response to local boating clubs. In 2010, in consultation with these stakeholders, ARH completed installation of a canoe portage trail (see Figure 1,) enhancing the

recreational opportunities available at the project and therefore meeting this requirement. I believe this fulfills the intent of the recreational access condition.



**Figure 1 - Canoe Portage Trail completed at Ashuelot**

In response to condition #2, the applicant informed LIHI about additional Water Quality sampling in 2010, and that the results from additional testing was done in cooperation with the New Hampshire Department of Environmental Service. The *2010 Ashuelot River Watershed Water Quality Report*<sup>1</sup> provides evidence that the project meets both qualitative and numerical water quality criteria. The samples upstream, Route 119 in Winchester and downstream, 147 River Street in Hinsdale, had nearly all samples meet NH Class B Standards (see table below). The one exception is pH, where 3 out of 5 of the downstream sample met Class B Standards and 0 out of 5 of the upstream met these standards. However, the NHDES notes in the report: “lower pH measurements are likely the result of natural conditions such as the soils, geology, or the presence of wetlands in the area. Rain and snow falling in New Hampshire is relatively acidic, which can also effect pH levels; after the spring melt or significant rain events, surface waters will generally have a lower pH.” This report fulfills condition #2 of the original LIHI certification.

	<b>Route 119</b>	<b>147 River Street</b>	<b>NH Class B Standard</b>
Dissolved Oxygen (mg/L)	6.77 - 8.36	7.9 - 9.57	5.0+
pH (level)	5.75 - 6.46	6.43 - 7.19	6.5-8.0
Turbidity (NTU)	0.8 - 2.1	0.65 - 1.2	<10
Specific Conductance (µS/cm)	115 - 240.7	118.1 - 248.4	835
Water Temp. (°C)	16.3 - 24.6	16.7 - 24.0	n/a
E.coli (cts/100ml)	52-613	28-65	<406
Phosphorous (mg/l)	0.021 - 0.024	0.021 - 0.034	qualitative, facility meets
Chloride (mg/l)	22 - 53	24 - 50	<230

**Table 1 - Ashuelot River Water Quality Data (2010)**

<sup>1</sup> [http://des.nh.gov/organization/divisions/water/wmb/vrap/ashuelot/documents/ash\\_data10.pdf](http://des.nh.gov/organization/divisions/water/wmb/vrap/ashuelot/documents/ash_data10.pdf)

**IV. LIHI's criteria have been revised since last recertification, but none of the changes affect this project.**

On November 20, 2014, the Governing Board of the Low Impact Hydropower Institute (LIHI) approved revised Criteria to be used in LIHI's certification decisions, and will soon be announcing those changes. The full details of the transition and implementation from previous approaches have not yet been published. A revised LIHI Handbook is pending, and the implementation of revised criteria will likely be phased in over the first half of 2015. All facilities applying for recertification in the first half of 2015 (January – June) will be reviewed under the previous criteria, unless the certificate holder voluntarily requests the application of the newer, revised criteria.

This facility originally applied for recertification in September of 2014, so the new changes in criteria do not affect recertification.

**V. Conclusion**

Considering the above factors, I recommend recertification of the Ashuelot River Hydroelectric Project.

Please contact me with any questions.

Regards,

A handwritten signature in black ink, appearing to read 'Peter R. Drown', with a large, sweeping flourish extending to the right.

Peter R. Drown  
Cleantech Analytics LLC

**Attachment 1**  
**Agency and Applicant Communications**

**Date:** 03/17/2015

**Contact Person:** Robert King, P.E.

**Agency:** N/A (Ashuelot River Hydro, Inc.)

**Title:** President

Robert King, President of Ashuelot River Hydro Inc., was contacted in regards to a 2010 letter on FERC e-library from his company to the USFWS regarding the applicant's potential interest in raising the Lower Robertson pond level. Bob had initially reached out to agencies to gauge their response to such a plan, prior to filing a license amendment. Bob informed me that he decided against pursuing the plan hearing back from USFWS.

**Date:** 03/17/2015

**Contact Person:** Melissa Grader

**Agency:** U.S. Fish and Wildlife Service

**Title:** Fish and Wildlife Biologist

Melissa Grader was contacted to understand whether the trigger had been received yet at the below Fiske Mill Project that would require installation of upstream fish passage at Lower Robertson and Ashuelot Projects. Melissa responded that the trigger had not yet been met.