

Memorandum

To: Michael Sale, Executive Director, LIHI
From: Jeffrey Cueto, P.E.
Date: February 28, 2016
Re: West Springfield Hydroelectric Project – LIHI Certificate #19
Recertification Request

This memorandum contains my recommendation for recertification of the West Springfield Hydroelectric Project (Project), located on the Westfield River in the Commonwealth of Massachusetts and owned by A & D Hydro, Inc. (A&D). LIHI publicly noticed the application for recertification on October 21, 2015, with comments due by December 21, 2015; no comments were received.

Fred Ayer did the original review for certification of the project in 2005, recommending that the facility be certified subject to resolution by December 31, 2006 of certain fish passage issues to which LIHI made reference when it certified the facility on December 9, 2005; however, no special conditions to address fish passage were included in the certification. When the application for recertification was filed in 2010, the Massachusetts Department of Fish and Game (MDFG) commented (letter dated January 19, 2011) that, while it supported facility certification in 2005 and the owner had generally been cooperative with respect to accommodating fish passage, issues remained that needed attention. Consequently, when I completed the first recertification review on December 28, 2012, I recommended that recertification be granted subject to the owner addressing the outstanding fish passage issues.

I. Recertification Standards.

Sections 2.5, 2.24 and 2.25 of LIHI's Certification Handbook (Updated April 2014) address the process for recertification applications. The first step in the process, after receipt of an application and assignment to an Application Reviewer, provides for an intake review by the Application Reviewer to make an initial determination as to whether there has been either 1) a material change at the facility that would affect the certification or 2) a material revision in the LIHI criteria subsequent to the original certification action. With a determination of no material change, renewal of the certification is granted. Should a determination be made that there has been a material change, the application is subject to a full review following a process similar to the initial application.

II. No further application review is recommended.

I reviewed the materials submitted by A&D in support of its application. I also reviewed files contained in FERC eLibrary subsequent to the last recertification review in order to determine what project changes have occurred, if any, and what the recent compliance track record has been. Based on this information and my understanding that no relevant material changes in the LIHI criteria, or criteria interpretations, have been made since the last recertification review, I concluded that it is not necessary to directly solicit input from resource agencies and licensing stakeholders. In my opinion, the aforementioned materials are sufficient to support a conclusion that a recertification decision can be made based on this Intake Review, that a Full Review is unwarranted, and that recertification should be granted for a five-year term.

III. There have been no “material changes” at the facility that would affect the certification.

With respect to material changes at the facility, I reviewed the record for instances of non-compliance related either to the federal license or the special conditions contained in the LIHI grant of certification and/or new or renewed issues of concern that are relevant to LIHI’s criteria. I find that there are neither instances of significant non-compliance nor new or renewed issues of concern.

Flows and Fish Passage

Background

The Project was relicensed in October 1994 based in part on a Memorandum of Agreement of February 2, 1994 with MDFG and the U.S. Fish and Wildlife Service (USFWS) addressing fish passage at the site. The Westfield River is a tributary of the Connecticut River and is located downstream of the first Connecticut River dam at Holyoke. At the time of the last recertification review, anadromous fish (Atlantic salmon and American shad) and eel were using the upstream fish passage facilities¹ that are currently in place at the Project to access 20 miles of river habitat located upstream. (The Project dam is at River Mile 3.9.) Flows are released at the dam and into the half-mile bypassed reach for operation of the two fishways and to accommodate upstream fish movement between the tailrace and the dam. Fish passage and bypass flows² were key issues in the relicensing.

As stated in the 2005 LIHI Certification Report, outstanding passage issues were:

¹ The fishway for anadromous species were completed in 1995 and for American eel in 2001. Downstream passage is also provided.

² The Fish Passage Operations and Maintenance Plan (January 22, 2001) specifies a schedule and distribution of flows at the dam (either 85 cfs or 125 cfs) for the purposes of fish passage operation and upstream fish movement through the bypassed reach.

- *Zone Of Passage (ZOP) modifications at the tailrace. This has been an area of concern since the fishway was first operated in 1996. Concrete Jersey barriers were placed in this area in order to direct flow toward the project tailrace and create an attractive flow in the upstream ZOP. High flows after installation knocked one of these barriers over and moved another. Sandbags and rock debris have been placed in line with the remaining (but toppled) Jersey barrier in order to create the desired flow pattern. This arrangement has been somewhat effective, but requires rebuilding each spring. We believe that some permanent solution to the flow field problems at this site should be implemented. The project owners have agreed, but there is no timetable for the design and implementation of a solution at present.*
- *Entrainment of Atlantic salmon smolt in the power canal. During the 2005 fish passage season a significant number of Atlantic salmon smolt were seen in the project forebay. When asked, A&D agreed to shut the project down for a day and drain the power canal- this seemed to flush the smolt form[sic] the canal. Possible causes for this increased entrainment include the reduced operation time of the automated trash rack rakes at the head of the power canal, or the reorientation of the trash boom at the headgate. Under previous ownership the autamitac [sic] rakes operated continuously, A&D have modified them to part time operation. These racks also serve as fish exclusion structures and the noise/motion of the automatic rakes may have helped keep smolt away from the racks. These racks are plastic and somewhat flexible- it is possible that holes or wide gaps have formed in these racks that are allowing the smolt to enter the power canal. We have suggested replacing the plastic racks with normal steel racks.*

Before the 2005 fish passage season A&D moved the anchor location of the trash boom from the outboard corner of the headgate structure to the center of the minimum flow/downstream fish passage slots (approximately 25 feet further out on the dam). This configuration guided leaves and debris to the outermost slot for efficient passage over the dam. Unfortunately this configuration may have discouraged smolt from approaching the slots and directed them instead to the power canal. A&D have agreed to reconfigure the trash boom in a manner which should leave the area near the fish passage slots clear. We will evaluate the efficacy of this change during the 2006 fish passage season. Additional changes may be required if the smolt entrainment issue is not resolved in 2006.

MDFG commented on the LIHI recertification application by letter dated January 11, 2011. MDFG recommended that the certification be conditioned to address ongoing issues with 1) zone of passage modifications at the tailrace; 2) entrainment of Atlantic salmon smolts in the power canal; 3) upstream eelway maintenance; and 4) lack of protection for adult American eels migrating downstream. Two of these issues were

issues that were identified by LIHI in 2005 and were to have been resolved by the end of 2006.

After meeting with MDFG and the USFWS in March 2011, A&D proposed the following resolution of the four issues:

1. **ZOP.** Retain the services of Alden Research Laboratory and design and implement permanent improvements by October 1, 2014.
2. **Salmon smolt entrainment.** As an interim measure, place the automated rack rakes at the head of the power canal and operate them continuously during the smolt migration season. As a permanent measure, design, fabricate, and install new, ¾-inch-clear-spacing fish exclusion racks on or before April 1, 2013.
3. **Eelway.** Rebuild the existing flood-damaged eelway and have it back in service by September 15, 2011. Improve the holding tank assembly as well as the water supply siphon feeding the tank and eelway. During those portions of the eel migration periods when DFW personnel are not staffing the eelway, A&D personnel will tend the eelway, as required.
4. **Eel downstream passage protection.** Watch for adult American eels in the tailrace and collect and preserve any injured or dead eels for delivery to MDFG.

By email to LIHI dated August 23, 2011, MDFG commented that A&D was on track to address issues raised by LIHI, which would presumably include the four listed issues. MDFG stated it had “no issue with certification at this point.” In its LIHI deficiencies response of September 24, 2012, A&D reported on its progress to date, stating that the eelway had been rebuilt and would be operational in Spring 2013, and that exclusionary racks had been fabricated and would also be in place at head of the power canal by April.

Status since Recertification in 2012

When LIHI recertified the facility in 2012, three fish-passage-related conditions were imposed:

1. On or before October 1, 2014, A&D shall 1) design and implement permanent improvements for zone of passage as deemed necessary by the Massachusetts Division of Fish and Wildlife and the U.S. Fish and Wildlife Service and subject to consultation with and approval by those agencies and 2) notify LIHI of measures taken and completion to those agencies’ satisfaction.
2. By April 1, 2013, A&D shall install the trashracks designed to exclude salmon smolts at the head of the power canal and shall so notify LIHI within one week of completion. During downstream passage periods, the racks shall be maintained to the satisfaction of the Massachusetts Division of Fish and Wildlife and the U.S. Fish and Wildlife Service.

3. A&D shall notify LIHI within one week of the start of operation of the eelway for the 2013 season.

With respect to Condition 3, the owner notified LIHI of the May 29, 2013 start of operation for the eelway through the LIHI annual compliance statement, which has a signature date of September 9, 2013. Technically, the one-week notification deadline was not met.

By email to the MDFG and the USFWS, November 24, 2015, the owner solicited confirmation that all three conditions of the LIHI certification had been met. The owner stated, "As you may remember, when the facility was re-certified, in 2012, there were three conditions: a) installation of new fish-exclusion racks, with 3/4" spacing, b) a re-build of the upstream eel passage facility, and c) re-configuration of the confluence of the facility's tail race channel and the downstream end of the zone of passage. The racks and eel passage were replaced in 2013. Also in 2013, in light of the passage of a large number of shad, it was agreed that, the zone of passage was probably not broken and therefore should not be fixed." MDFG responded on the same date that A&D had complied with all three conditions (See attached).

Water Quality

According to the Massachusetts Year 2014 Integrated List of Waters (June 2014), the lower Westfield River (Segment MA32-07) is listed as a Category 2 water attaining uses of aesthetics and secondary contact recreation. Category 2 waters attain some uses and others are unassessed for attainment. The status is unchanged from the last LIHI review.

Compliance

FERC eLibrary did not contain any documentation of significant compliance issues over the last three years. The library contained annual statements filed by the owner indicating full compliance with Article 402 (run-of-river operations) and Article 403 (bypass minimum flow of 85 cfs). The library did not include any documentation of environmental reviews by the FERC regional office.

IV. LIHI's certification criteria have not been revised since the completion of the last recertification review in 2012.

LIHI is in the process of revising its certification criteria and publishing a new Handbook, but the transition to the new certification processes will not be implemented until later in 2016. Facilities for which recertification applications have been filed on or before December 31, 2015, are evaluated using the April 2014 version of LIHI's Certification Handbook.

It is my understanding that LIHI's criteria, or the Board's interpretation of one or more criterion, that are applicable to the circumstances the Project have not changed in meaningful ways since the completion of the last recertification review in December 2012.

V. Conclusion.

In light of the above, I recommend recertification of the West Springfield Hydroelectric Project for the standard five years. Since fish passage is a regulatory requirement and has been completed in accordance with the three conditions contained in the 2012 recertification action, I only recommend carrying forward as a condition of this recertification a portion of Special Condition 2, coupled with a simple reporting requirement to help assure compliance:

During downstream passage periods, the fish exclusion racks/screens shall be maintained at the head of the power canal to the satisfaction of the Massachusetts Division of Fish and Wildlife (MA DF&W) and the U.S. Fish and Wildlife Service. The Owner shall continue to coordinate with MA DF&W regarding the installation, removal and maintenance of these exclusion racks/screens. The Owner shall include a statement with its Annual Compliance Statement confirming that coordination and indicating the time period(s) that the racks/screens were in place during the prior fish passage period(s). If either agency notifies the Owner that the installation or maintenance performed is not satisfactory, the Owner shall file the agency notification with, and report its planned corrective actions and implementation schedule to, LIHI within 30 days of receipt of the agency notification. Certification that the corrective actions were implemented shall be submitted to LIHI as part of the Annual Compliance Statement.

I consulted with the two fisheries agencies, both of which concurred with the condition. Copies of the email communications are contained in the record folder.

The last recertification was effective through August 29, 2015 at which time LIHI extended the certification through December 31, 2015.



Dana Hall <dhall@lowimpacthydro.org>

West Springfield Hydro - Satisfaction of LIHI Conditions

Slater, Caleb (MISC) <caleb.slater@state.ma.us>

Tue, Nov 24, 2015 at 2:03 PM

To: "tarpey@massgravity.com" <tarpey@massgravity.com>, John Warner <john_warner@fws.gov>

Cc: Dana Hall <dhall@lowimpacthydro.org>

The West Springfield project has met the conditions set for LIHI certification in 2012.

Caleb Slater



Caleb Slater, PhD

Anadromous Fish Project Leader

Massachusetts Division of Fisheries and Wildlife

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From: Thomas A. Tarpey [mailto:tarpey@massgravity.com]

Sent: Tuesday, November 24, 2015 12:10 PM

To: Slater, Caleb (FWE); John Warner

Cc: Dana Hall

Subject: West Springfield Hydro - Satisfaction of LIHI Conditions

Caleb and John:

I just paid the annual renewal fee, to LIHI, for its certification of West Springfield Hydro.

As you may remember, when the facility was re-certified, in 2012, there were three conditions: a) installation of new

fish-exclusion racks, with 3/4" spacing, b) a re-build of the upstream eel passage facility, and c) re-configuration of the confluence of the facility's tail race channel and the downstream end of the zone of passage. The racks and eel passage were replaced in 2013. Also in 2013, in light of the passage of a large number of shad, it was agreed that the zone of passage was probably not broken and therefore should not be fixed.

LIHI's managers are looking for confirmation that the three conditions of re-certification have been met. I am writing this e-mail as a method of confirmation which will require little or no effort on your parts. Thus, if you take exception to my statement that the conditions have been satisfied, I invite you to state your exceptions in a "reply all" e-mail. If you are in agreement with my statement, I similarly invite you to state your agreement in a "reply all" e-mail, or do nothing and allow your silence to be taken as agreement.

Thank you for your help.

Regards,
Tom

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