



Peter Drown
Cleantech Analytics
2665 Prosperity Avenue, #320
Fairfax, VA 22031

Wednesday, February 24, 2016

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

Subject: Recertification Recommendation for the Oakland Hydroelectric Facility (FERC #2556)

Dr. Sale:

This letter contains my recommendation for Recertification of the Oakland Hydroelectric Facility (the "Facility"), LIHI Certificate #60. Based on my review of the materials submitted by applicant, public records contained in the FERC database, and consultation with the individuals noted in this report, I believe the Facility continues to meet LIHI criteria and should be recertified for one new, five-year term with one Condition contained herein.

Please contact me if you have any questions.

Best Regards,

A handwritten signature in black ink, appearing to read "Peter Drown", written over a white background.

Peter Drown, President
Cleantech Analytics LLC

I. Background:

The 2.8 MW Facility is located on the Messalonskee stream, a tributary of the Kennebec River, approximately 0.4 miles downstream of the Messalonskee Lake dam in Oakland, Maine. The Facility is owned and operated by Messalonskee Stream Hydro LLC, who also owns two other LIHI-certified projects (Union Gas and Rice Rips, both downstream of Oakland) between the Lake dam and the Kennebec River. All three projects are licensed under FERC No. 2556, issued July 28, 1999. The Facility was originally certified as “Low Impact” on May 9, 2010. The Certificate contained the following two conditions:

Condition 1: Within 18 months of the date of issuance of the LIHI certifications for the Union Gas, Rice Rips and Oakland facilities, the applicant shall present to LIHI a copy of an agreement with the Maine Department of Marine Resources and the U.S. Fish and Wildlife Service (“agencies”) in which the applicant and agencies have reached agreement on the final design, construction, operations and maintenance of safe, timely and effective upstream and downstream passage for American eel at the Oakland facility. This agreement shall include a date to initiate construction of the required upstream and downstream passage that is no later than 12 months after the date on which the agreement has been approved by FERC as a license amendment.

Condition 2: Thereafter, and in the event that upstream and downstream passage for American eel becomes operational at the Automatic project (the hydropower facility immediately upstream of the Union Gas project which is not owned by the applicant) during the term of this certification, no later than 18 months following installation at the Automatic facility, the applicant shall present to LIHI a copy of an agreement with the Maine Department of Marine Resources and the U.S. Fish and Wildlife Service (“agencies”) in which the applicant and the agencies have reached agreement on the final design, construction, operations and maintenance of safe, timely and effective upstream and downstream passage for American eel at the applicant’s facilities. This agreement shall include a date to initiate construction of the required upstream and downstream passage that is no later than 12 months after the date on which the agreement has been approved by FERC as a license amendment.

II. Recertification Standards

Chapter 2, Section 2.25 of the Low Impact Hydropower Institute (LIHI)’s Certification Handbook (Updated April 2014) regarding Applications for Recertification (“Recertification Standards”) provides that a request for renewal of a previously-issued LIHI certification (“re-certification”) will be granted at the conclusion of the term of the existing certification, 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 process also states that if no information is missing from the Re-Certification application package, and if the Application Reviewer has determined that there are no material changes or changes in LIHI’s criteria, than the project is eligible for recertification action by the Executive Director.

III. Adequacy of the Recertification Application Package

I relied on the following sources of information during the review of this Application. The Applicant provided a questionnaire with associated appendices that addressed each of the LIHI criteria. Much of this information was identical to that submitted in the original 2010 application, with the following updates:

- Update on eel passage installation efforts stating that initial site location for upstream passage at

Oakland has occurred in 2015 and testing options will occur in 2016, with final installation expected subsequently

- Maine Pollutant Discharge Elimination System Permit & Waste Discharge License Renewal issued June 10, 2014.
- Letter from Maine Historic Preservation Commission dated May 26, 2015 accepting the Site Monitoring Report and concurring with the owner's findings of continued relative stability of the shorelines.
- FERC order dated October 5, 2015 granting extension of time to submit Recreation Monitoring Report.

Next, I reviewed the public record from 2010 – 2015 located on the FERC database. No issues of noncompliance or license violations were identified. The search revealed several additional sources of information:

- Biannual Report of Cultural Resource Management (2015, 2010)
- Form 80 Recreation Monitoring Reports (2015)
- Minimum Flow Requirement verifications (2014, 2013, 2012, 2011)
- Request for Certification of Incremental Hydropower Generation¹

I also contacted the U.S. Fish and Wildlife Service ("USFWS") and Maine Department of Marine Resources ("MDMR") to solicit comments, and was provided two email responses (see Appendix A.) MDMR noted that the Licensee has been consulting the agency regarding the location and design of upstream eel passage at the Oakland Project, and activity will continue in 2016. MDMR believes the facility continues to meet LIHI criteria. USFWS noted that there are no issues with the Project and the Owner is an "exemplary licensee." I also reached out to the Applicant to determine the current status of eel passage and confirmation that they met the Conditions outlined in their original LIHI certification. The Applicant also provided emails confirming the Project has no effect on Threatened and Endangered Species, as the original information provided in the recertification review was inconclusive. These emails from USFWS and Maine Inland Fisheries and Wildlife confirmed that although several federal and state species exist in the vicinity of the project, the project has no adverse effect on those species. The full emails can be found in Attachment 1.

In my opinion, the materials provided, followed up by additionally requested information, and referenced above are sufficient to make a recertification recommendation, and no further application review is needed.

IV. 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 areas of noncompliance or new or renewed issues of concern. During the review, two (2) changes since original LIHI certification in 2010 were identified of relevance to LIHI criteria:

1. **Maine Pollutant Discharge Elimination Permit** - On June 11, 2014, the Applicant received a Maine Pollutant Discharge Elimination System Permit and Maine Waste Discharge License from the Department of Environmental Protection. The permit is essentially a re-authorization allowing the applicant to discharge a maximum of 48,000 gallons per day of non-contact cooling water and unspecified quantity of miscellaneous waste waters and storm water runoff. The permit found that the discharge "will not lower the quality of any classified body of water below such classification."

¹ The filing is due to the installation of pond level control and automatic generator synchronization and upgrading the excitation on the generator at the Oakland and Rice Rips developments of the project. The upgrade resulted in 1.5% of additional generation.

2. **Eel Passage Installation** - During the original LIHI certification, Maine Department of Marine Resources expressed concerns regarding the lack of eel passage present at the Messalonskee Projects owned by the Applicant, including Oakland. In response to these concerns, the Applicant provided a plan to work with DMR to address these concerns and install eel passage. In support of this LIHI recertification, the same contact from DMR provided an updated comment noting the Licensee's ongoing consultation and effort to design and implement an effective eel passage solution for the Facility. I contacted the Applicant to determine the status of American Eel passage to assess if these ongoing actions fulfilled Conditions 1 & 2 in the original LIHI certification. While a signed written agreement (required by Condition 1) has not been provided to LIHI, it is apparent that the Owner and DMR are working closely to achieve effective eel passage at the site. The applicant provided email documentation that the DMR and USFWS have approved the upstream eel passage measures at Union Gas, Rice Rips, and the Automatic Project. Site complexity has delayed the development of upstream passage at Oakland, but the Applicant is continuing to work with resource agencies on an effective design and location of upstream passage for this site. Downstream passage would be designed once upstream passage is installed. Therefore, the Applicant has not yet met Condition 1 nor 2. The original Condition required this action to be taken within 18 months. The original letter from Applicant to MDMR presenting the eel passage plan is included in Attachment 1. See discussion below under Conclusion regarding voluntary nature of the eel passage commitment.

V. LIHI's certification criteria have not been revised since the previous certification was issued by LIHI in 2010.

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 2016. Facilities that have applied for recertification on or before December 31, 2015, are to be evaluated using the April 2014 version of LIHI's Certification Handbook.

It is my understanding that LIHI's April 2014 criteria being applied to this recertification, or the Board's interpretation of one or more criteria, that are applicable to the circumstances of the Oakland Project, have not changed in meaningful ways since the date of the original certification.

VI. Conclusion

In conclusion, I recommend Recertification of the Oakland Hydroelectric Facility for a new, five-year term, even though the original LIHI certification conditions have not been fulfilled at the Oakland Project. This recommendation is being made in recognition that the installation of upstream and downstream eel passage is a voluntary commitment on the part of the Owner, and not a requirement issued via any legal proceeding. I recommend that the following condition remain in place as the eel passage commitments have not yet been fulfilled. These are modifications of the original conditions, updated to reflect current conditions.

Condition 1

On the Owner's Annual Compliance Statements, the Owner will update LIHI on the status of upstream and downstream eel passage at the site. Unless determined to be impractical by DMR and the Owner, upstream passage shall be installed during the new certification period. The Owner will notify LIHI within 45 days when DMR determines there is a sufficient number of eel present in the river to conduct the studies needed to



determine the best location to install downstream passage. A summary of those study results, along with a DMR approved plan and schedule for downstream eel passage installation, shall be included in that year's Annual Compliance Statement.

Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter R. Drown", with a stylized flourish at the end.

Peter R. Drown, Principal
Cleantech Analytics LLC

Attachment 1
Agency and Applicant Communications (Reverse Chronological Order)

Date: February 17, 2016

Contact: Steven Shepard, Maine Hydro Licensing Coordinator

Agency: USFWS

Reviewer Comments: These supplemental emails were requested from the Applicant due to the fact that the T&E species information provided in the original emails was out of date and inconclusive.

Andrew Locke

From: Shepard, Steven
Sent: Wednesday, February 17, 2016 3:37 PM
To: Andrew Locke
Cc: Kemper, Keel
Subject: Re: Threatened & Endangered Species in the vicinity of the Messalonskee Projects

Andrew

Re: federal ESA species...yes and no.

There are no listed species in Messalonskee Stream proper. However, three listed species are present in the Kennebec River and may enter the mouth of Messalonskee Stream as far as Union Gas Dam (I recall that is the lowermost dam). These are Atlantic salmon, Shortnose sturgeon, and Atlantic sturgeon.

Passage of these three species into the Messalonskee watershed is not desirable. Thus, there is no adverse affect from the lack of fish passage and the normal operation of the Union Gas Dam.

Steve

~~~~~  
Steven Shepard, C.F.P.  
Acting Project Leader--Maine Field Office  
U.S. Fish & Wildlife Service  
17 Godfrey Drive, Suite 2  
Orono, Maine 04473  
Voice: 207-866-3344 ext.1116  
Cell: 207-949-1288  
[steven\\_shepard@fws.gov](mailto:steven_shepard@fws.gov)

~~~~~  
*Every giant leap resulting from a technological advance requires a commensurate step
in the opposite direction --a counterweight to ground us in humanity--Alex Morritt*

On Wed, Feb 17, 2016 at 2:00 PM, Andrew Locke <alocke@essexhydro.com> wrote:

Keel & Steve,

Following up on my voicemail to you both, we are currently recertifying the Messalonskee project's with the Low Impact Hydropower Institute.

I have been asked to identify if there are any federally listed threatened or endangered species in the vicinity of the Projects (Oakland, Rice Rips or Union Gas). It's my belief there are none but I wanted to confirm.

Date: February 17, 2016
Contact: Keel Kemper, Regional Biologist
Agency: Maine Inland Fisheries and Wildlife

Reviewer Comments: These supplemental emails were requested from the Applicant due to the fact that the T&E species information provided in the original emails was out of date and inconclusive.

Andrew Locke

From: Kemper, Keel
Sent: Wednesday, February 17, 2016 2:36 PM
To: Andrew Locke
Subject: RE: Threatened & Endangered Species in the vicinity of the Messalonskee Projects

Black Tern (*Chlidonias niger*) is the only state listed endangered species associated with Messalonskee...Thanks

Keel Kemper

From: Andrew Locke [<mailto:alocke@essexhydro.com>]
Sent: Wednesday, February 17, 2016 2:00 PM
To: Steven_Shepard@fws.gov; Kemper, Keel
Subject: Threatened & Endangered Species in the vicinity of the Messalonskee Projects

Keel & Steve,

Following up on my voicemail to you both, we are currently recertifying the Messalonskee project's with the Low Impact

Date: January 7, 2016
Contact: Steven Shepard, Maine Hydro Licensing Coordinator
Agency: U.S. Fish and Wildlife Service



Shepard, Steven <steven_shepard@fws.gov>

7:52 AM (9 hours ago)



to Peter ▾

Peter

No concerns regarding compliance. Essex Hydro is an exemplary Licensee.

The only new (in process really) issue is the implementation of eel passage. I believe that is going well.

Steve

~ ~ ~ ~ ~
Steven Shepard, C.F.P.
Maine Hydro Licensing Coordinator
U.S. Fish & Wildlife Service
17 Godfrey Drive, Suite 2
Orono, Maine 04473
Voice: [207-866-3344](tel:207-866-3344) ext.1116
Cell: [207-949-1288](tel:207-949-1288)
steven_shepard@fws.gov
~ ~ ~ ~ ~

*It is difficult to get a man to understand something,
when his salary depends on his not understanding it—Upton Sinclair*



Date: December 3, 2015
Contact: Gail Wippelhauser, Marine Resource Scientist
Agency: Maine Department of Marine Resources

12/28/2015

Gmail - Fwd: Oakland Project Comments



Peter Drown <peter.drown@gmail.com>

Fwd: Oakland Project Comments

Dana Hall <dhall@lowimpacthydro.org>
To: Peter Drown <peter.drown@cleantechanalytics.com>

Thu, Dec 10, 2015 at 11:31 AM

Here it is

----- Forwarded message -----

From: **Certification Comments** <comments@lowimpacthydro.org>
Date: Thu, Dec 10, 2015 at 11:26 AM
Subject: Fwd: Oakland Project Comments
To: dhall@lowimpacthydro.org

----- Forwarded message -----

From: **Wippelhauser, Gail** <Gail.Wippelhauser@maine.gov>
Date: Thu, Dec 3, 2015 at 11:01 AM
Subject: Oakland Project Comments
To: "comments@lowimpacthydro.org" <comments@lowimpacthydro.org>

The Department of Marine Resources (DMR) believes the Oakland Project meets the LIHI Low Impact Certification Criteria. The Licensee has installed and tested upstream eel passage at their two downstream projects (Union Gas and Rice Rips), and DMR has approved these facilities as being effective at passing American eel. The Licensee has been consulting with DMR on the location and design of upstream passage at the Oakland Project, which is a very challenging site. We look forward to continued consultation and testing a design in 2016. In order to inform downstream passage measures, the Licensee also has been sampling for emigrating adult eels upstream of the Oakland Project, but to date only one or two have been caught. They were transported and released below all the projects.

Gail Wippelhauser, Ph. D.
Marine Resources Scientist
Maine Department of Marine Resources
#172 State House Station
Augusta, ME 04333

Phone: 207-624-6349 Fax: 207-624-6501
email: gail.wippelhauser@maine.gov

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Dana Hall, Deputy Director
Low Impact Hydropower Institute



<http://lowimpacthydro.org>
m 201-906-2189
PO BOX 194, Harrington Park, NJ 07640

Date: May 26, 2015

Contact: Arthur Spiess, PhD, Senior Archaeologist

Agency: Maine Historic Preservation Commission



PAUL R. LEPAGE
GOVERNOR

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

EARLE G. SHETTLEWORTH, JR.
DIRECTOR

May 26, 2015

Mr. Stephen Hickey
Messalonskee Stream Hydro, LLC
c/o Essex Hydro Associates, LLC
55 Union St., 4th Floor
Boston, MA 02108

Re: FERC 2556, Messalonskee Stream Hydro, archaeological site monitoring

Dear Mr. Hickey:

Based on the photographs included in the archaeological site monitoring report, received here May 21st, we concur with your findings of continued relative stability of the shorelines of the six monitored site (53.42, 53.41, 53.30, 52.26, 37.1 and 37.16). None of the sites requires emergency archaeological attention at this time.

Sincerely,



Arthur Spiess, PhD
Senior Archaeologist

arthur.spiess@maine.gov

Date: September 10, 2010

Contact: Applicant, Maine Department of Marine Resources

Agency: Maine Department of Marine Resources

Reviewer Comments: This letter constitutes the original proposal from the Owner and Maine DMR regarding eel passage, as required in the original LIHI conditions. Although no direct response was provided, conversations with DMR confirm they are in agreement with the applicant's approach.

MESSALONSKEE STREAM HYDRO, LLC

c/o ESSEX HYDRO ASSOCIATES, L.L.C.
65 UNION STREET, 4TH FLOOR
BOSTON, MASSACHUSETTS 02108 USA

TELEPHONE:
FAX:
E-MAIL:

+617-367-0032
+617-367-3786
mshllc@essexhydro.com

September 10, 2010

Ms. Gail Wippelhauser
Marine Resource Scientist
Maine Department of Marine Resources
#172 State House Station
Augusta, ME 04333

Re: Messalonskee Stream American eel passage

Dear Ms. Wippelhauser,

As you are aware, on May 9th, 2010 Messalonskee Stream Hydro, LLC ("MSH") applied to the Low Impact Hydropower Institute ("LIHI") for certification as a low impact hydropower facility. As part of the application process, on June 7, 2010 you were contacted by my colleague Mr. Stephen Hickey in regards to the adequacy of MSH's Union Gas, Rice Rips and Oakland hydro station's ("the MSH stations") fish passage facilities (see Appendix 1). As we have discussed, please find below our proposal to address your concerns regarding the lack of upstream and downstream passage for American eel, the only diadromous species that have historically used Messalonskee Stream.

MSH proposes to work cooperatively with the Maine Department of Marine Resources ("MDMR") and the United States Fish and Wildlife Service ("USFWS") to address eel passage at the MSH stations.

In regards to upstream passage of American eel, MSH proposes to first address the Union Gas hydro station, the furthest downstream station on the Messalonskee Stream. In the spring of 2011 MSH would work with MDMR to determine the optimum location for installation of an eel ramp based upon an investigation of the tailrace area and observations of elver behavior. MSH then would install the ramp as early as is feasible on a best efforts basis. MSH suggests that MDMR install and maintain a trapping and counting box similar to that maintained at the Benton Falls project to assess the actual upstream eel migration in 2011 and subsequent years. MSH, MDMR, and USFWS would monitor American eel passage rates at the facility and assuming a successful run at the Union Gas project and the installation of upstream American eel passage at Automatic Station, the next upstream hydro station owned by the Kennebec Water District, MSH would then propose to work with MDMR and USFWS to design and install upstream eel passage facilities at the Rice Rips and Oakland projects.

With respect to downstream eel passage MSH proposes to provide MDMR and USFWS with project drawings showing details of each of the three project intakes. MSH then will work with the agencies to determine appropriate measures that need to be

taken to assure reasonable downstream eel passage. Such measures, if necessary, might include limited nighttime operation or modified bypass flow regimes during critical migration times. It is expected such measures would begin to be implemented in the fall of 2011.

You will note that MSH has provided Mr. Fred Ayer a copy of this letter that we hope responds to your July 13th comments regarding the adequacy of fish passage at the Messalonskee Stream Hydro projects.

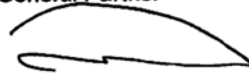
If you have any questions, please give either Steve Hickey or me a call (617-367-0032) or send an e-mail, sih@essexhydro.com or tarpey@massgravily.com.

Very truly yours,

MESSALONSKEE STREAM HYDRO, LLC

By: Concord Hydro Associates
Sole Member

By: Essex Hydro Associates, L.L.C.
General Partner

A handwritten signature in black ink, appearing to read "Thomas A. Tarpey".

Thomas A. Tarpey
Executive Vice President

Cc: F. Ayer
J. Warner