

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 Rice Rips Hydroelectric Facility (FERC #2556)

Dr. Sale:

This letter contains my recommendation for Recertification of the Rice Rips 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", is written over a faint, light-colored signature line.

Peter Drown, President  
Cleantech Analytics LLC

## **I. Background:**

The Rice Rips Facility is located on the Messalonskee Stream, a tributary of the Kennebec River in Kennebec County, Maine. The Facility is owned and operated by Messalonskee Stream Hydro, LLC. The Facility is one of three LIHI certified projects between the Lake dam and the Kennebec River, all operating under FERC License 2556. The 1.6 MW facility generates approximately 5,600 MWh annually and 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 Rice Rips 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 passage at Rice Rips has occurred in 2015 and testing options will occur in 2016, with final installation expected subsequently

- 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
- Maine Pollutant Discharge Elimination System Permit & Waste Discharge License Renewal issued June 10, 2014

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 Generation<sup>1</sup>

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 the licensee has installed and tested upstream eel passage at the facility and DMR has tested these facilities and found them to be effective. 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 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 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 recertification.**

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 10, 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 26,900 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."
2. **Eel Passage Installation** - During the original LIHI certification, Maine Department of Marine Resources

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<sup>1</sup> 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.

expressed concerns regarding the lack of eel passage present at the Messalonskee Projects owned by the Applicant, including Rice Rips. 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 has installed and tested upstream eel passage at each of these two projects [Union Gas and Rice Rips,] and DMR has approved these facilities as being effective at passing American Eel.” 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 has approved the upstream eel passage measures at Rice Rips<sup>2</sup> (Attachment 1.) However, the installation of downstream passage is still a condition at the project that has not yet been met. (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 Rice Rips Hydroelectric Facility for a new, five-year term, even though the downstream eel passage requirement has not been fully met. 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 downstream eel passage commitment has 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 downstream eel passage at the site. The Owner will notify LIHI within 45 days of when DMR determines there is a sufficient number of eel to 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.

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<sup>2</sup> Note: The original Condition required this action to be taken within 18 months – I am also including the original letter from Applicant to MDMR presenting the eel passage plan from September 10, 2010.

Sincerely,

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

Peter R. Drown, President  
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**

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**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](mailto: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**

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**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

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**From:** Andrew Locke [<mailto:alocke@essexhydro.com>]  
**Sent:** Wednesday, February 17, 2016 2:00 PM  
**To:** [Steven\\_Shepard@fws.gov](mailto: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

**Reviewer comments:** I also placed several calls to Mr. Shepard requesting to speak regarding these projects, to determine whether applicant met recertification criteria. I was unable to reach him by phone but received this email response.



**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](mailto: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*

...



**Peter Drown** <peter.drown@cleantechanalytics.com>

Jan 6 ☆



to steven\_shepard ▾

Hi Steven,

I am just following up on my previous email to you regarding the recertification of several LIHI projects. Feel free to give me a call at [\(207\) 951-3042](tel:207-951-3042) if you would like to discuss in person, otherwise if there is another person I should speak with in your office please let me know.

Thanks,

...



**Peter Drown** <peter.drown@cleantechanalytics.com>

12/29/15 ☆



to Steven\_Shepard ▾

Hi Steven,

In addition to Benton Falls, we are in the process of reviewing recertification applications for three additional projects owned by the same company, located on the Messalonskee. These are all under one FERC license - #2556 - and consist of the [Oakland](#), [Union Gas](#) & [Rice Rips](#) projects.

Can you provide any comments regarding these projects as well? The key criteria we are looking for are:

- 1) Any areas of noncompliance?
- 2) Any new and renewed issues of concern?

Even some brief comments on the above are greatly appreciated.

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

**Reviewer comments:** I also placed several calls to Ms. Wippelhauser, and spoke with her briefly. She directed me to these comments submitted directly to LIHI and confirmed the information contained therein.

Lowimpachydro.org Mail - Union Gas and Rice Rips Projects comments

12/3/15, 1:40 PM



Dana Hall <dhall@lowimpachydro.org>

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### Union Gas and Rice Rips Projects comments

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**Wippelhauser, Gail** <Gail.Wippelhauser@maine.gov>  
To: "dhall@lowimpachydro.org" <dhall@lowimpachydro.org>

Thu, Dec 3, 2015 at 1:33 PM

The Department of Marine Resources (DMR) believes the Union Gas Project and the Rice Rips Project meets the LIHI Low Impact Certification Criteria. The Licensee has installed and tested upstream eel passage at each of these two projects, and DMR has approved these facilities as being effective at passing American eel. In order to inform downstream passage measures, the Licensee also has been sampling for emigrating adult eels upstream at the outlet of Messalonskee Lake, 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](mailto:gail.wippelhauser@maine.gov)

**Date:** December 29, 2015 (emails from August 2015)  
**Contact:** Applicant, Maine Department of Marine Resources  
**Agency:** Maine Department of Marine Resources

**Reviewer Comments:** The below email chain as forwarded from the Owner as I requested confirmation from Owner that Maine DMR had approved original and new plans for eel passage.

**Sheila Burge**

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**From:** Dave Sherman  
**Sent:** Tuesday, December 29, 2015 12:47 PM  
**To:** Sheila Burge  
**Subject:** Fwd: M3 Rice Rips Upstream Eel Passage Efficiency Tests

Rice Rips approval email.  
Dave

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

**From:** Wippelhauser, Gail <Gail.Wippelhauser@maine.gov>  
**Date:** Fri, Aug 28, 2015 at 3:45 PM  
**Subject:** RE: M3 Rice Rips Upstream Eel Passage Efficiency Tests  
**To:** george zink <georgezink14@live.com>, "Steven Shepard@fws.gov" <Steven\_Shepard@fws.gov>  
**Cc:** "Brown, Michael" <Michael.Brown@maine.gov>, Dave Sherman <dsherman@essexhydro.com>, Steve Hickey <sjh@essexhydro.com>

Skip:

As a follow-up to our phone conversation, you have DMR's approval to install the piping that will allow upstream migrants to directly enter the headpond.

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](mailto:gail.wippelhauser@maine.gov)

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**From:** george zink [mailto:[georgezink14@live.com](mailto:georgezink14@live.com)]  
**Sent:** Monday, August 10, 2015 10:58 AM  
**To:** Steven\_Shepard@fws.gov; Wippelhauser, Gail  
**Cc:** Brown, Michael; Dave Sherman; Steve Hickey  
**Subject:** M3 Rice Rips Upstream Eel Passage Efficiency Tests

Hello All,

Attached please find copies of the field data sheets for the 2015 efficiency tests at Rice Rips Dam.

Eel migration was light this season so the Enkamat side was tested first on July 27th. 103 eels were put in at the entrance on the afternoon of July 26th and a total of 95 eels were trapped at the top on the morning of July 27th. A holding pen, placed at the entrance to prevent escape, was checked and no eels were found, giving us 92% passage.

The Plinko side was tested starting on the afternoon of August 3rd with 51 eels put in a holding pen at the entrance. On August 4th, 15 eels were trapped at the top and a check of the holding pen revealed a number of eels sulking in the entrance pen. After consulting with Maine Dept. of Marine Resources, the test was continued on August 5th, for an additional 30 eels, and again on August 6th, for 1 more. No more eels were found in the entrance pen. This gave us 30% on August 4th, 59% on August 5, and 1% on the 6th for a total of 90%.

With the completion of these tests, and the 2015 seasonal data to be completed, we would request that the interim eel passage at M3 be considered permanent passage. With approval, piping will be installed to direct eels into the head pond in place of the holding trap. A final report will follow.

Please feel free to send any comments or questions.

Thank you,

Skip Zink

**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., 4<sup>th</sup> 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 21<sup>st</sup>, 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](mailto: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.  
85 UNION STREET, 4TH FLOOR  
BOSTON, MASSACHUSETTS 02108 USA

TELEPHONE:  
FAX:  
E-MAIL:

+617-357-0032  
+617-357-3788  
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 9<sup>th</sup>, 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 13<sup>th</sup> 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, [sjh@essexhydro.com](mailto:sjh@essexhydro.com) or [tarpey@massgravily.com](mailto: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