February 23, 2018

VIA ELECTRONIC FILING

Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: FirstLight Hydro Generating Company, Turners Falls Hydroelectric Project (FERC No. 1889) and Northfield Mountain Pumped Storage Project (FERC No. 2485).
Outstanding Addendums, Additional Proposed Studies and Proposed Schedule

Dear Secretary Bose:

FirstLight Hydro Generating Company (FirstLight) owns and operates the Turners Falls Hydroelectric Project and Northfield Mountain Pumped Storage Project. FirstLight is in the process of relicensing the facilities with the Federal Energy Regulatory Commission (FERC). The purpose of this letter is to provide FERC with a schedule for a) completing and filing outstanding addendums for two required FERC studies, b) completing additional field studies FirstLight plans to conduct in 2018 in connection with agency and other stakeholder discussions and in support of its relicense application and filing the findings with FERC, and c) filing an Amended Final License Application (Amended FLA) following completion and analysis of the remaining studies.

Outstanding Study Addendum (Study 3.3.1)

Sea Lamprey

On February 17, 2017 FERC issued its Determination on Requests for Study Modifications and New Studies. In its Determination Letter relative to Study No. 3.3.1 *Instream Flow Habitat Assessments in the Bypass Reach and below Cabot Station* it discussed habitat suitability index (HSI) curves for Sea Lamprey based on depth and velocity data collected at Sea Lamprey nest locations[1]. Stakeholders requested that the HSI curves originally developed from existing literature be modified based on the site-specific depth and velocity data collected at five Sea Lamprey nesting sites in the Connecticut, Ashuelot and Millers Rivers. FERC's Determination Letter states:

"*Because this site-specific habitat data is specific to the project area and would be useful for adjusting or verifying the HSI curves taken from the literature, we recommend FirstLight consult with the agencies and use the data collected at documented sea lamprey spawning sites in study 3.3.15 to make adjustments to (or verify) the literature-based curves. If use of this data result in adjustments to the HSI curves, we*

[1] As part of Study No. 3.3.15 *Assessment of Adult Sea Lamprey Spawning with the Turners Falls Project and Northfield Mountain Project Area* depth and velocity data were collected at Sea Lamprey nests.

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recommend that FirstLight incorporate the new curves into the PHABSIM model and produce revised estimates of WUA for sea lamprey spawning in the bypassed reach and downstream of Cabot Station and file an addendum to the study by May 15, 2017".

On March 16, 2017, FirstLight held its study report meeting on five studies that had been filed with FERC on March 1, 2017. In the agenda for the March 16, 2017 meeting, FirstLight indicated it would also like to consult with stakeholders on a method of developing the Sea Lamprey spawning HSI curves. Based on feedback at the meeting, it was agreed that FirstLight would develop two sets of HSI curves based on a) using all five Sea Lamprey spawning locations and b) using only the two spawning locations on the Connecticut River mainstem.

Following the March 16th meeting, on April 12, 2017 FirstLight emailed stakeholders a memo that included three sets of HSI curves based on a) using all five Sea Lamprey spawning locations, b) using only the two spawning locations on the Connecticut River mainstem and c) using only the two spawning locations (Hatfield S curve and Fall River) where ammocoetes were documented. FirstLight requested comments on the memo by April 21, 2017.

On May 11, 2017, FirstLight filed a letter with FERC stating that the Sea Lamprey spawning HSI curves had not been finalized as consultation was still ongoing. All correspondence to/from stakeholders was included in Attachment A of the May 11, 2017 filing.

On May 24, 2017, USFWS (via Don Pugh) provided a spreadsheet with its proposed HSI curves. On June 1, 2017 there was a meeting in Northfield, MA where the Sea Lamprey HSI curves were discussed. At the meeting, FirstLight requested stakeholders to explain how the proposed Sea Lamprey spawning HSI curves were developed. On June 2, 2017, Don Pugh emailed FirstLight an explanation of how the Sea Lamprey spawning HSI curves were developed (See Attachment A).

Per Study Plan No. 3.3.1 Sea Lamprey spawning was to be assessed in Reaches 1, 2, 3 and 4. FirstLight proposes to develop new Weighted Usable Area versus flow curves using the updated Sea Lamprey spawning HSI curves and file the findings along with a brief report with FERC by May 1, 2018.

Mussels

In addition to re-running the analysis with new Sea Lamprey HSI curves, FirstLight is completing its analysis of rare, threatened and endangered (RTE) mussels in Reach 3 (yellow lampmussel) and Reach 5 (three RTE mussel species). FirstLight has been consulting with the agencies, including the Massachusetts Natural Heritage and Endangered Species program on the analysis. FirstLight proposes to file with FERC the results of the RTE mussel evaluation by May 1, 2018.

Outstanding Study Addendum (Study 3.3.15)

FERC's February 17, 2017 Determination Letter requested additional information on Study No. 3.3.15 *Assessment of Adult Sea Lamprey Spawning within the Turners Falls Project and Northfield Mountain Project Areas*. Stakeholders requested that FirstLight provide additional analysis of how Sea Lamprey nests may be inundated or exposed under a full range of operating conditions, not just conditions that occurred during the 2015 sampling.

In its Determination Letter FERC required FirstLight to "*consult with the stakeholders and establish parameters for a low-flow scenario or scenarios and then run the hydraulic model for the selected low-flow scenarios. These modeling results should be used to describe, in an addendum to be filed by May 15, 2017, inundation and exposure of the locations where the 29 redds were documented. "*

On April 12, 2017 FirstLight emailed stakeholders (see Attachment B) and noted the following:

- Sea lamprey were documented at the Hatfield S Curve, Stebbins Island on the Connecticut River mainstem, and three tributaries- Fall River, Millers River and Ashuelot River.
- No hydraulic model exists for the Fall, Millers and Ashuelot Rivers so it is not possible to determine the impact of Project operations on these redd locations.
- In addition, for the hydraulic model below the Montague USGS Gage, there is no transect located at the Hatfield S Curve, thus it is not possible to assess this location (the same was noted in the Study 3.3.15 Report).
- FirstLight proposes to assess the six (6) redds that were located near Stebbins Island to determine if they become exposed.
- To conduct this analysis, FirstLight proposes to develop an elevation duration curve using simulated water level data from the HEC-RAS hydraulic model at the redd location for the period 2000-2015. Thus, the hydraulic model would be operated in an unsteady mode and would simulate on an hourly basis the water level at Stebbins Island for the period May 20 to July 31 (the assumed Sea Lamprey spawning period).
- From these data, an elevation duration curve would be developed and the elevations of the redds at Stebbins Island shown.

FirstLight requested comments by April 21, 2017. No comments were provided. FirstLight plans on submitting the findings of its analysis, as described above, by May 1, 2018.

2018 Ultrasound Array Study

In 2016, FirstLight conducted an ultrasound array study in the Cabot tailrace to determine if upstream migrating adult American shad could be repelled from the Cabot tailrace and continue up the bypass reach to the Spillway Ladder. FirstLight learned that when the ultrasound signal was initially turned "on" adult American shad had a response. Although not required by FERC's Determination, based on lessons learned from the initial study, and because of the importance this study could have on the potential for moving adult shad up the bypass, FirstLight plans to conduct a second ultrasound study in 2018. The 2018 study includes two important components: a) modifications to the location and signal strength of the array and b) adding a radio telemetry component to determine where repelled adult American shad move after encountering the array, in particular, whether the adult shad move up the bypass. FirstLight also proposes to test releasing various magnitudes of bypass attraction flows. On January 12, 2018, FirstLight provided stakeholders with a draft study plan to conduct the 2018 ultrasound array study. FirstLight has requested written comments on the study plan by February 27, 2018, and is in the process of determining if permits are required to conduct the second test. FirstLight will address comments and file a final study plan (along with the consultation record) with FERC for FERC's information. FirstLight plans to conduct the study and file a final report on the 2018 Ultrasound Study by December 31, 2018, assuming permits are needed and are in place.

Downstream Juvenile Shad and Proposed Testing of Northfield Mountain Tailrace Barrier Net

On October 14, 2016, FirstLight filed with FERC Study Report No. 3.3.3 *Evaluate Downstream Passage of Juvenile American Shad*. On October 31 and November 1, 2016, FirstLight held its study report meeting in which Study No. 3.3.3 was discussed and on January 17, 2017 filed its responsiveness summary. Relative to Study No. 3.3.3, in its response, FirstLight proposed not to repeat Study No. 3.3.3 because of issues encountered during study implementation in the fall of 2015. On January 27, 2017, the United States Fish and Wildlife Service (USFWS) issued a response to FirstLight's responsiveness summary, requesting FirstLight to repeat its juvenile shad telemetry study in the fall of 2017.

On February 7, 2017, FirstLight filed a letter with FERC stating that it does not believe repeating all or parts of Study No. 3.3.3 would provide significant additional information to inform the development of

license conditions. FirstLight proposed to evaluate, in consultation with the relevant agencies, the need, feasibility and cost of potential measures to provide safe, timely and efficient downstream passage for juvenile shad. In its letter, FirstLight requested FERC to defer its decision on any potential future studies associated with Study No. 3.3.3 until after July 31, 2017 to afford time to discuss potential Protection, Mitigation and Enhancement (PME) measures with relevant resource agencies. In its Determination on Requests for Study Modifications and New Studies, FERC recommended deferring a decision about the need to repeat all or parts of Study No. 3.3.3 until after FirstLight has discussed potential downstream passage measures with interested stakeholders.

On August 17, 2017, FERC responded to FirstLight's request to delay action on the downstream juvenile shad study. In its response FERC stated "*To provide additional time for FirstLight to consult with resource agencies on protection, mitigation, and enhancement measures for downstream juvenile shad passage, we are delaying action on the requested modifications to study 3.3.3. FirstLight must file a progress report by February 28, 2018, documenting the status of its consultation with resource agencies and other stakeholders on measures for downstream juvenile shad*".

Since March 2017, FirstLight has met, and continues to meet, with resource agencies and others to discuss potential PME measures to provide downstream passage for juvenile shad. FirstLight has consulted with the USFWS, National Marine Fisheries Service (NMFS), and the Massachusetts Division of Fisheries and Wildlife (MADFW) and all parties agree that it would be best to continue the work necessary to evaluate PME measures at this time.

FirstLight is currently evaluating the feasibility of installing a barrier net in the Northfield Mountain tailrace to protect juvenile shad, adult American eel and resident species from becoming entrained. In 2017, FirstLight contracted to conduct a CFD analysis of a potential barrier net and in 2018 is planning to conduct in-situ testing of the barrier net mesh/material. Specifically, 2-ft by 2-ft panels of the barrier net mesh will be placed at different depths in the Connecticut River in proximity to the Northfield tailrace to document the debris loading and level of biofouling. These panels will then be pulled and tested off-site in a flume to estimate drag. FirstLight is conducting this work to determine the drag on a full-scale net and what loads would be placed on the net when operating four pumps (full capacity). Assuming any necessary permits can be obtained, the field work is anticipated to occur over the period August 1 to November 30, the approximate period the barrier net would be in place. A final report is expected to be completed by March 1, 2019.

FirstLight respectfully requests FERC to delay action on Study No. 3.3.3 until February 28, 2019, to allow additional time to further test the feasibility of a barrier net with the work slated for this year. Please find attached in Attachment A letters of support to delay the juvenile shad study.

Proposed Schedule

On February 15, 2018, FERC issued a Revised Process Plan and Schedule for the Wilder, Bellows Falls, and Vernon Hydroelectric Projects owned by Great River Hydro, to govern the completion of the FERC-required study plan for the Great River Hydro projects. The dates for filing of Great River Hydro's amended license applications and FERC's issuance of its Notice of Acceptance and Ready for Environmental Analysis were left undetermined. Because FERC's processing of the Great River Hydro and FirstLight projects has, to date, been coordinated, and in anticipation that FERC may be considering issuing an updated Plan and Schedule for FirstLight's projects as well as a further revised Plan and Schedule for the Great River Hydro projects that includes a date for Great River Hydro's amended license application, FirstLight offers the following proposed schedule for filing its own Amended FLA.

- Completion of additional studies needed to support FirstLight's Amended FLA – 12/31/18

- Filing of information and reports on 2018 studies – 3/1/19
- Filing of FirstLight's Amended FLA – 6/30/19

FirstLight believes this schedule will allow it to complete the field work and analysis for the key remaining studies needed to support its relicense application, as well as provide the additional time needed to prepare an Amended FLA. At the time of its original FLA in 2016, the majority of studies had not been completed; thus, significant effort will be required to develop an Exhibit E environmental report that analyzes the study results, as well as Applicant-Prepared Draft Biological Assessments for federally listed species. Concurrently with planning and conducting the additional studies, FirstLight has been engaged in extensive settlement discussions with federal and state resource agencies, conservation groups, and other stakeholders, with the goal of reaching agreement on the PME measures which FirstLight will propose in its Amended FLA. FirstLight believes that a target date of June 30, 2019 for filing of the Amended FLA should provide adequate time for these discussions, which also will be informed by the additional studies, to reach fruition.

Sincerely,

Douglas Bennett
Plant General Manager

Attachment A: Email consultation with NMFS, USFWS, Connecticut River Conservancy relative to delaying juvenile shad study

NMFS:

From: Sean McDermott - NOAA Federal [mailto:sean.mcdermott@noaa.gov]
Sent: Wednesday, February 21, 2018 12:08 PM
To: Mark Wamser <mwamser@gomezandsullivan.com>
Cc: Norman Sims <normansims1@gmail.com>; Kristen Sykes <KSykes@outdoors.org>; Bob Nasdor (bob@americanwhitewater.org) <bob@americanwhitewater.org>; Andrea Donlon (adonlon@ctriver.org) <adonlon@ctriver.org>; Don Pugh <don.pugh@yahoo.com>; A. Fisk <afisk@ctriver.org>; Peggy Sloan <PSloan@frcog.org>; Kimberly Noake MacPhee (kmacphee@frcog.org) <kmacphee@frcog.org>; Bob Kubit (robert.kubit@state.ma.us) <robert.kubit@state.ma.us>; Frost, Karro (FWE) <karro.frost@state.ma.us>; peter.hazelton@state.ma.us; Jesse Leddick (jesse.leddick@state.ma.us) <jesse.leddick@state.ma.us>; Marold, Misty-Anne (FWE) <misty-anne.marold@state.ma.us>; Caleb Slater (caleb.slater@state.ma.us) <caleb.slater@state.ma.us>; mike.nelson@state.ma.us; robert.wernerhl@state.ma.us; Mendik, Kevin <kevin_mendik@nps.gov>; Tom Christopher (tom.christopher@comcast.net) <tom.christopher@comcast.net>; Julie Crocker (julie.crocker@noaa.gov) <julie.crocker@noaa.gov>; Bill McDavitt (William.McDavitt@noaa.gov) <William.McDavitt@noaa.gov>; Christopher Boelke - NOAA Federal <christopher.boelke@noaa.gov>; Bjorn Lake - NOAA Federal <bjorn.lake@noaa.gov>; deirdre.l.casey@noaa.gov; erict@greenfield-ma.gov; John Ward (selectman.ward@gmail.com) <selectman.ward@gmail.com>; philg@gmavt.net; Walter Ramsey - Montague Planner <planner@montague-ma.gov>; StevenE - Montague Town Administrator <townadmin@montague-ma.gov>; Julia Blyth <jablyth@gmail.com>; Bryan Smith <admin.bryan.smith@erving-ma.org>; assessor.jacquelyn.boyden@erving-ma.org; kkennedy@tnc.org; Melissa Grader (melissa_grader@fws.gov) <melissa_grader@fws.gov>; julianne_rosset@fws.gov; Ken Sprankle (ken_sprankle@fws.gov) <ken_sprankle@fws.gov>; brett_towler@fws.gov; Warner, John <john_warner@fws.gov>; charles.lynch@noaa.gov; Tittler, Andrew <andrew.tittler@sol.doi.gov>; Harrington, Brian D (DEP) (brian.d.harrington@state.ma.us) <brian.d.harrington@state.ma.us>; Foulis, David (DEP) (david.foulis@state.ma.us) <david.foulis@state.ma.us>; David.Cameron@state.ma.us; James Donohue <james.donohue@comcast.net>; Marc Silver - (marc.silver@firstlightpower.com) <marc.silver@firstlightpower.com>; Tom Sullivan <tsullivan@gomezandsullivan.com>; Verville, Sarah <sverville@trcsolutions.com>; Doug Bennett (Douglas.bennett@firstlightpower.com) <Douglas.bennett@firstlightpower.com>; Don Traester (donald.traester@firstlightpower.com) <donald.traester@firstlightpower.com>; Kahn, Adam <AKahn@foleyhoag.com>; Wood, Julia <jsw@vnf.com>; Swiger, Mike <mas@vnf.com>; Lana Khitrik <lkhitrik@gomezandsullivan.com>; John Hart <jhart@gomezandsullivan.com>; Jim Ginnetti (Jim@jimginnetticonsultingllc.com) <Jim@jimginnetticonsultingllc.com>; Shue, John <John.Shue@firstlightpower.com>; Rider, Peter <Peter.Rider@firstlightpower.com>; Stira, Robert <Robert.Stira@firstlightpower.com>; Kevin Miller <kmiller@gomezandsullivan.com>; Ian Kiraly <ikiraly@gomezandsullivan.com>; Tomicheck, Chris <Chris.Tomichek@KleinschmidtGroup.com>; Hathaway, Edward <Ed.Hathaway@firstlightpower.com>; Kevin Nebiolo <Kevin.Nebiolo@kleinschmidtgroup.com>
Subject: Re: Items from Yesterday's Meeting

Mark,
We have reviewed your request to postpone implementation of Study No. 3.3.3 to Evaluate Downstream Passage of Juvenile American Shad. Given our ongoing discussions to identify appropriate PME's for a holistic solution to fish passage and habitat protection, deferring the study is reasonable. Therefore we support your request to the FERC to postpone repeating Study No. 3.3.3 until July 1, 2019.

-Sean

USFWS

From: Warner, John [mailto:john_warner@fws.gov]
Sent: Wednesday, February 21, 2018 10:41 AM
To: Mark Wamser <mwamser@gomezandsullivan.com>; Tom Sullivan <tsullivan@gomezandsullivan.com>
Cc: Melissa Grader <Melissa_Grader@fws.gov>; Ken Sprankle <Ken_Sprankle@fws.gov>; Towler, Brett <brett_towler@fws.gov>; Don Pugh <don.pugh@yahoo.com>; Slater, Caleb (FWE) <Caleb.Slater@massmail.state.ma.us>; Leddick, Jesse (FWE) <Jesse.Leddick@massmail.state.ma.us>; William McDavitt - NOAA Affiliate <William.McDavitt@noaa.gov>; Tittler, Andrew <andrew.tittler@sol.doi.gov>; Andrea Donlon <adonlon@ctriver.org>; Bjorn Lake - NOAA Federal <bjorn.lake@noaa.gov>; Katie Kennedy <kkennedy@tnc.org>; Marold, Misty-Anne (FWE) <misty-anne.marold@massmail.state.ma.us>; Sean McDermott <sean.mcdermott@noaa.gov>; Christopher Boelke - NOAA Federal <christopher.boelke@noaa.gov>; Rosset, Julianne <julianne_rosset@fws.gov>
Subject: Deferral of 2018 juvenille shad study

Mark - We reviewed the draft request you intend to send to FERC on February 28, 2018 to defer action on the request for studies of juvenile shad downstream passage pursuant to Study No 3.3.3 until February 28, 2019.

The goal of that study is to evaluate the need for fish passage and entrainment protection at the Northfield Mountain and Turners Falls projects. First Light (FL) is currently in negotiations on the project impacts and potential PME measures and, as part of those discussions, FL is proposing to conduct some preliminary assessments of fish protection measures at Northfield Mountain.

Given that the proposed fish protection assessments are critical to ongoing settlement discussions, we have no objection to deferring action on the juvenile shad downstream passage study for another year.

Let me know if you have any questions

John Warner
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John P. Warner
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Connecticut River Conservancy:
From: Andrea Donlon [mailto:adonlon@ctriver.org]
Sent: Thursday, February 22, 2018 10:01 AM
To: Mark Wamser <mwamser@gomezandsullivan.com>
Cc: Don Pugh <don.pugh@outlook.com>
Subject: RE: delay of juvenile shad study

Mark,

The CT River Conservancy is supportive of delaying the juvenile shad study.

Andrea

ANDREA DONLON
River Steward
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