



February 7, 2016

**VIA ELECTRONIC FILING**

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

Re: Response to United States Fish and Wildlife Response to FirstLight Hydro Generating Company's Responsiveness Summary, Turners Falls Hydroelectric Project (FERC No. 1889), Northfield Mountain Pumped Storage Project (FERC No. 2485).

Dear Secretary Bose:

On January 17, 2017 FirstLight Hydro Generating Company (FirstLight) filed with the Federal Energy Regulatory Commission (Commission or FERC) its response to stakeholder comments which were filed on 10 reports and three addendums<sup>1</sup> pertaining to the relicensing of the Turners Falls Hydroelectric Project and Northfield Mountain Pumped Storage Project (NMPS). On January 27, 2017, the United States Fish and Wildlife Service (USFWS) issued a response to FirstLight's responsiveness summary. In its letter, the USFWS requests that FirstLight be required to repeat its juvenile shad telemetry study in the fall of 2017. Study 3.3.3, *Evaluate Downstream Passage of Juvenile American Shad*, carried out in the fall of 2015, used a combination of radio telemetry, hydroacoustics and balloon tagging to attempt to assess juvenile shad movements at the NMPS intake and Turners Falls Project. FirstLight in its January 17 response proposed not to repeat the study as a result of problems encountered during implementation of the study in the fall of 2015.

As explained by FirstLight in its responsiveness summary and as observed during the 2015 hydroacoustic assessment, this technology is not feasible at the NMPS tailrace intake. FirstLight deployed hydroacoustic monitoring equipment in the NMPS intake/tailrace to estimate the number of juvenile shad entrained as they emigrate past the Project. A single split-beam system with four transducers was installed at NMPS. Each transducer was mounted to a pole and affixed to the top of a concrete wall. The transducers were installed at an elevation of approximately 178 feet msl, aimed downward and slightly away from the intake structure, approximately 10° up from vertical. Viewed from the front of the intake, each transducer was aimed along the center line of one of the four intake bays. Unfortunately, milling was a major issue and no estimate of entrainment resulted from this effort. In its January 27 letter USFWS indicated that *Hydroacoustic methods should be feasible, based on the results of a 1990 study*. The 1990 report stated:

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<sup>1</sup> The reports were filed on October 14, 2016, FirstLight held its meeting on October 31 and November 1, 2016, FirstLight filed its meeting minutes on November 15, 2016 and stakeholder comments on the minutes and reports were due by December 15, 2016.

**Gus Bakas**

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Hydroacoustic monitoring of clupeid entrainment was shown to be feasible at Project intakes, although the inability of this method to identify the species being detected and other problems related to the location and orientation of the transducers need to be overcome. In fact, however, the 1990 report reached similar conclusions as the 2015 study, namely, that hydroacoustics cannot distinguish which species are being entrained. Moreover, there were problems with transducer location and orientation. Therefore, the 1990 report does not support USFWS's view that hydroacoustic methods are feasible at NMPS.

Instead, FirstLight in its January 17 response proposed to rely on existing information to analyze juvenile shad entrainment and develop appropriate mitigation. With the use of the 1992 American Shad netting study, FirstLight believes FERC has sufficient information to conduct its National Environmental Policy Act (NEPA) analysis to evaluate juvenile shad entrainment at the NMPS. The 1992 netting study had a robust sampling scheme and 23 entrainment samples were collected from August 9 to October 27, 1992 by deploying a 15' x 34' framed net at the opening of the discharge tunnel in the upper reservoir during pumping operations. The efficiency of the net frame was also assessed based on 13 sampling events in which marked juveniles (both alive and dead) were introduced into plant flow and the number recaptured was recorded. The net efficiency calculation was used to adjust the juvenile entrainment estimate.

Throughout the 80.2 hours that entrainment sampling events occurred, and 8,204,756 m<sup>3</sup> of water sampled, 331 juvenile shad were collected during sampling events from August to late October. For net efficiency testing, 262 shad overall, or 8.2% of the marked fish released, were recaptured in the entrainment net during the 13 efficiency sampling events. The extrapolation of counts based on the total volume of water pumped and net efficiency yielded an estimate of 37,260 juvenile shad that were entrained during the late summer to fall migration season of 1992. The consistency of the net recovery results and the volume of NMPS flow that was filtered during each sampling event supports the reliability of the entrainment estimate for juvenile shad at the NMPS. As described in detail in its January 17 filing, the number of adult shad in the Turners Falls Impoundment in 1992 was similar to 2015, and NMPS pumping in 2015 as compared to 1992 was less. Assessing the impact of the operation of the NMPS facility on emigrating juvenile American shad using the 1992 study results would provide a conservative (i.e., high) estimate of juvenile American shad entrainment.

As explained above, FirstLight does not believe repeating Study 3.3.3 in its entirety would produce reliable results to inform license requirements. Further, FirstLight does not believe that a repeat of even the radio-telemetry aspects of the study, as contemplated in the fall of 2016, would add significant information to the record to inform license requirements. The level of effort and cost of repeating Study 3.3.3, in whole or in part, would be in the hundreds of thousands of dollars. FirstLight would rather put its efforts into evaluating potential mitigation and enhancement (PM&E) measures with the resource agencies. Along those lines, FirstLight proposes to evaluate the need, cost, and feasibility of PM&E measures to facilitate successful downstream passage of juvenile shad. FirstLight proposes to do this in consultation with the pertinent resource agencies starting in April 2017. FirstLight, in cooperation with the resource agencies, will report to FERC progress on coming to agreement on PM&E measures in July 2017.

FirstLight respectfully asks that FERC consider deferring a decision on Study 3.3.3 until the end of July 2017 to allow FirstLight to consider the need, cost, and feasibility of PM&E measures.

If you have any questions regarding the above, please do not hesitate to contact me. Thank you for your assistance in this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'Gus Bakas', written in a cursive style.

Gus Bakas