



June 24, 2015

**VIA EMAIL and ELECTRONIC FILING WITH FERC**

Mr. Toby Stover  
Water Quality Branch  
US Environmental Protection Agency Region 1  
5 Post Office Square Suite 100 (OEP06-2)  
Boston, MA 02109-3912  
(email: [stover.toby@epa.gov](mailto:stover.toby@epa.gov))

Re: Northfield Mountain Pumped Storage Project Sediment Management Plan – Suspended Sediment Monitoring Equipment Status Update

Dear Mr. Stover,

In accordance with the *Sediment Management Plan* (Plan) for the Northfield Mountain Pumped Storage Hydroelectric Project (Northfield Mountain, the Project), FirstLight Hydro Generating Company (FirstLight) has installed continuous suspended sediment monitors at three locations throughout the Turners Falls Impoundment (the Impoundment).<sup>1</sup> The continuous monitoring program is one element of a larger effort in the Plan to assess sediment dynamics in the Project's Upper Reservoir and Turners Falls Impoundment (Connecticut River).

From 2012 through 2015, FirstLight has deployed continuous suspended sediment monitors at the following locations: (1) upstream of the Rt. 10 Bridge; (2) on the north bank of the Northfield Mountain tailrace; and (3) on the south bank of the Northfield Mountain tailrace. In accordance with the Plan, the instruments are installed by April 1<sup>st</sup> of each year, or as soon as river conditions allow, and are typically removed by mid to late November depending on weather and river conditions. In addition to the continuous suspended sediment monitoring, FirstLight has also collected grab samples over a range of flows and operating conditions during each year. The end of the 2015 field season (mid to late November) is scheduled to be the end of FirstLight's suspended sediment monitoring program.

As part of the Plan, FirstLight files annual reports summarizing the previous year's monitoring activities. Annual reports were submitted to the US Environmental Protection Agency (EPA), Massachusetts Department of Environmental Protection (MADEP), and the Federal Energy Regulatory Commission (FERC) in 2011, 2012, 2013, and 2014. As discussed in these reports, the suspended sediment monitoring equipment has experienced malfunctions and electrical issues which have limited the usability of the data and have impacted FirstLight's ability to collect a continuous dataset. At the conclusion of the 2014 field

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<sup>1</sup> FirstLight filed its final *Sediment Management Plan* with the EPA, MADEP, and FERC on February 15, 2012. FERC issued its Order of Approval on March 28, 2012. Annual reports summarizing the previous year's monitoring activities have been submitted to EPA, MADEP, and FERC on December 1<sup>st</sup> from 2012-2014.

**John S. Howard**  
Director FERC Compliance, Hydro

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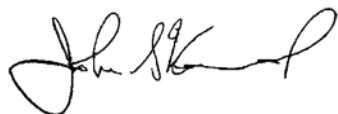
season, FirstLight added an additional year of monitoring (2015) as a result of these issues. In addition, in advance of the 2015 field season FirstLight expanded the scope of the grab sampling program in order to develop a supplemental dataset to the suspended sediment monitoring equipment data.<sup>2</sup> While the grab sampling program has been a success thus far, and other aspects of the Plan are expected to be highly useful, the continuous monitoring program has not performed to expectations and has been affected by the same equipment malfunctions and electrical issues FirstLight has encountered since 2012.

Over the past four years FirstLight has expended considerable resources while attempting to ensure the monitoring equipment would operate continuously; these efforts have not yielded the desired results. In spite of extensive consultation with the equipment manufacturer, annual equipment servicing, weekly maintenance, troubleshooting, and repair efforts the equipment has still continued to underperform resulting in data gaps, which limit the usability of the data. As a result of these continued malfunctions and equipment issues, and following consultation with you, FirstLight has decided to discontinue repair efforts for the continuous suspended sediment monitoring equipment for the remainder of 2015. As of today, the two suspended sediment monitoring devices in the Northfield tailrace have failed and will not be repaired. The monitoring equipment at the Route 10 Bridge is currently operating; however, if the equipment fails, the plan is not to repair it but instead to terminate the program entirely. Grab sample collection will continue through mid to late November 2015 in accordance with the methodology laid out in the March 31, 2015 letter submitted by FirstLight to the EPA, MADEP, and FERC. The other elements of the Plan will also remain in place.

Suspended sediment monitoring is one piece of a larger effort to inform decisions on preventing discharges of sediment to the Connecticut River and to determine management measures to address the entrainment of sediment into the Project works. In addition to the continued grab sample collection, FirstLight has recently contracted Alden Research Laboratory, Inc. to build a physical model of the Northfield Mountain Project intake/tailrace to examine and evaluate sediment transport and potential management measures. FirstLight is confident that these efforts, in the absence of the continuous suspended sediment data, combined with the already completed 3-dimensional CFD model of the Northfield intake/tailrace, 2-dimensional sedimentation model of the Upper Reservoir intake channel, ongoing Upper Reservoir bathymetry surveys, and the soon to be completed pilot dredge of the Upper Reservoir will be sufficient to consider the management measures necessary to address sediment in the Project works.

If you have any questions, please feel free to contact me at (413) 659-4489 or via email at [john.howard@gdfsuezna.com](mailto:john.howard@gdfsuezna.com).

Sincerely,



John Howard

cc: Nora Conlon, EPA (via email, [conlon.nora@epa.gov](mailto:conlon.nora@epa.gov))  
George Harding, EPA (via email, [harding.george@epa.gov](mailto:harding.george@epa.gov))  
Brandon Cherry, FERC (via email, [Brandon.cherry@ferc.gov](mailto:Brandon.cherry@ferc.gov))

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<sup>2</sup> Refer to the letter dated March 31, 2015 filed by FirstLight with EPA, MADEP, and FERC for an overview of the expanded 2015 Grab Sampling Program.

Chris Chaney, FERC (via email, [christopher.chaney@ferc.gov](mailto:christopher.chaney@ferc.gov))  
Kimberly Bose, Secretary, FERC (via electronic filing with FERC)  
Brian Harrington, MADEP (via email, [brian.d.harrington@state.ma.us](mailto:brian.d.harrington@state.ma.us))  
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