

TOWN OF GILL
M A S S A C H U S E T T S



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July 15, 2013

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

Re: Northfield Mountain Pumped Storage Project, FERC No. 2485-063
Turners Falls Project, FERC No. 1889-081

Comments on the Updated Proposed Study Plan (PSP) Section 3.1 Geology and Soils
3.1.1 *2013 Full River Reconnaissance Study* and 3.1.2 *Northfield Mountain/Turners Falls
Operations Impact on Existing Erosion and Potential Bank Instability* and Section 4.0 Studies
not Included in the PSP, 4.1 Geology and Soils, 4.1.1 *Study of Shoreline Erosion Caused by
Northfield Mountain Pumped Storage Operations*

Dear Secretary Bose:

The Town of Gill is taking this opportunity to remain actively engaged in the process of relicensing the Turners Falls Dam and Northfield Mountain Pumped Storage Projects.

The Town Of Gill, incorporated in September 28, 1793, is situated on the west bank of the Connecticut River, extending from just below the Route 10 Bridge to the Turners Falls Dam.

The Connecticut River has been closely tied to and is an integral part of the Town's development and community history. The Town boundaries include over twelve miles of shoreline on the Connecticut River. Through its appointed Conservation Commission, the Town has an important regulatory role in accordance with the Massachusetts Wetlands and River Protection Acts.

The Town of Gill has active members on the Connecticut River Streambank Erosion Committee (CRSEC), a committee of the Franklin Regional Council of Governments' (FRCOG). The CRSEC,

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convened in 1994 and formalized by FERC in the 1999 Erosion Control Plan, brings together the Northfield Mountain Pumped Storage Project operator, state and municipal entities, landowners, and NGO's to select and prioritize bioengineering projects to stabilize and repair areas of bank erosion in the Turners Falls Pool. More recently, the Landowners and Concerned Citizens for License Compliance and the CRSEC attempted to work with FirstLight to develop a suitable Quality Assurance Project Plan (QAPP) and appropriate methodology for the 2013 FRR, but the QAPP has not been finalized since FirstLight stopped collaborating on the Plan.

The Town acknowledges the importance of FirstLight as a taxpayer in Gill, as an employer, and as a patron of local businesses. FirstLight also demonstrates an ability to serve as a steward of the River. Its hard work and leadership in the annual Connecticut River Watershed Council's Source to the Sea cleanup makes a difference toward the ongoing cleanliness of our waterways and watershed.

We are increasingly aware, however, of the costs of the two Projects to the riverbanks, the habitat, and water quality. The relicensing process is a once-in-a-lifetime opportunity to ensure that impacts on these areas are fully understood and defined.

Despite submitting three versions of Geology and Soils section of the Proposed Study Plan to stakeholders, with the third version made available to stakeholders on June 28, 2013, FirstLight continues to disregard the detailed comments and concerns expressed by stakeholders at the study plan meetings and in previous correspondence with FERC. We find the updated study plans for Geology and Soils unacceptable because of numerous flaws and lack of clearly stated goals, objectives and deliverables, as detailed in the FRCOG's comment letter. FirstLight has not followed through to develop a Quality Assurance Project Plan that would serve as the basis for these studies. We urge FERC to require FirstLight to work with stakeholders to complete a credible QAPP, and to then undertake studies that are based on technically defensible science. The mandatory conditioning agencies and stakeholders must have confidence in the collection and analysis of data that will be used to evaluate the potential impacts that project operations have on the river and its resources.

We urge FirstLight to take the time to effectively address resource management goals and public interest considerations.

Comments:

We would like to express our strong support of the detailed comments submitted to you by the Franklin Regional Council of Governments (FRCOG).

We assert that bank erosion is the principal environmental problem in the Turners Falls Pool and impacts all the other resources listed in the Proposed Study Plan – Water Resources; Fish and Aquatic Resources; Terrestrial Resources; Wetlands, Riparian and Littoral Habitat; Recreation and Land Use; Cultural Resources; and Developmental Resources. We urge FERC to require FirstLight to develop clear and scientifically defensible studies that will provide valid and useful data about the impacts of project operations on river bank stability and erosion in the Turners Falls Pool.

As an example, we are concerned that the findings, conclusions and recommendations of the *Fluvial Geomorphology Study of the Turners Falls Pool on the Connecticut River Between Turners Falls, MA and Vernon, VT*, prepared by Field Geology Services of Farmington, ME (Field, 2007) have not been taken into consideration by the licensee in the formulation of their proposed Study Plans to gather information on the geology and soils of the Turners Falls Pool. Dr. Field's study was commissioned by FirstLight to "understand the causes of bank erosion and identify the most appropriate methods for bank stabilization on this section of river." We believe that Dr. Field's work is a comprehensive, well researched and scientifically-based document.

3.1 Geology and Soils

Proposed Study 3.1.1 2013 Full River Reconnaissance Study

The proposed methodology for the 2013 FRR is exactly the same as that used in 2008, which is unacceptable. We assert that the 2013 FRR study plan is not adequate for compliance or relicensing purposes. We are disappointed that the detailed, comprehensive comments prepared by the FRCOG and other stakeholders, including the Town of Gill, on the 2008 FRR methodology, the final report for the 2008 FRR, and the QAPP and proposed methodology for the 2013 FRR have not been addressed or included in the 2013 FRR methodology.

Field (2007) stated that future efforts for monitoring erosion in the Turners Falls Pool must utilize a consistent, well-documented technique for identifying erosion sites that is conducted in the early Spring or late Fall when bank exposures are least obscured by vegetation: "*such a technique should be based on the types of erosion observed and stage of erosion present not proxies for erosion or erosion susceptibility such as the amount of vegetation, percentage of exposed soil, bank height and slope, or soil type*". [emphasis added].

FirstLight disregarded these recommendations. Instead, both the 2008 and 2013 FRR methodologies (Tables 3.1-1 and 3.1-2) **use all of the "proxies for erosion or erosion susceptibility" described by Field.** The spatial and temporal extent of the erosion cannot be documented by the methods proposed for the 2013 FRR. We urge an approach that documents the type and stage of erosion according to Field (2007) so that maps can be generated that show, for example, the linear extent and location of all types and stages of erosion. Knowing this information is critical to any efforts to understand the causes of erosion, which FirstLight proposes to do in Study 3.1.2. **Data that are proxies for erosion should not be used as data in the study to determine the causes of erosion.**

In addition to completely revising the 2013 FRR methodology, there are two tasks that could be added to Study 3.1.1 to provide data that would be informative to the relicensing process. They are:

1. The photographic log of the riverbanks compiled during the fluvial geomorphology study (Field, 2007) should be updated during the 2013 FRR to provide a method for visually identifying and confirming the condition and location of eroding banks. Re-photographing the riverbanks periodically from the same locations will provide a means of identifying new erosion sites or, conversely, areas that are stabilizing. Unfortunately, this simple, relatively low cost recommendation was not implemented in the 2008 FRR or proposed for the 2013 FRR. A wealth of information can be easily gleaned from photographs and photographic logs that are

updated over time.

2. Field (2007) recommended that the initial photographic log compiled during his study be compared with continuous digital image logs taken during 2001 and 2004 (NEE, 2005). We would add the continuous digital image logs taken for the 2008 FRR and the 2013 FRR to this list.

Proposed Study 3.1.2 *Northfield Mountain/Turners Falls Operations Impact on Existing Erosion and Potential Bank Instability*

FirstLight's proposed study does not build upon the findings and recommendations in the Field (2007) report. Dr. Field reviewed and summarized the previous work that had been done by the Army Corps of Engineers and others to understand the erosion occurring in the Turners Falls Pool. According to Field (2007), conditions in the Turners Falls Pool create a situation where the riverbanks are near the threshold of erosion. An important opportunity has been missed to build upon scientifically sound and well-documented work. We urge FERC to require the Study Plan be revised to provide scientifically sound and defensible data.

4.0 Studies not Included in the PSP

4.1 Geology and Soils

4.1.1 Study of Shoreline Erosion Caused by Northfield Mountain Pumped Storage Operations

As a point of clarification, NOAA's National Marine Fisheries (NMFS), a Federal resource agency, also requested this study (study request 6.14) in their comments filed on March 1, 2013. NMFS was not listed as requesting this study. The goals and objectives of this study, as stated in several stakeholders' requests, including the Town of Gill, would be to determine the environmental effects of the presence and operation of the licensed facilities on river bank stability, shoreline habitat, agricultural farmland, wetland resources, bed substrate, and water quality in the Turners Falls impoundment.

FirstLight dismissed the Relevant Resource Management Goals (18 CFR Section 5.9(b)(2)) listed by the town by stating that we, along with other stakeholders that requested the study, were not resource agencies. NMFS is a federal resource agency and listed among their numerous resource management goals was the concern that elevated levels of suspended sediment are associated with a diminution in water quality which also affects the quality of habitat encountered by *trust resource species*. [emphasis added]

FirstLight omitted the study requested by NMFS, the Town of Gill, FRCOG and other stakeholders. FirstLight argued that certain requested tasks should not be done because FERC uses current conditions as its baseline for evaluating project effects and alternatives. This is not a valid argument. The baseline conditions should, at a minimum, bracket the timeframe for data analysis to the year the Northfield Mountain pumped storage project came on-line to the present day; however, current conditions, meaning what we see today, and future conditions under which the project will operate, cannot be evaluated in any meaningful way without an appropriate context. We understand that TransCanada is assembling and reviewing historical data as part of their study plans related to understanding erosion in the upper reach of the river. We assert that a similar level of effort is required for the Turners Falls Pool. We are asking for a reasonable time period, a reasonable context within which collected data will be evaluated

to assess the impacts of project operations in the Turners Falls Pool, and cumulative impacts of all five projects on the river.

We are dismayed that FirstLight would assert that it “is unclear how the requested data would inform potential PME measures.” (page 4-3). Understanding how project operations affect the river, its banks and other resources is critical to designing appropriate PME measures. **Giving the erosion issue “short shrift” in the Study Plan process will ensure that inadequate and suspect data informs potential PME measures.**

We request that FERC direct FirstLight to add the following tasks from NMFS’, the Town of Gill’s, FRCOG’s and other stakeholder’s study request – *Study of Shoreline Erosion Caused by Northfield Mountain Pumped Storage Operations* to FirstLight’s proposed study 3.1.2.

1. This study should determine the net soil loss in cubic yards between when the pumped storage project came on-line and the present; a density estimate of the eroded material should also be provided. Provide an analysis of where the greatest loss has occurred, location of proximity to the tailrace, soil type, riparian land use, and vegetative cover in that area. Calculate nutrient loadings (nitrogen and phosphorus compounds) to the river system based on soil loss.
2. Obtain copies of the original survey plans for the project (Exhibit K), and complete a new survey using the same landmarks used previously. The Field (2007) report states on page 11 that the original survey plans of the river are still retained by Ainsworth and Associates, Inc. of Greenfield MA. Use pre-operation aerial photos and current aerial photos to complete a 10-foot topographic map of the section of river between Turners Falls Dam and Vernon Dam and the 200-foot buffer regulated under the Massachusetts Rivers Protection Act. The Field (2007) report on page 11 states that Eastern Topographics, Inc. determined that sufficient information is known about the 1961 aerial photos (e.g., height of airplane) to create a 10-foot topographic map of that time period, and that 1961 aerial photos could be accurately overlaid with recent aerial photos. Field (2007) states that this analysis would enable a more reliable determination of small-scale shifts in channel position and changes in bank height that may have resulted from the erosion of a low bench that previously existed along portions of the river and help identify areas of the most significant bank recession during the past 45 years. Among other things, create a single map showing areas of erosion and deposition, and also overlay the Field report’s hydraulic modeling analysis of the river channel. ”
3. Complete detailed surficial mapping (topographic map or LIDAR) to identify the various geomorphic surfaces, height of benches/terraces above the river level, and types of sediments underlying the surfaces. This will allow one to determine how erosion varies with geomorphic conditions. One could then normalize the amount of erosion to a specific type of bank material/geomorphic surface/terrace.

FirstLight’s reason for not conducting LIDAR, which they said was too expensive and other topographic data was available, is not valid for two key reasons. First, the data FirstLight proposes to use, the USGS 10 meter digital elevation model, does not have sufficient resolution to determine how erosion varies with geomorphic conditions. Second, TransCanada is using LIDAR for the northern reach of the river and consistent data is needed to enable FERC to evaluate both individual project impacts and cumulative impacts.

In closing, we request having a local representative from the FRCOG, Franklin Conservation District, Gill Conservation Commission, or Landowners and Concerned Citizens for License Compliance accompany FirstLight when they conduct the FRR.

The Town of Gill looks forward to continuing our active engagement in the relicensing of the Turners Falls Dam and Northfield Mountain Pumped Storage Projects.

Sincerely,

Town of Gill Conservation Commission

/s/Chris Polatin, Chair

/s/Paul Sievert

/s/Amy Gordon

Town of Gill Selectboard

/s/John R. Ward, Chair

/s/Randy P. Crochier

Cc: John Howard, First Light Hydro generating Company
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Tom Miner, Connecticut River Streambank Erosion Committee
Ken Hogan, Federal Energy Regulatory Commission
Chris Chaney, Federal Energy Regulatory Commission
Congressman James McGovern
Jennifer Soper, MA Department of Conservation and Recreation
Paul Jahnige, MA Department of Conservation and Recreation
Senator Stan Rosenberg, Massachusetts State Senate
Senator Benjamin Downing, Massachusetts State Senate
Representative Denise Andrews, Massachusetts House of Representatives

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