

Landowners and Concerned Citizens for License Compliance

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:

Introduction:

The Landowners and Concerned Citizens for License Compliance (LCCLC) consists primarily of Gill and Northfield farm and conservation landowners who organized after seeing our riverbanks continue to wash down the Connecticut River in the Turners Falls Pool. Current and previous landowners have consistently advocated for more and better work to stabilize and repair areas of bank erosion with numerous filings to FERC, including professional studies commissioned by LCCLC, all of which have been made a part of the licensing proceeding.

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

Some of our members filed a letter to the FERC Secretary on May 16, 2008 documenting landowner concerns having been continuous since 1972, starting with letters to the then Federal Power Commission (FPC). This filing also contained a chronology by previous landowners of thirty-five years of advocacy by concerned landowners and public agencies, that began with the activation of Northfield Mountain Pumped Storage Project in 1972, to address streambank erosion on the Connecticut River.

This chronology excerpts a July 12, 1976 Northeast Utilities letter to the FPC stating that: “Early in the planning stages of the Northfield Project, it was recognized that increased fluctuations on water levels in the Turners Falls Pond would cause damage to trees along the river’s edge....Since the initial operation of the Project in late 1972, Northeast Utilities has been aware of bank erosion and has been monitoring a number of these areas along the pond.”

A similar viewpoint is contained in the March 1977 “Streambank Erosion Control Evaluation and Demonstration Projects (Section 32) in New England,” Haverhill, New Hampshire and Northfield, Massachusetts by the Department of the Army, New England Division, Corps of Engineers, Waltham, Mass. It states on page 16: “Northeast Utilities (NU) constructed a pump-storage electric facility at Northfield Mountain which uses the Turners Falls pool as the lower impoundment. Turners Falls pool was raised 5.5 feet in 1973 and this area is one of the most actively eroding reaches of the Connecticut River today. The Corps has submitted a project proposal within the pool for construction under Section 32. NU acknowledges that much of the problem is a result of power pool operations.”

The LCCLC has been and continues to be concerned with the frequent and significant water level fluctuation associate with the operation of the Northfield Mountain Pumped Storage and Turners Falls projects which contribute to streambank erosion and impacts water quality, threatened and endangered species, fisheries, and riparian and littoral habitat. In particular, we believe that the Northfield Mountain Pumped Storage project and its operational use of the Connecticut River have been a long-term experiment that has resulted in significant adverse environmental impacts.

The LCCLC presented a photographic record of the erosion just upstream and across from the tailrace to the assembled FERC staff at the Scoping Meeting on January 30, 2013. Our scoping meeting presentation demonstrated why the current and previous owners of this conservation land have been so persistent in drawing FERC’s attention to the severity of erosion of our riverbanks and why the current restoration effort is several decades too late. In 1960 an Oak tree on the featured riverbanks stood approximately 30’ from the top edge of the bank. It is now less than 6’ from the top edge of the heavily eroded bank. This tree marks the site of Cross Section 8A that has been used by the Licensees over the years to monitor erosion in the Turners Falls Pool on the Connecticut River. So, quantitative data should be available to document this erosion, which we have previously placed in an information request in LCCLC’s 2/13/13 filing with FERC.

Comments:

We regret that the extremely short timeframe to provide comments on these studies precludes detailed comments. That said, we do have several important comments to submit for your consideration. We would also like to express our strong support of the more detailed comments submitted to you by the Franklin Regional Council of Governments (FRCOG).

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 the numerous fatal 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 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 riverbank stability and erosion in the Turners Falls Pool.

In particular, 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 been completely ignored 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

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 LCCLC, 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. **The proposed methodology for the 2013 FRR is exactly the same as that used in 2008, which is unacceptable.**

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].

Unfortunately, FirstLight chose to ignore these recommendations and 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*

Again, we are disappointed that FirstLight’s proposed study does not specifically 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 LCCLC, would be to determine the environmental effects of the presence and operation of the licensed facilities on riverbank 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 LCCLC 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]

We are very concerned that FirstLight omitted the study requested by NMFS, the LCCLC, FRCOG and other stakeholders. The argument given by FirstLight that certain requested tasks should not be done because FERC uses current conditions as its baseline for evaluating project effects and alternatives is not valid from a scientific basis. 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', LCCLC's, FRCOG's and other stakeholders' 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.

Thank you for the opportunity to submit comments on FirstLight's Updated Proposed Study Plan. We regret that the short timeframe between receiving the Updated Proposed Study Plan (June 28, 2013) and the date the comments are due (July 15, 2013) does not provide us an opportunity to submit more detailed comments.

The LCCLC looks forward to continuing our active engagement in the relicensing of the Turners Falls Dam and Northfield Mountain Pumped Storage Projects. We request having a local representative from the FRCOG, Franklin Conservation District, Gill Conservation

Commission, or LCCLC accompany FirstLight when they conduct the FRR. The more eyes on the river the better!

Respectfully submitted,

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