

FEDERAL ENERGY REGULATORY COMMISSION
Washington, D.C. 20426
January 14, 2021

OFFICE OF ENERGY PROJECTS

Project No. 1889-085 – Massachusetts/New
Hampshire/Vermont
Turners Falls Hydroelectric Project
FirstLight MA Hydro LLC

VIA FERC Service

Mr. Nick Hollister
Senior Operations Manager
FirstLight Power Services LLC
99 Millers Falls Rd.
Northfield, MA 01360

Reference: Deficiency of License Application and Additional Information Request

Dear Mr. Hollister:

FirstLight MA Hydro LLC's (FirstLight) application for a new license for the Turners Falls Hydroelectric Project No. 1889 that was filed on April 29, 2016, and amended on December 4, 2020, does not conform to the requirements of the Commission's regulations. A list of deficiencies is attached in Schedule A, pursuant to section 5.20(a)(2) of the Commission's regulations. FirstLight has 60 days from the date of this letter to correct the deficiencies in the application.

In addition, requests for additional information made pursuant to section 5.21 of the Commission's regulations are attached in Schedule B. Please provide this information within 60 days from the date of this letter.

If the correction of any deficiency or requested information causes another part of the application to be inaccurate, that part must be revised and refiled by the due date. Also, please be aware that further requests for additional information may be sent to FirstLight at any time before final action on the application.

The Commission strongly encourages electronic filing. Please file the requested information using the Commission's eFiling system at <https://ferconline.ferc.gov/eFiling.aspx>. For assistance, please contact FERC Online Support at FERCOnlinesupport@ferc.gov; call toll-free at (866) 208-3676; or, for TTY, contact (202) 502-8659. In lieu of electronic filing, FirstLight may submit a paper copy.

Submissions sent via the U.S. Postal Service must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street NE, Room 1A, Washington, D.C. 20426. Submissions sent via any other carrier must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 12225 Wilkins Avenue, Rockville, Maryland 20852. The first page of any filing should include docket number P-1889-085.

If FirstLight has any questions concerning this letter, please contact Steve Kartalia at (202) 502-6131, or via email at stephen.kartalia@ferc.gov.

Sincerely,

Nicholas Tackett, Chief
New England Branch
Division of Hydropower Licensing

Attachments: Schedule A – Deficiencies
Schedule B – Requests for Additional Information

DEFICIENCIES

The following deficiencies have been identified after review of the final license application (FLA) for the Turners Falls Hydroelectric Project. These deficiencies must be corrected within 60 days of the date of this letter.

Exhibit E

1. Section 5.1(d) of the Commission's regulations requires an applicant to consult with appropriate federal and state agencies, Native American tribes, and members of the public that may be interested in the proceeding before filing an application for a license. In addition, section 5.18(b)(5)(ii)(G) requires documentation of such consultation in the form of a list of consulted entities. In section 1.4 of Exhibit E, FirstLight states that the documentation of consultation is included in section 6.0 of Exhibit E. However, section 6.0 is not included in Exhibit E. FirstLight must provide documentation of consultation.

2. Section 5.18(b)(5)(ii)(F) of the Commission's regulations requires a review of applicable comprehensive plans, and consideration of the extent to which the proposed project complies with such plans. FirstLight has not provided an evaluation of the consistency of the project with applicable comprehensive plans. Please review the list of comprehensive plans available on the Commission's webpage at <https://ferc.gov/sites/default/files/2020-07/ListofComprehensivePlans.pdf> to identify all applicable plans and provide a discussion of how and why the project would, would not, or should not comply with each of these plans.

Exhibit G

3. Section 4.41(h) of the Commission's regulations requires an Exhibit G that identifies the owners of lands within the project boundary. The Exhibit G maps included in the FLA for the project do not identify the landowners. FirstLight must provide the landowner identities and may refer to the Commission's guidance document, *Managing Hydropower Project Exhibits*, dated August 2014, in particular, appendix 3, page 28, which shows an example Exhibit G map with land ownership identified. Given the number of landowners to be identified, the parcels may be identified on the maps and the landowner information can be provided on separate tables in Exhibit G.

REQUESTS FOR ADDITIONAL INFORMATION

The following is a list of additional information needs that have been identified after review of the final license application (FLA) for the Turners Falls Project (project). Please file the requested information within 60 days of the date of this letter.

Installed Capacity

1. In section 1.5 of Exhibit A, on page A-5, table 1.5-1, FirstLight provides the ratings for the generators in the Turners Falls Station No. 1 powerhouse in kilowatts (kW). Please revise the table to also provide the ratings in kilovolt-amperes (kVA) with the corresponding power factor (pf). This information will be used to confirm the conversion from kVA to kW for use in determining the appropriate authorized installed capacity of each unit in accordance with 18 CFR 11.1(i).

Net Investment and Cost of Environmental Measures

2. Section 2.2 of Exhibit D, on page D-1 provides the net investment value, but does not state the date for which the value is provided (e.g., as of December 31, 2019). Please provide the applicable date for the net investment value. This will ensure that staff apply the value correctly in the economic analysis.

3. In section 4.5 of Exhibit D, in table 4.5-1, costs are provided for proposed environmental measures. In various places in the application, additional measures are identified that are not listed in table 4.5-1 (e.g., (1) implement the Recreation Management Plan, Historic Properties Management Plan, Bald Eagle Protection Plan, and Invasive Plant Species Management Plan [page E-33]; (2) include or remove lands from the project boundary [page E-37]; and (3) implement northern long-eared bat protection measures [page E-43]). Please provide a revised table 4.5-1 that lists all proposed measures, both environmental and developmental, regardless of cost. If the measures are considered to have no appreciable cost, please provide a brief explanation.

4. In section 9 of Exhibit D, FirstLight provides a list of proposed operational changes and their combined effects on annual generation (table 9.0-1). For each proposed operational change (e.g., operate in accordance with operational flow regime; maintain continuous minimum flow), please note the associated effect on annual generation. This will allow staff to isolate effects of individual measures if resource agencies, stakeholders, or staff identify alternatives to the proposed measures that have different effects on annual generation.

Aquatic Resources

5. In section 3.3.2.2.1 of Exhibit E, FirstLight evaluates the effects of proposed changes to the operation of the project by comparing summaries for simulated water surface elevations (WSEL) and flows under the baseline and proposed project. These evaluations address changes in the Turners Falls impoundment WSEL, the Turners Falls bypassed reach flow, and the flow and WSEL downstream of Cabot Station. The time period for these summaries varies between location and parameter. The analysis for the reach downstream of Cabot Station excludes days with average flow at Montague of 18,000 cubic feet per second or more. To enable staff's evaluation of effects of the proposed project on Turners Falls impoundment WSEL, flow in the bypassed reach, and flow and WSEL downstream of Cabot Station, please provide the following for both current and proposed operations:

- a. Simulated hourly WSELs for the Turners Falls impoundment near Vernon dam, Pauchaug boat launch, Riverview boat launch, and at Turners Falls dam.
- b. Simulated hourly flows immediately downstream of Turners Falls dam, Station No. 1 discharge, total bypassed reach flow, Cabot Station discharge, and the Montague U.S. Geological Survey gage.
- c. Simulated hourly WSELs for river mile (RM) 118.508 (near Montague), RM 115.07, RM 112.36, RM 109.52, and RM 94.298 (Rainbow Beach).

6. In section 3.3.2.2.2 of Exhibit E, FirstLight provides a summary of findings of the study 3.2.1 (Water Quality Monitoring Study). Section 2.6.2 of the study report, filed on March 1, 2016, states that 21 percent of the 130,566 continuous dissolved oxygen (DO) data points were adjusted, using the HOBOWare DO Data Assistant, in cases where biofouling was believed to compromise the measurements or concurrent spot measurements differed by more than ± 0.4 milligram per liter (mg/L). However, the study report does not provide the information needed to evaluate the reliability of these adjusted DO data. To enable staff's evaluation of the reliability of the adjusted DO data, please provide the following information: (1) the monitoring sites where the adjustments occurred; (2) information used to identify when an adjustment was needed, including but not limited to, any observations pertaining to biofouling of the DO sensor; and (3) data used to make those adjustments, including calibration data (e.g., dates, times, DO, water temperature)¹ and any other data used for the adjustment (e.g., barometric pressure).

¹ Specific information requested for the starting and ending calibration points is displayed under "Perform Field Calibration" on page 3 of Onset's Dissolved Oxygen Assistant User's Guide, available at:

7. In section 3.3.3.1.7.2 of Exhibit E, FirstLight proposes to install a 58-foot-wide, 21-foot-tall trashrack at the Station No. 1 forebay entrance that has a clear bar spacing of $\frac{3}{4}$ -inch. Please provide the calculated maximum intake velocities at the proposed trashrack (based on the size of the intake and the net open area of the trashrack) at Station No. 1. Please account for the proposed upgrades at Station No. 1 when estimating the intake velocities, and include supporting calculations and assumptions of the trashrack design (e.g., vertical bar thickness, number of vertical bars, and dimensions of other supporting structures that would restrict flow through the trashrack) with the filing.

8. In section 3.3.3.1.8 of Exhibit E, FirstLight reports the calculated intake velocities at Station No. 1 and Cabot Station to be 1.2 and 2.0 feet per second at the maximum hydraulic capacity of each station, respectively. These estimates of intake velocity were subsequently used to inform your analysis of fish entrainment. However, these calculated intake velocities were based on the gross area of the intake trashrack structure, rather than net open area (subtracting the area of the trashrack occupied by structure from the gross area). Please provide the net open area of the trashrack intakes at Station No. 1 and Cabot Station, estimates of the intake velocities at the maximum hydraulic capacity of each station using the net open area, and supporting documentation and calculations.

9. In section 2 of Exhibit A, FirstLight proposes to install a permanent ultrasound array within the Cabot Station tailrace, construct an eelway near the Turners Falls dam, and construct a plunge pool below Turners Falls dam bascule gate 1 as environmental measures. Please provide conceptual design drawings of the ultrasound array and the eelway, and the depth of the proposed plunge pool.

Terrestrial Resources

10. In section 2.2.1.2 of Exhibit E, FirstLight proposes to construct several facilities at the project, including various fishways and recreation features. However, there is minimal discussion of these activities in section 3.3.4, where environmental effects on terrestrial resources are discussed. To support staff's analysis on the potential effects of these construction activities on vegetation communities and sensitive plant species, please describe any disturbance to existing vegetation that would occur during the proposed construction activities. If vegetation disturbance would occur, please quantify the extent of temporary and permanent disturbance, by community type.

11. Figure 3.3.5.1.1-1 indicates there are occurrences of sensitive plants in close proximity to Turners Falls dam. However, the scale of the figure is too small to determine the location of these plants in relation to the proposed construction activities.

https://www.onsetcomp.com/files/manual_pdfs/15604-A-Dissolved-Oxygen-Assistant-User-Guide.pdf.

Please describe the proximity of these plants to the limits of the proposed construction, as well as any proposed measures to limit potential disturbance to the sensitive plants.

12. Table 3.3.4.1-5 of Exhibit E indicates there are 342.2 acres of wetlands at the Turners Falls Project. Table 4.5-1 in the study report for study 3.5.1 (Baseline Inventory of Wetland, Riparian, and Littoral Habitat in the Turners Falls Impoundment and Assessment of Operational Impacts on Special Status Species) filed on March 1, 2016, indicates that 1,438 acres of wetlands (1,382.3 acres of verified National Wetlands Inventory wetlands and 55.7 acres of newly identified wetlands) occur at the project. Please explain this discrepancy and provide the correct acreages of wetlands, by Cowardin² wetland type within the study area.

13. Addendum 2 for the study report for study 3.5.1, filed on April 3, 2017, includes figures showing observed elevations of sensitive plant species, average inundation duration, and daily average WSELs based on modeled flows under existing operations (figures 2.8-2 through 2.8-11). These figures are based on elevation data collected at specific transects where these species were observed. In section 3.3.5.2.1 of Exhibit E, FirstLight states that hydraulic models were used to predict WSELs at the surveyed transects under baseline environmental conditions and FirstLight's proposed action. Figures 3.3.2.2.1-1 through 3.3.2.2.1-4 of Exhibit E show WSEL exceedance curves comparing existing and proposed conditions, but the data is not specific to the transects used to prepare the figures in the study report referenced above. Please revise figures 2.8-2 through 2.8-11 to include modeled flows under FirstLight's proposed operations presented in the FLA.

14. Exhibit E includes a general summary of project effects on special-status plants, but not all species identified in the study report for study 3.5.1, filed on April 3, 2017, are addressed. While Frank's lovegrass, great blue lobelia, intermediate spike-sedge, and ovate spike-sedge are listed in table 3.3.5.1.1-1 as being identified in the project area, these species are not discussed in the environmental effects section. Additionally, while tufted hairgrass is identified in addendum 2 of the study report, this species is not discussed in the FLA. Please provide FirstLight's analysis of how proposed operations would affect Frank's lovegrass, great blue lobelia, intermediate spike-sedge, ovate spike-sedge, and tufted hairgrass.

² Cowardin, L.M., Carter, V., Golet, F.C., & LaRoe, E.T. (1979). Classification of wetlands and deepwater habitats of the United States (FWS/OBS-79/31). Washington, D.C.: U.S. Dept. of the Interior – Fish & Wildlife Service.

Cultural Resources

15. In section 3.3.8.1 of Exhibit E, FirstLight provides a summary of all cultural resources identified within the project Area of Potential Effects (APE), including the status of their eligibility to be listed in the National Register of Historic Places (National Register). In FirstLight's proposed Historic Properties Management Plan (HPMP) for the project, filed on December 4, 2020, further details are provided regarding these resources. However, while FirstLight states that separate HPMPs were prepared for the Turners Falls and Northfield Mountain projects, much of the information in the HPMPs appears to pertain to both projects. For example, table 5.3.1-1 and other information appears to be identical in both HPMPs.

Additionally, letters from the Massachusetts Historical Commission (MHC) dated March 7, 2019, and November 21, 2019 (filed May 6, 2019 and December 3, 2019 respectively), provide MHC's determinations of National Register eligibility. However, staff has identified some minor discrepancies between what is contained in these letters and what is provided in the HPMP. For example, in MHC's March 7, 2019, letter, site MA-14.2 (Munn's Ferry 1 site) is described as ineligible for listing on the National Register and site GIL.HA.9 (Munn's Ferry site) is eligible. Table 3.1-3 also indicates that MA-14.2 is not eligible, but table 5.3.1-1 of the HPMP states that there has been no determination of eligibility for either site.

To clarify which resources are located only within the APE at the Turner Falls Project, please file a new, comprehensive table of all resources documented within the APE for the project, identifying sites that are also located at the Northfield Mountain Project, and with any necessary updates to site information and the dates of MHC's eligibility determinations.

16. In section 3.3.8.2 of Exhibit E, FirstLight identifies two parcels of land that are proposed for removal from the Turner Falls project boundary (Riverview Drive [0.2 acre] and the U.S. Forest Service Silvio Conte Anadromous Fish Laboratory [Conte Lab; 20.1 acres]). According to the HPMP, the Riverview Drive property contains one historic-period resource (GIL.043). In the Exhibit E, FirstLight notes that the Conte Lab parcel contains several previously recorded archaeological resources, none of which have been evaluated for listing on the National Register. However, FirstLight notes that because the parcel will remain under the ownership of USGS (a federal governmental entity), which is subject to Section 106 requirements, there would be no adverse effect as a result of removing the Conte Lab parcel from the Project. According to 36 CFR 800.5(a)(2)(vii), the transfer, lease, or sale of property out of federal control without conditions to ensure the long-term preservation of historic properties on the property may constitute an adverse effect. Please describe any specific proposed measures for the lands proposed for

removal, and any consultation records with MHC involving the proposed measures and/or post-licensing studies.

17. In section 3.3.8.2 of Exhibit E, FirstLight states that several recreational improvements are proposed that may affect cultural resources within the APE. Please clarify which cultural resources may be affected by these improvements.

18. In section 3.3.8.2 of Exhibit E, FirstLight states that erosion as a result of project operation was identified at two cultural resource sites. Please identify these sites and provide additional information about the type and extent of project-related erosion at both.

19. In the proposed HPMP, FirstLight notes that visitors to the project area are collecting artifacts at several eligible or unevaluated archaeological sites. Please clarify which sites are being affected by artifact collection, and whether these sites are accessible as a result of project facilities, such as hiking trails, or whether these sites would otherwise be accessible absent project features. Please file this information as privileged pursuant to section 388.112 of the Commission's regulations.

Project Boundary

20. The Exhibit G maps identify lands to be acquired. For these lands, please provide an explanation of what the acquisition will entail (e.g., fee ownership, land rights, flowage rights) and how the lands will be used for project purposes.

21. Section 2 of Exhibit G lists lands to be added or removed from the project boundary. While the acreages are provided, it is not clear on the maps where the lands are located. Please revise the maps to clearly outline the lands in question and label them as lands to be added or removed with the corresponding acreage and identification of the landowners.