

158 FERC ¶ 61,014
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Norman C. Bay, Chairman;
Cheryl A. LaFleur, and Colette D. Honorable.

FirstLight Hydro Generating Company

Project No. 2485-073

ORDER AMENDING LICENSE

(Issued January 6, 2017)

1. On September 16, 2016, FirstLight Hydro Generating Company (FirstLight) filed an application for a temporary amendment to the minimum and maximum upper reservoir elevation limits of its license for the Northfield Mountain Pumped Storage Project No. 2485 (Northfield Mountain Project).¹ FirstLight requests the amendment from December 1, 2016, to March 31, 2017, to provide additional operational flexibility in anticipation of potential reliability challenges in New England. The project is located on the Connecticut River in Franklin County, Massachusetts, and does not occupy any federal lands. As discussed in this order, we are approving FirstLight's request, but limiting its additional use of storage to ISO New England, Inc. (ISO-NE) declared energy emergencies.²

Background

¹ *Western Massachusetts Electric Company*, Opinion No. 541, 39 FPC 723 (1968). The license was issued May 14, 1968, with a license expiration date of April 30, 2018.

² ISO-NE is the Independent System Operator responsible for managing the high-voltage transmission system and administering the wholesale electricity markets in Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire, and most of Maine.

2. The Northfield Mountain Project includes an upper reservoir, an underground powerhouse containing four reversible pump-turbine generators with a total installed capacity of 1,166.8 megawatts (MW), and an intake/outlet structure in the 22-mile-long Turners Falls Reservoir.³ The Turners Falls Reservoir, located on the Connecticut River, acts as the lower reservoir for the Northfield Mountain Project and as the reservoir for the Turner Falls Project No. 1889, for which FirstLight also holds the license.⁴

3. The Northfield Mountain Project's upper reservoir currently operates between 1,000.5 feet mean sea level (msl) and 938 feet msl which provides 62.5 feet of elevation difference and 12,318 acre-feet of storage.⁵ Within these limits, the project is capable of generating 8,729 megawatt-hours (MWh) per day during peak load conditions.

4. The Commission previously granted five similar amendments to the Northfield Mountain Project, each temporarily modifying the upper reservoir's minimum and maximum elevation limits.⁶ The first three amendments allowed use of additional storage in the upper reservoir only when ISO-NE declared an energy emergency, which it does when electric demand is forecasted to exceed capacity reserves.⁷ The fourth and fifth amendments (during the winters of 2014 and 2015) allowed FirstLight to use

additional storage anytime (i.e., an ISO-NE emergency was not required).⁸ However, in the December 2015 Amendment Order, the Commission denied FirstLight's request to

³ *FirstLight Hydro Generating Company*, 155 FERC ¶ 62,200 (2016) (order approving amendment request to increase the authorized installed capacity to 1,166.8 MW).

⁴ *Western Massachusetts Electric Company*, 11 FERC ¶ 61,124 (1980).

⁵ The upper reservoir is designed to operate up to 1,004.5 feet msl. *Western Massachusetts Electric Company, et al.*, 40 FPC 1208 (1968) and *Connecticut Light and Power Company*, 55 FPC 595 (1976).

⁶ Three of the earlier amendments were granted to Northeast Generation Company, FirstLight's predecessor as project licensee.

⁷ *Northeast Generation Company*, 95 FERC ¶ 61,336 (2001); *Northeast Generation Company*, 113 FERC ¶ 62,166 (2005); *Northeast Generation Company*, 115 FERC ¶ 62,261 (2006).

⁸ *FirstLight Hydro Generating Company*, 149 FERC ¶ 62,138 (2014) (November 2014 Amendment Order); *FirstLight Hydro Generating Company*,

permanently amend its license for the winter months during the remaining term of the license.⁹

5. The Northfield Mountain Project, the Turners Falls Project, and three other hydroelectric projects on the Connecticut River are all currently in the relicensing process at the Commission.¹⁰ Studies are being conducted as part of relicensing, which examine the environmental impacts of the projects' operations. These studies include, but are not limited to, examination of lower reservoir fluctuations caused by operations of the Northfield Mountain Project and the effects of those fluctuations to ongoing erosion and streambank stability.¹¹

FirstLight's Proposal

6. FirstLight proposes to temporarily amend the upper reservoir's minimum and maximum surface elevations from December 1, 2016, to March 31, 2017. FirstLight proposes to reduce the minimum elevation from 938 to 920 feet msl and to increase the maximum elevation from 1,000.5 to 1,004.5 feet msl. This would increase the available operating range from 62.5 to 84.5 feet and the available storage from 12,318 to 15,327 acre-feet. According to FirstLight, an additional 3,009 acre-feet of storage would be created, increasing the project's maximum daily generation by 2,050 MWh or an additional 1.8 hours of generation at full load. Similar to the temporary amendments granted in 2014 and 2015, FirstLight proposes unrestricted use of the additional storage (i.e., without being limited to an ISO-NE declared emergency) from December 1, 2016 through March 31, 2017.

7. Consistent with its previous temporary amendment proposals, FirstLight proposes to file monthly reports with the Commission that include hourly records of MWh pumped and generated, upper reservoir elevations, and lower reservoir elevations measured

153 FERC ¶ 62,201 (2015) (December 2015 Amendment Order).

⁹ December 2015 Amendment Order, 153 FERC ¶ 62,201 at P 56.

¹⁰ Moving upstream from Turners Falls, these are the Vernon (No. 1904), Bellows Falls (No. 1855), and Wilder (No. 1892) projects.

¹¹ On October 14, 2016, FirstLight filed its relicensing study No. 3.1.2, *Northfield Mountain/Turners Falls Operations Impacts on Existing Erosion and Potential Bank Instability*. However, it is now producing an addendum to that study which specifically examines the effects of operations using the same increased upper reservoir elevations that are the subject of this proceeding. The addendum is scheduled to be filed in March 2017.

at the Turners Falls Project dam. FirstLight would provide copies of the monthly reports to the Massachusetts Department of Environmental Protection (Massachusetts DEP), Franklin Regional Council of Governments (Franklin COG), the Connecticut River Watershed Council (Watershed Council), and the Connecticut River Streambank Erosion Committee of the Franklin Regional Planning Board (Erosion Committee).

8. FirstLight proposes to monitor piezometers and weirs monthly (instead of quarterly) near the exterior slopes of the upper reservoir and to measure any changes in the phreatic water surface caused by the increase in maximum water surface elevation.¹² To monitor erosion, FirstLight proposes to resurvey 22 transects in the Turners Falls impoundment that it has surveyed annually since 1999 and nine additional transects required in the December 2015 Amendment Order.¹³

Prefiling Consultation

9. On August 8, 2016, FirstLight sent a draft of its amendment proposal to the Massachusetts DEP, Massachusetts Division of Fisheries and Wildlife (Massachusetts DFW), U.S. Fish and Wildlife Service (FWS), Massachusetts Historical Commission (MHC), National Marine Fisheries Service (NMFS), the Franklin COG, the Watershed Council, and the Erosion Committee. Massachusetts DEP, Massachusetts DFW, and the Watershed Council provided comments on the draft amendment. FirstLight addressed the comments in its application filed with the Commission.

10. In a letter to FirstLight dated August 31, 2016, the Massachusetts DEP stated that it was not requiring FirstLight to file a request for water quality certification for the proposed amendment.

Public Notice and Comments

11. The Commission issued a public notice of FirstLight's application on October 20, 2016, establishing November 21, 2016, as the deadline for filing comments, motions to intervene, and protests. On October 26, 2016, American Whitewater, Appalachian Mountain Club, and New England FLOW (collectively, American

¹² A piezometer is an instrument used to measure the phreatic water surface, which is the ground water elevation within the embankments.

¹³ December 2015 Amendment Order, 153 FERC ¶ 62,201 at ordering paragraph (D). FirstLight began surveying the nine additional transects as part of relicensing Study 3.1.2, *Northfield Mountain/Turners Falls Operations Impact on Existing Erosion and Potential Bank Instability*.

Whitewater) filed a joint motion to intervene and comments.¹⁴ On October 27, 2016, ISO-NE filed comments supporting FirstLight's proposal. On November 21, 2016, the Watershed Council filed a motion to intervene and comments. On November 23, 2016, FirstLight filed an answer to the Watershed Council's comments.

Comments of American Whitewater

12. American Whitewater states that project operations have a substantial impact on reservoir elevations and flows in the Connecticut River, cause erosion, and have other adverse impacts. American Whitewater believes any changes to the fluctuation limits in the upper reservoir should be addressed in the relicensing process and that FirstLight should perform an assessment of the temporary amendment's effects to determine appropriate protection, mitigation, and enhancement measures. Should the Commission grant the temporary amendment, American Whitewater requests that it not be considered as precedent for decisions made in the relicensing docket.

Comments of ISO-NE

13. ISO-NE states that the additional storage provided by the amendment would improve winter energy reliability in the Northeast, which has been experiencing demand increases in recent years. ISO-NE also states that natural gas pipelines have been at full or near-full capacity, and cites to ICF International's conclusion that certain peak-day gas supplies will be barely adequate or slightly deficient through 2020, provided no major contingencies occur.¹⁵

Comments of Watershed Council

14. The Watershed Council recommends that FirstLight's request for a temporary amendment be denied. The Watershed Council provided comments focusing on changes in bank erosion at the lower reservoir during temporary amendments in the previous two winters, problems with FirstLight's erosion monitoring data and interpretation for those periods, and FirstLight's request for a third temporary amendment with no restrictions.

¹⁴ Timely, unopposed motions to intervene are granted by operation of Rule 214(c)(1) of the Commission's Rules of Practice and Procedure. 18 C.F.R. § 385.214(c)(1) (2016).

¹⁵ ISO-NE's October 27, 2016 Comment Letter (citing ICF International's presentation to the ISO-NE Planning Advisory Committee in April 2014, https://www.iso-ne.com/static-assets/documents/committees/comm_wkgrps/prtcpnts_comm/pac/mtrls/2014/apr292014/a3_icf_benchmarking_study.pdf).

The Watershed Council indicates that an unrestricted temporary amendment for a third consecutive year would increase and institutionalize erosion without an analysis of the impacts of such operations over a succession of years.

15. Further, the Watershed Council questions FirstLight's analysis of erosion data in its application and in its final report filed pursuant to the December 2015 Amendment Order.¹⁶ The Watershed Council alleges that FirstLight's filings are subjective, inaccurate, and minimize the erosion effects of the previous temporary amendments. The Watershed Council points to difficulties in making historical comparisons of erosion based on water level fluctuations and bank erosion monitoring data reported by FirstLight for 2014, 2015, and 2016 because of inconsistencies in the data in the 2015/2016 Final Report and in relicensing Study 3.1.2. The Watershed Council also states that FirstLight fails to explain that one of the project's four generating units was out of service during some of the monitoring periods, preventing an accurate comparison of current and historical operations.

16. In questioning the need for the amendment, the Watershed Council indicates that FirstLight on page 3 of its September 16, 2016 application stated that the project already supplies operating reserves to the region, which the Council indicates could be used more frequently if necessary.¹⁷ It notes that FirstLight used the additional storage allowed under the amendment during the 2014 and 2015 amendment periods for purposes other than grid reliability and capacity.¹⁸ Specifically, the Watershed Council states that due to the mild 2015-2016 winter, ISO-NE did not implement Operating Procedure No. 4: Action During a Capacity Deficiency (OP 4),¹⁹ which is required when available

¹⁶ Watershed Council's November 21, 2016 comments at 5-12, relying on FirstLight's August 25, 2016 report filed pursuant to ordering paragraph (D) of the Commission's December 2015 Amendment Order.

¹⁷ Operating reserve, as defined by ISO-NE under its Operating Procedure 8: Operating Reserve and Regulation, includes ten-minute spinning reserve, ten-minute non-spinning reserve, and thirty-minute operating reserve as further defined in ISO-NE tariff, Section 1, https://www.iso-ne.com/static-assets/documents/rules_proceeds/operating/isonne/op8/op8_rto_final.pdf.

¹⁸ Watershed Council's November 21, 2016 Comments at 12 (citing ISO-NE's Post Winter 2015/2016 Review indicating no Operating Procedure No. 4 events, https://www.iso-ne.com/static-assets/documents/2016/04/a2_post_winter_2015_2016_review.pdf).

¹⁹ ISO-NE operates its power system using operating procedures (OPs), which outline certain steps it takes to control and manage the high-voltage power system in the six-state New England area. This is the ISO's responsibility as the Regional

resources are insufficient to meet anticipated electricity demand plus required operating reserves.

17. Should the Commission grant the amendment, the Watershed Council recommends that: (1) the Commission restrict FirstLight's use of the additional storage to times when ISO-NE has declared an energy emergency;²⁰ (2) FirstLight revise its 2015/2016 Final Report to improve standardization and provide additional analysis and transect data; and (3) the Commission remove the winter observation shoreline erosion requirement because these data lack a comprehensive review and FirstLight does not have formal procedures for comparing these data over time (i.e., these data were of little to no value). In the alternative, if the Commission finds value to the winter observation requirement, the Commission should establish a specific protocol for observations and photographs so accurate comparisons can be made.

FirstLight's Answer to the Comments

18. FirstLight states that the Watershed Council's claims that the temporary amendment would increase and institutionalize streambank erosion are unsubstantiated. FirstLight indicates that the erosion information and analysis it has presented is adequate, that the Watershed Council does not understand the erosion surveys completed, and that even if there were significant changes in the banks, there is no evidence linking it to approved temporary amendments. Also, FirstLight asserts that the Watershed Council's claim that FirstLight has adequate operational flexibility to help address potential reliability challenges without a temporary amendment is unsupported and contrary to the comments filed by ISO-NE.

Environmental Review

19. For our review in this proceeding, we use an environmental assessment Commission staff prepared that reviewed a similar temporary amendment in 2014 (2014 EA); operations and erosion reports FirstLight filed pursuant to the 2014 and 2015 temporary amendments filed on September 1, 2015, November 6, 2015, and July 14, 2016; and information filed as part of this proceeding.

Transmission Organization designated by the Commission. The operating procedures include, but are not limited to OP 4, OP 8, OP 7, and OP 21. A further description of ISO-NE's procedures are available at <https://www.iso-ne.com/participate/rules-procedures/operating-procedures>.

²⁰ The Watershed Council refers to specific ISO-NE operating procedures OP 4, OP 21, OP 7, or Master/Local Control Center Procedure No. 2.

20. As noted above, the Northfield Mountain Project is currently in the relicensing process. As part of the relicensing process, FirstLight is conducting a number of studies related to the environmental impacts of project operations. Some of these studies are relevant to this proceeding, for example studies that relate to the impacts of project operations on flows and water level fluctuations, erosion, and bank instability. These studies are still ongoing and therefore we are unable to rely on the results of these studies.²¹

Water Level Fluctuations and Erosion

21. The Northfield Mountain Project's lower reservoir is located on the Connecticut River and serves as the reservoir for the Turners Falls Project. The pumped storage operations of the Northfield Mountain Project contributes to daily water level fluctuations in the lower reservoir. FirstLight maintains water levels in the lower reservoir between 176 and 185 feet msl, a range of 9 feet, pursuant to current license requirements. However, historically, FirstLight has attempted to limit normal project-related fluctuations in the lower reservoir to a maximum of approximately 3.5 feet per day. Commenters in this proceeding, as well as in the 2014 and 2015 temporary amendments and the relicensing proceeding, are concerned that water fluctuations in the lower reservoir, could directly affect the rate of erosion along the banks of the lower reservoir. Erosion is also a concern under the current licenses for the Northfield Mountain and Turners Falls projects. Under its current license for the Northfield Mountain Project, FirstLight addresses ongoing erosion through shoreline restoration projects, preventive maintenance work, and monitoring pursuant to its approved Erosion Control Plan. FirstLight also conducts erosion surveys every three to five years, the results of which it uses in its Full River Reconnaissance Reports to determine which sites should be repaired or receive preventive maintenance.²²

22. Approving FirstLight's requested amendment for the winter 2016-2017 would allow FirstLight to store up to an additional 3,009 acre-feet of water in the upper reservoir and use that storage to generate electricity at any time within the four-month period of December through March. As previously stated in the 2014 and 2015 Amendment Orders, full use of this additional volume would lengthen generation cycles and duration of water releases to the lower reservoir by approximately 1.8 hours. It would also lengthen pumping cycles from the lower reservoir back to the upper reservoir by approximately 3 hours.

²¹ See, e.g., letter filed by FirstLight on November 18, 2016, indicating the licensee will file an addendum to relicensing Study 3.1.2 (erosion) on March 1, 2017.

²² FirstLight filed its most recent report on September 16, 2014, and filed an addendum on April 22, 2015.

23. As stated in the 2014 EA, staff found that FirstLight's proposed temporary change in operation for one winter period would cause at most minor changes to water level fluctuations in the lower reservoir and would not change flows in the Connecticut River downstream of the Turners Falls Project. Staff also concluded that any increases in erosion at the lower reservoir would likely be at most minor and incremental in nature, and that FirstLight's proposal would not cause any material adverse impacts to water quality. However, to monitor effects on water levels and erosion, the 2014 and 2015 temporary amendments required FirstLight to file monthly operations and elevation reports with the Commission, to include descriptions of any observed or reported environmental effects that may be attributable to the modified project operations. In addition, FirstLight filed bank profiles from 22 cross-sectional surveys FirstLight has historically used to monitor erosion, and nine additional cross-sectional surveys related to relicensing Study 3.1.2. FirstLight included in the reports observations from its periodic winter inspections to observe any changes in shoreline conditions.

24. FirstLight in its reports filed pursuant to the 2014 and 2015 amendments concludes that a review of the data of the lower reservoir water surface elevation show minor differences between amendment and non-amendment years, based on the change in available storage, but it concludes there is nothing unusual or significantly different shown in the data. In addition, FirstLight concludes that the cross-sectional data show that its temporary amendments in 2014 and 2015 were consistent with previous years, and there were no discernable effects on erosion that can be attributable to the temporary amendments.

25. However, the Watershed Council's comments filed on the application, indicates the contrary, and specifically that a review of the cross-sectional surveys show that banks have eroded several feet in most transects. The Watershed Council continues to have concerns with FirstLight's analysis of the erosion data and the usefulness of the information provided in the reports.

26. Our review of FirstLight's data on upper reservoir elevations during the 2014 temporary amendment shows that FirstLight used the additional storage above the normal maximum elevation on 37 days and the additional storage below the normal minimum elevation on three days.²³ For the period under the 2015 amendment, FirstLight used the additional storage above the normal maximum elevation on 20 days and the additional storage below the normal minimum elevation on 12 days.

²³ We based our count on the number of days on which an hourly data point showed the elevation in the upper reservoir outside the normal reservoir elevation limits of 938 feet msl and 1,000.5 feet msl, which may slightly differ from FirstLight's count of the number of times it used the additional storage.

27. Our review of the data on the lower reservoir water surface elevations under FirstLight's 2014 temporary amendment, show four daily changes greater than the typical 3.5-foot range and a maximum daily fluctuation of 4.1 feet. Data on the lower reservoir water surface elevation under the 2015 temporary amendment show ten daily changes greater than the 3.5-foot range and a maximum daily fluctuation of 4.66 feet.

28. We conclude that these data show that FirstLight's operations during the 2014 and 2015 amendment periods resulted in fluctuations of the lower reservoir that were not significantly different than historical operations since the winter of 1999, and that FirstLight never used the full additional storage authorized under the previous amendments during any single generation cycle. Therefore, we conclude that the proposed temporary change in operations during one winter period would cause at most minor changes to water level fluctuations in the lower reservoir and would not change flows in the Connecticut River downstream of the Turners Falls Project.

29. Again, as previously stated the primary issue raised in the comments on this proceeding is the temporary amendment's potential effects on erosion. The same issue was raised in the proceedings for the temporary amendments authorized in 2014 and 2015. In the December 2015 Amendment Order, staff found that it would be difficult to determine the extent of how effects of modified project operations over a succession of winters on effects existing erosion, bank stability, or water quality.

30. While the data filed pursuant to the 2014 and 2015 amendments show that some erosion is occurring, the relationship to the previous two amendments is inconclusive. We find, as we found in the 2014 and 2015 Amendment Orders, any increase in the rate of erosion caused by a single temporary amendment would be at most minor and incremental in nature. However, as we concluded in the 2015 Amendment Order, it continues to be difficult to determine based on the available information to what extent unrestricted modifications to project operations occurring over a succession of winters could affect existing erosion, bank stability, or water quality. The relicensing process will provide a forum for addressing all of the cumulative effects associated with such actions and a comprehensive evaluation of the effects on erosion of proposed changes in operations for this and other projects in the Connecticut River.

Threatened and Endangered Species

31. Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally-listed threatened and endangered species, or result in the destruction or adverse modification of the critical habitat of such species.²⁴

²⁴ 16 U.S.C. § 1536(a) (2012).

32. The 2014 EA indicated that two species listed as endangered under the ESA by the FWS, the endangered dwarf wedgemussel, *Alasmidonta heterodon*, and the endangered northeastern bulrush, *Scirpus ancistrochaetus*, could potentially occur in the project area. The EA also noted that the shortnose sturgeon, *Acipenser brevirostrum*, which was listed as endangered by NMFS, is known to occur below the Turners Falls Project dam, downstream of the Northfield Project's reservoir. Additionally, the northern long-eared bat, *Myotis septentrionalis*, which was listed by the FWS as threatened in May 2015, could also occur in the area. No critical habitat has been designated for any of these species.

33. No populations of dwarf wedgemussel or northeastern bulrush have been documented in the project area. The proposed project operations would not have any effect on northern long-eared bats that may use the project area. Shortnose sturgeon, a migratory species, move upstream into the Connecticut River to spawn in the spring. However, these fish are not believed to move through the fishways at Turners Falls dam or be present above the dam, and the proposed change in project operation would not significantly affect flows below the dam. Therefore, we conclude that approval of the amendment would have no effect on federally-listed species.

Cultural Resources

34. Under section 106 of the National Historic Preservation Act²⁵ and its implementing regulations,²⁶ federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing as historic properties in the National Register of Historic Places (National Register), defined as historic properties, and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on any undertaking. In the 2014 EA, staff reviewed information on existing cultural resources in the general project area. While there is a well-documented presence of historic and archaeological resources along the lower reservoir, staff concluded that, because of the minimal changes from existing water level fluctuations that would occur under proposed operations, approval of the amendment would not adversely affect historic properties. Since the proposed action is the same as that reviewed in the 2014 EA and no new information on cultural or historical resources indicates otherwise, we find that there would be no adverse effects to historic properties.

Dam Safety

35. As discussed above, FirstLight indicates that the upper reservoir's main dam and dikes were designed to store water up to the proposed maximum reservoir elevation of 1,004.5 feet msl. Additionally, FirstLight surveys its dikes and dam for movement

²⁵ 16 U.S.C. § 470 (2012) *et seq.*

²⁶ 36 C.F.R. pt. 800 (2016).

twice a year and maintains an extensive system of piezometers, weirs, and culverts around the upper reservoir to monitor structural behavior, seepage, and ground water conditions. Commission staff has been reviewing monthly instrumentation reports from FirstLight on gathered field readings and has found no change in the recorded data that would warrant concern.

36. Consistent with monitoring efforts in previous years, FirstLight proposes to increase its monitoring frequency of piezometers and weirs at the upper reservoir during the December 1 through March 31 period and to file monitoring data and associated analysis in monthly reports with the Commission's Division of Dam Safety and Inspections, New York Regional Engineer (Regional Engineer). FirstLight states there are no safety risks associated with increasing the maximum elevation from 1,000.5 to 1,004.5 feet msl and it proposes to coordinate with the Regional Engineer consistent with the previously-granted amendments. Therefore, consistent with the previous temporary amendments, we are requiring FirstLight to file the monthly piezometer and weir monitoring data with the Regional Engineer to monitor structural, seepage, and ground water conditions.

Discussion and Conclusions

37. The primary concerns raised in this proceeding are the possible effects of the proposed amendment on erosion rates and bank stability at the project's lower reservoir, especially when considered in succession with similar, previously granted temporary amendments, and the possible influence of the proposed amendment on the analysis being conducted for the relicensing process. As Commission staff granted FirstLight similar amendments in 2015 and 2016, this would be FirstLight's third consecutive request.

38. Relicensing participants are objecting to the additional amendment contending that FirstLight needs to finish erosion studies and the Commission needs to complete a comprehensive review of these studies in the relicensing proceeding before considering another temporary amendment. We agree with commenters that it would be inappropriate to grant another temporary amendment, with unlimited use of additional storage, before our comprehensive review during relicensing is completed. While the data filed pursuant to the 2014 and 2015 Amendments Orders show that some erosion is occurring, the relationship to the previous two amendments is inconclusive. We find, as we found in the previous orders, any increase in the rate of erosion caused by a single temporary amendment would be at most minor and incremental in nature. However, as we concluded in the 2015 Amendment Order, it continues to be difficult to determine based on the available information to what extent unrestricted modifications to project operations occurring over a succession of winters during the relicensing proceeding, could affect existing erosion, bank stability, or water quality.

39. However, we also support ISO-NE's goal of assuring reliable electric service,²⁷ and as ISO-NE expects winter grid constraints to remain an issue at least through 2020,²⁸ we believe that allowing FirstLight to use the additional storage, as proposed in its amendment application, during emergencies would help address system reliability needs, should they arise. In fact, in its comments the Watershed Council also recommended should the Commission grant a temporary amendment for the 2016-2017 winter period, the Commission should restrict FirstLight's use of the additional storage to times when ISO-NE has declared an energy emergency.

40. Limiting FirstLight's use of the additional storage for ISO-NE discretion actions taken during emergency operations to meet applicable Northeast Power Coordinating Council (NPCC) and North American Electric Reliability Corporation (NERC) reliability standards would minimize the possible impacts to environmental resources while allowing FirstLight to help maintain grid reliability, given the infrequency of such declared emergencies. To prevent a situation in which FirstLight would have to pump the additional storage into the upper reservoir after a declared emergency, which could be infeasible due to grid and time constraints, we will modify FirstLight's proposal by requiring FirstLight to operate between 1,004.5 and 947 feet msl under normal conditions, while reserving all the requested 3,009 acre-feet of additional storage between 947 and 920 feet msl for use during declared emergencies. By shifting the normal maximum and minimum elevations, FirstLight would be restricted to using the currently licensed 12,318 acre-feet of storage on a day-to-day basis, while ensuring the additional 3,009 acre-feet of storage is available for use during ISO-NE discretionary actions taken during emergency operations to meet applicable NPCC and NERC reliability standards.

41. Commenters in this proceeding expressed concerns regarding the timing of the requested amendment in relation to the current relicensing proceeding. After reviewing these concerns, we do not believe the limited amendment during ISO-NE discretionary actions taken during emergency operations would negatively affect the relicensing studies or prejudice the relicensing process.

²⁷ ISO-New England's *Managing Reliable Power Grid Operations This Winter* indicates sufficient electricity supply for winter 2016/2017, but possible need to use emergency procedures during unexpected generator or transmission line outages, https://www.iso-ne.com/static-assets/documents/2016/12/20161205_pr_iso-ne-managing-reliable-power-grid-operations-this-winter.pdf.

²⁸ ISO-New England's 2016 Regional Electricity Outlook notes the constrained gas supply, substantial non-gas generation retirements, increased complexity due to variable renewable and distributed generation, and needed transmission upgrades: https://www.iso-ne.com/static-assets/documents/2016/03/2016_reo.pdf.

42. So the Commission remains informed of when FirstLight uses the additional storage, and can monitor for any unanticipated environmental effects, in ordering paragraph (D) we will require FirstLight to file a report, and provide copies to the Massachusetts Department of Environmental Protection, Franklin Regional Council of Governments, Connecticut River Watershed Council, and the Connecticut River Streambank Erosion Committee of the Franklin Regional Planning Board, within 10 days of any use of the additional storage, that identifies all dates in which the additional storage was used, the amount of additional storage, and supporting documentation from ISO-NE. We will also require, in ordering paragraph (C), FirstLight to continue to monitor piezometers and weirs in the project area and file reports with the Commission's Division of Dam Safety and Inspections, New York Regional Engineer, as FirstLight was required to do during the amendments approved in 2015 and 2016.

43. Based on the above discussion, we grant FirstLight's request to modify project operations, but restrict use of the additional storage to ISO-NE discretion actions taken during emergency operations to meet applicable NPCC and NERC reliability standards during emergency conditions. This approval is effective through March 31, 2017.

The Commission orders:

(A) FirstLight Hydro Generating Company's application for a temporary amendment of license filed on September 16, 2016, is approved as provided in this order and is denied in all other respects.

(B) From the date of this order through March 31, 2017, the licensee is required to maintain the upper reservoir between elevations of 1,004.5 and 947 feet msl during normal operations, and may use additional storage, between 947 and 920 feet msl, in response to ISO-NE discretionary actions taken during emergency operations to meet applicable NPCC and NERC reliability standards.

(C) *Piezometer and Weir Data Reporting.* The licensee must file its proposed reports of monthly piezometer and weir monitoring data by the tenth of each month following the month in which data are collected (i.e., reports are due by the tenth of January, February, March, and April). Reports must be filed with the Commission's Division of Dam Safety and Inspections, New York Regional Engineer (Regional Engineer). Data in the reports must be plotted and must include an evaluation of the readings with an assessment of dam performance by a qualified geotechnical engineer. Any observations of unusual conditions or anomalous instrumentation readings must be reported to the Regional Engineer immediately.

(D) *Additional Storage Use Reporting.* The licensee must file with the Commission, and provide copies to the Massachusetts Department of Environmental Protection, Franklin Regional Council of Governments, Connecticut River Watershed

Council, and the Connecticut River Streambank Erosion Committee of the Franklin Regional Planning Board, within 10 days of any use of the additional storage, a report that includes documentation of the emergency declaration from ISO New England and operations and elevation data for the 2 days prior to through the 2 days following the use of the additional storage. The report must include: (1) tabular data of the daily average, minimum, and maximum water elevations in the upper and lower reservoirs; (2) tabular data of the daily average, minimum, and maximum flows at the Connecticut River at Montague City U.S. Geological Survey gage; (3) a chart depicting the upper reservoir elevation on an hourly basis, with the emergency minimum and amended normal minimum and maximum upper reservoir elevations shown (i.e., 920, 947, and 1004.5 feet msl); (4) a chart of the lower reservoir impoundment elevations, with the minimum and maximum licensed elevations shown; (5) descriptions of any observed or reported environmental effects that may be attributable to the modified project operations approved in this order; and (6) copies of any correspondence the licensee has received on environmental effects. The reports must include the data in an electronic spreadsheet file format (i.e., .xls, .xlsx, or similar electronic file format).

(E) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the Federal Power Act, 16 U.S.C. § 825l (2012), and the Commission's regulations at 18 C.F.R. § 385.713 (2016). The filing of a request for rehearing does not operate as a stay of the effective date of this order, or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.