

138 FERC ¶ 62,305
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

FirstLight Hydro Generating Company

Project No. 2485-058

ORDER APPROVING REVISED SEDIMENTATION PLAN

(March 28, 2012)

1. On February 15, 2012, FirstLight Power Resources LLC (FirstLight), acting as agent for FirstLight Hydro Generating Company (licensee), filed a revised plan to minimize and avoid entrainment of sediment during reservoir maintenance drawdowns at the Northfield Mountain Pumped Storage Project. The Northfield Mountain Pumped Storage Project is located on the Connecticut River, in Franklin County, Massachusetts.

BACKGROUND

2. In early May 2010, FirstLight drained the project's upper reservoir as part of a plan to perform regular maintenance at the project. During the process of draining the upper reservoir, a significant quantity of sediment was entrained into the project's water conveyance tunnels and then discharged into the Connecticut River. FirstLight worked with the Massachusetts Department of Environmental Protection (DEP) and the U.S. Environmental Protection Agency (EPA) on a plan to remove the sediment in a manner that would protect environmental resources of the Connecticut River. Article 20 of the project license requires the licensee to take reasonable measures to prevent soil erosion and stream siltation resulting from the construction, operation or maintenance of the project. By letter dated January 20, 2011, Federal Energy Regulatory Commission (Commission) staff requested a plan and/or procedures to avoid or minimize the entrainment of sediment into the project works during similar drawdowns in the future.

3. The licensee filed its plan on July 15, 2011, and performed its first bathymetric survey of the upper reservoir in 2011 and established baseline conditions. The results of the survey were submitted to the agencies and the Commission on December 1, 2011. The licensee needed to make technical improvements and revisions to the suspended sampling methodology based on the results of the suspended sediment sampling efforts. The licensee proposed to continuously measure total suspended solids (TSS) in lieu of turbidity measurements. The licensee believes this would more accurately

measure sediment load in the river. The Commission accepted the licensee's 2011 report by letter dated December 6, 2011, and requested that a modified plan be filed after consultation with the DEP and the EPA.

LICENSEE'S REVISED PLAN

4. The objective of the sediment management plan is to assess sediment dynamics in the upper reservoir and Turners Falls impoundment (Connecticut River-lower reservoir) and then to evaluate strategies to avoid the entrainment of accumulated silt into project works during drawdown or dewatering activities. The licensee's plan states that sediment accumulates in the upper reservoir at the Northfield Mountain project through normal pumping operations with its origins from the Connecticut River. Once in the reservoir, the silt settles out and accumulates in deposits, remaining generally undisturbed until a large drawdown or dewatering activities occur. The licensee performed a bathymetric survey of the entire extent of the upper reservoir, especially near the intake area to establish baseline depth conditions during 2011. Subsequent surveys will be done in 2012-2014 and compared to the baseline data to determine sediment accumulation rates. Measured depths will be converted to bottom elevations based on the surveyed water surface elevation at the time of mapping. FirstLight will also conduct bathymetric mapping within one year prior to any planned major drawdown or dewatering event. A report of the sediment survey data will be provided to the Commission, the DEP, and the EPA by December 1, each year. The report will include the results of the bathymetric/sediment thickness survey, comparisons to the previous and baseline survey results, and estimates of rates of sediment accumulation.

5. FirstLight will also perform a four-year sediment monitoring study (2011-2014) in which water quality data such as TSS will be collected during targeted high flows at six locations within the upper and lower reservoirs. During the first year of the study, TSS were collected in conjunction with turbidity to establish any correlation of turbidity/TSS relationships at each monitoring station. Monitoring will be conducted in the tailrace tunnel discharge for at least 24 hours prior to any planned dewatering or dredging activities and for the duration of the event. If TSS levels reach certain thresholds the licensee can halt activities and/or use other methods to reduce the amount of sediment in the discharge. The licensee will submit the results of the sediment monitoring studies to the Commission and the agencies by December 1, each year.

CONSULTATION

6. The licensee forwarded the revised plan and results of the 2011 report to the DEP and the EPA on December 22, 2011. The DEP provided comments in its

letter dated January 17, 2012. The licensee's final plan incorporates appropriate changes in response to the comments by the DEP. In its letter of February 16, 2012, the EPA provided several comments relating to sampling methodology and detection limits along with a request for a quality assurance project plan and standard operating procedure plan (QAPP and SOP) and a statement that a single sampling dataset (2012) would be insufficient to determine long term trends. In response the licensee agreed to develop QAPP/SOP plans in cooperation with the EPA. The licensee also concurred with the statement regarding sampling only in 2012 and proposed additional sampling in 2013-2014, with possible changes in its plan based on the 2012 study. The licensee's filing included a discussion of the usefulness of lower detection limits due to the nature of suspended sediment size in the Connecticut River and its collection equipment. The licensee cited guidance from the United States Geological Survey for comparing detection limits in natural waterways, disagreeing with EPA's request for lower detection limits. The licensee will collect verification information to ensure the accuracy of the continuously collected data.

DISCUSSION AND CONCLUSION

7. The objective of the sediment management plan is to assess sediment dynamics in the upper and lower reservoirs of the Northfield Mountain Pumped Storage Project. The licensee would then be able to develop measures to minimize the entrainment of accumulated silt into project works and discharge to the Connecticut River during drawdown or dewatering activities. The licensee developed the plan in consultation with the DEP and the EPA and adequately modified the plan in response to comments by the DEP and the EPA. The licensee will develop a QAPP/SOP in consultation with the EPA and will verify the accuracy of its collected data thereby allowing the EPA to review the analyses in accordance with its own standards.

8. The licensee's proposal for TSS sampling detection limits will provide the necessary information for the purposes of determining sediment accumulation in the upper reservoir. The annual filing of the results of the surveys and sediment data will allow the Commission to remain apprised of the licensee's progress in protecting water quality in the Connecticut River. The Commission should, however, reserve the right to make changes to the monitoring plan or project facilities depending on the monitoring results. The licensee's proposed sediment management plan should then provide sufficient information for minimizing entrainment of accumulated silt during maintenance and drawdown operations and should be approved.

The Director orders:

(A) FirstLight Hydro Generating Company's (licensee) sediment management plan for the Northfield Mountain Pumped Storage Project, as revised on February 15, 2012, is approved.

(B) The licensee shall file the results of the annual monitoring by December 1, each year. Based on the reports, the Federal Energy Regulatory Commission (Commission) reserves the right to require modifications to the monitoring plan, to project facilities, or to operations to assure future compliance.

(C) 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. § 8251 (2006), and the Commission's regulations at 18 C.F.R. § 385.713 (2011). 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.

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and Compliance