

167 FERC ¶ 62,107
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Brookfield White Pine Hydro, LLC

Project No. 2528-104

ORDER AMENDING LICENSE, REVISING PROJECT DESCRIPTION AND
APPROVING REVISED EXHIBITS A AND F

(Issued May 16, 2019)

1. On January 4, 2019, and supplemented on February 21, 2019, Brookfield White Pine Hydro, LLC, licensee for the Cataract Hydroelectric Project No. 2528, filed an application for a non-capacity amendment of license to install pneumatic crest gates on the East Channel (Cataract) Dam.¹ The project is located on the Saco River in the cities of Saco and Biddeford, York County, Maine. The project does not occupy federal lands.

Background

2. The Cataract Project license was issued on June 29, 1989,² and amended on June 19, 1997.³ The project includes four dams and two impoundments. The East Channel (Cataract) Dam is located on the eastern side of Factory Island in the City of Saco. The West Channel Dam is located on the western side of Factory Island. The reservoir formed by these two dams extends approximately 0.3 miles upstream to the bases of Springs and Bradbury Dams. The Springs and Bradbury Dams are located on the eastern and western sides, respectively, of Springs Island, and forms a reservoir extending upstream approximately 9.3 miles, to the Skelton Hydroelectric Project No. 2527.

3. The generating facilities at the project are integral with the East Channel (Cataract) Dam. The powerhouse contains one generating unit with a total installed capacity of 6,650 kilowatts. Upstream fish passage facilities are found at all four of the

¹ Pneumatic gates were added to the West Channel Dam in 2005. See 116 FERC ¶ 62,024 (2006).

² *Central Maine Power Company*, 47 FERC ¶ 62,296 (1989).

³ *Central Maine Power Company*, 79 FERC ¶ 62,187 (1997).

project's dams, with downstream fish passage at the East Channel and West Channel Dams.

4. Article 401 of the license requires a minimum flow of 851 cubic feet per second (cfs), or inflow to the project, whichever is less. The licensee's approved minimum flow monitoring plan incorporated the provisions of the Water Quality Certification for the project which allows a minimum flow of 250 cfs at the East and West Channel Dams when not operating.⁴ Under normal operation, the impoundment created by the Bradbury and Springs dams fluctuates approximately two feet, while the impoundment at the East and West Channel Dams is maintained at 44 feet USGS.

Licensee's Proposal

5. To improve operation at the project, the licensee proposes to remove the existing 4-foot-high hinged flashboard system on the 90-foot-long East Channel (Cataract) Dam spillway and install a series of 5-foot-high pneumatic crest gates over a reduced spillway length of 88-feet 8 inches.⁵ When inflated, the pneumatic crest gates would have a maximum elevation of 44.5 feet, approximately 6 inches above the normal pond elevation of 44 feet USGS. The licensee proposes no operational changes and would continue to maintain the established normal impoundment elevation of 44 feet USGS.

6. The pneumatic crest gate system's capacity would equal that of the existing hinged flashboards. Under normal operating conditions when the pneumatic gates are deflated, Gate A would have a capacity of 194 cfs, Gate B would have a capacity of 194 cfs and Gate C would have a capacity of 1,860 cfs. Total flow capacity when all gates are deflated would be approximately 2,300 cfs.

7. The licensee plans to begin construction in July 2019. In mid-July, the impoundment would be drawn down approximately 6-inches below the spillway crest, i.e., approximately 4-5 feet below the normal reservoir elevation, to install a temporary steel/wood bulkhead system (temporary bulkhead system) that would allow for the dewatering of the work area. After the temporary bulkhead system is installed, the impoundment would be maintained at approximately 1 foot below the normal full pond elevation (i.e, 43 feet USGS) throughout most of the construction period (through mid-October).

⁴ See *Central Maine Power Company*, 65 FERC ¶ 62,073 (1993).

⁵ The pneumatic crest gates require adding material to the piers/abutment which would decrease the current spillway length of 90 feet to 88 feet, 8 inches. Therefore, the crest of the spillway would be lowered from 40 feet USGS to 39.5 USGS to account for the reduced length of the spillway.

8. During construction, the existing flashboards would be removed and the top of the concrete spillway crest would be demolished and reconstructed to prepare for the installation of the pneumatic crest gates. The new spillway crest elevation would be at 39.5 feet USGS.
9. Concrete and other debris would be removed via a barge/crane system floating in the impoundment. Removal would be accomplished by manual labor and pneumatic tools. A barrier would be installed at the toe of the dam to prevent debris from flowing downstream. Upon completion of the work, the impoundment would again be lowered to 6 inches below the spillway crest to allow for removal of the temporary bulkhead system. The impoundment would then be brought back to its normal full pound level, anticipated around November 1, 2019.
10. Laydown areas would be located along the existing project access road. No temporary access roads would be necessary and no trees would be removed. Flows would be maintained downstream via the project powerhouse. Fish passage would be provided as well, except for the two-week windows needed for installation and removal of the temporary bulkhead system (i.e., from mid-July to August 1 and mid-October to November 1, respectively).
11. The application includes revised exhibits A and F reflecting the proposed changes.

Agency Consultation and Public Notice

12. By email dated November 16, 2018, the licensee initiated consultation with the resource agencies regarding the temporary closures of the fish passage facilities that are necessary to complete the proposed work. The Maine Department of Inland Fisheries and Wildlife (Maine DIFW), Maine Department of Marine Resources (Maine DMR), National Marine Fisheries Service (NMFS), and the U.S. Fish and Wildlife Service (FWS) responded on November 16, 20, 20, and 21, 2018, respectively. Each agency concurred with the licensee's proposed plan for the closures.
13. Subsequently, the licensee submitted a draft amendment application to the resource agencies, as well as other stakeholders, including the Maine State Historic Preservation Officer (Maine SHPO) and the City of Saco, Maine. A site visit was also held on December 11, 2018, with interested resource agencies and stakeholders.⁶
14. Letters on the draft application were received from the Maine DMR and NMFS, on December 7 and 10, 2018, respectively. The Maine DMR states that it has no

⁶ Those attending the site visit included representatives from the Saco Salmon Restoration Alliance, the Maine DEP, FWS, and the City of Saco.

comments. The NMFS suggests that the drawdown period offers an opportunity to inspect the downstream fish passage facility (i.e., sluice) and that a trashrack may be considered to limit the amount of debris that enters the sluice. In response, the licensee agreed to inspect the downstream fish passage facility as recommended by NMFS and explained that a trashrack with 4-inch spacing already exist at this location. Additional correspondence from the resource agencies is discussed in our Environmental Review.

15. The Commission noticed the application on January 29, 2019, establishing February 28, 2019, as the due date for filing comments, motions to intervene, or protests. The Department of Interior, on behalf of the FWS and the Bureau of Indian Affairs, filed a motion to intervene on February 25, 2019. No other filings were received in response to the Commission's notice.

Environmental Review

16. As discussed above, the proposed spillway improvements are designed to improve operation at the project. Installation of the pneumatic crest gates would result in construction debris, temporary drawdowns of the project reservoir to install/remove the temporary bulkhead system, a 1-foot deviation from the normal reservoir operating level during the construction period, temporary closures to the fish passage facilities during installation and removal of the temporary bulkhead system, and physical changes to the dam spillway itself.

Water Quantity and Quality

17. The Saco River in the project area is classified by the State of Maine as a Class B waterway. Class B waters are general purpose waters and are managed to attain good physical, chemical, and biological water quality. The licensee operates the project in compliance with its State of Maine Water Quality Certification, issued August 14, 1992. No operational changes are proposed that would impact water quality.

18. The licensee plans to adhere to best management practices during project construction to minimize any temporary adverse impacts to water quality. A Quality Control and Inspection Program (QCIP) was filed with the Commission as part of the pre-construction filings.⁷ The QCIP indicates the licensee will implement environmental measures in accordance with best construction management practices and in accordance with all applicable federal, state, and local permit requirements. A barrier installed on the spillway apron downstream of the work area would collect any debris from flowing downstream also protecting water quality.

⁷ Filed on March 25, 2019.

19. During construction, the required minimum flow would be maintained via releases through the powerhouse. The licensee proposes a drawdown rate of no greater than 1-inch per hour, ensuring gradual changes in the reservoir elevation. During refill, the licensee plans to pass 90 percent of inflow, with 10 percent being used to refill the impoundment, thereby eliminating the potential for significant flow reductions downstream during the refill.

20. The proposed measures, including the use of best management practices during construction, combined with a 1-inch per hour drawdown, and using 10 percent of flow during refill, should minimize any temporary impacts to water quality during construction.

Fish and Aquatic Resources

21. Short term closures (i.e., two weeks during installation and removal of the bulkhead) of the upstream and downstream fish passage facilities are necessary and would result in an impact on fish in the immediate area of the dam. This impact is temporary and unavoidable. The licensee has consulted with the resource agencies on the timing of the closures to minimize this unavoidable impact. Comments from the resource agencies included with the application indicate that based on past years' fish passage data collected at the project for Atlantic salmon, shad, and river herring, the dates proposed for fish passage closures would have minimal impact on these species. During most of the construction period, all upstream and downstream fishways would be fully operational.

22. As discussed above, fluctuations in the reservoir would be minimized to limit adverse impacts on aquatic resources. The licensee plans to adhere to a drawdown rate of 1-inch/hour to minimize the potential for stranding of aquatic resources along the shoreline. Best management practices would also minimize temporary adverse impacts due to construction on the fish and aquatic resources both in the project impoundment and downstream.

Magnuson-Stevens Fishery Conservation and Management Act

23. Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act)⁸ requires federal agencies to consult with the Secretary of Commerce regarding any action or proposed action authorized, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH) identified under the Act. Under section 305(b)(4)(A), NMFS is required to provide EFH

⁸ 16 U.S.C. § 1855(b)(2) (2012).

Conservation Recommendations for actions that would adversely affect EFH.⁹ Under section 305(b)(4)(B) of the Act, an agency must, within 30 days after receiving recommended conservation measures from NMFS or a Regional Fishery Management Council, describe the measures proposed by the agency for avoiding, mitigating, or offsetting the effects of the agency's activity on EFH.^{10, 11} The Saco River is designated EFH for Atlantic salmon, larvae, juveniles, and adults. The licensee has consulted with NMFS regarding the proposed work and the necessary closures to the affected fish passage facilities at the project. No EFH conservation recommendations have been formally identified in this proceeding, the NMFS has been consulted and has not identified any concerns with the licensee's proposal.

24. In an email to NMFS dated January 29, 2019, we requested that NMFS identify whether this informal consultation with the licensee satisfies the consultation requirements under the Magnuson-Stevens Act for the protection of Atlantic salmon, its life-stages, and essential habitat during construction. In its response the same day, the NMFS agreed.

Endangered Species Act

25. Section 7(a)(2) of the Endangered Species Act (ESA) of 1973¹² 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 their designated critical habitat. Aquatic species listed for protection under the ESA that may be in the project area include the threatened Atlantic sturgeon Gulf of Maine distinct population segment and the endangered shortnose sturgeon.¹³ The licensee plans to continue to consult informally with NMFS to ensure that the proposed work would not impact these listed species.

⁹ 16 U.S.C. § 1855(b)(4)(A) (2012).

¹⁰ 16 U.S.C. § 1855(b)(4)(B) (2012).

¹¹ The measures recommended by the Secretary of Commerce are advisory, not prescriptive. However, if the federal agency does not agree with the recommendations of the Secretary of Commerce, the agency must explain its reasons for not following the recommendations.

¹² 16 U.S.C. § 1536(a) (2012).

¹³ The East Channel dam is located at the site of a natural falls and the falls were historically impassible by both sturgeon species. Upstream passage of sturgeon species is

26. The licensee indicates it would continue to adhere to the provisions of its approved Atlantic and Shortnose Sturgeon Handling and Protection Plan¹⁴ throughout project construction to minimize impacts on these species. Provisions of this plan include proper handling of federally-listed shortnose and Atlantic sturgeon if they are: (1) trapped during operation of the project's upstream fishways, (2) stranded during annual dewatering, inspection, or maintenance of those facilities, or (3) stranded in pool areas downstream of the lower dams after changes in flow releases or during periods of low tide. All project personnel counting fish at the fish lift would be trained by NMFS to properly handle sturgeon as stipulated in the approved plan. We believe that in adhering to the provisions of the approved plan, there would be no effect on these listed sturgeon species.

27. The licensee included in its application, a letter from the Maine Department of Agriculture, Conservation, and Forestry, dated October 29, 2018, indicating there are no known rare plant species known to occur in the area. By letter dated September 21, 2018, the FWS identified the threatened Northern long-eared bat (NLEB) as the only terrestrial species that may be in the project area. In additional correspondence, dated December 14, 2018, the FWS indicated that the Cataract Dam does not occur within ¼ mile of any known hibernaculum or within 150 feet of a known maternity roost tree. We find that since no known hibernacula are in the immediate area and that no tree removal would occur during construction, the licensee's proposal would have no effect on NLEB individuals or habitat.

National Historic Preservation Act

28. Under section 106 of the National Historic Preservation Act (NHPA)¹⁵ and its implementing regulations,¹⁶ federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing on the National Register of Historic Places and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking. This generally requires the Commission to consult with the State Historic Preservation Officer (SHPO) to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any adverse effects.

therefore not required at the Project.

¹⁴ *Brookfield White Pine Hydro, LLC*, 165 FERC ¶ 62,038 (2018).

¹⁵ 16 U.S.C. § 470 *et seq.* (2012).

¹⁶ 36 C.F.R. Part 800 (2018).

29. The East Channel Dam was built in 1938, but has been substantially altered since that time, namely through fish passage construction in 1991. Installation of the pneumatic crest gates would result in physical changes to the crest of the dam and would alter its appearance. The licensee provided information regarding the proposed work to the Maine SHPO by letters dated October 23 and December 14, 2018. In correspondence dated December 18, 2018,¹⁷ the Maine SHPO concluded that the proposed gate system would not adversely affect historic properties at the project.

30. Physical changes to the project dams include not only the fish passage facilities but installation of a similar gate system on the West Channel Dam. We conclude that the licensee's proposal would not adversely affect historic properties. The Maine SHPO agrees with this determination. We conclude that consultation under section 106 of the NHPA is complete.

Dam Safety

31. The Commission's Division of Dam Safety and Inspections (D2SI) has reviewed the amendment application for the Cataract Hydroelectric Project No. 2528, for dam safety and adequacy.

32. During construction, the licensee proposes to install a temporary bulkhead system (i.e., cofferdam). Design information for this temporary bulkhead system has not been submitted to D2SI. The licensee does not propose to change the normal operating headwater elevation of the development so no changes to dam stability are expected. No additional incremental increase in downstream water surface elevations from a dam breach are expected under the licensee's proposal because the reservoir operating level would remain the same. The hazard potential classification of the dam would remain low. There are also no structures upstream of the East Channel Dam which would be adversely impacted by the replacement of the gates.

33. D2SI staff have reviewed the amendment application and conclude that the proposed modifications would not adversely impact the safety of the project when constructed, operated, and maintained in accordance with the Commission's standards and oversight. Ordering paragraphs (F) and (G) are added to this order to require plans and specifications, as well as plans and specifications for the temporary bulkhead system.

Discussion

34. Approving the licensee's amendment application would allow for improved operation at the East Channel Dam. A similar system has already been installed on the

¹⁷ Filed with the Commission on February 21, 2019.

West Channel Dam. The proposed drawdown rate of 1 inch per hour would minimize the potential for stranding in the reservoir during the drawdown and would lessen any potential impacts to water quality. The proposed refill rate would provide the majority of flow downstream in the Saco River during refill, thereby reducing the possibility of stranding downstream. Based on fish passage data collected at the project, the proposed closure schedule avoids times of greatest fish passage use. The closure schedule also has the support of the resource agencies.

35. We have reviewed the revised Exhibit A, filed on January 4, 2019, and found it accurately reflects the proposed changes. The Exhibit A conforms to the Commission's rules and regulations and should be approved, superseding any previous Exhibit A, as shown in ordering paragraph (C). Ordering paragraph (B) of this order revises the project description in ordering paragraph (B)(2) of the license to reflect the revised configuration.

36. We have reviewed the Exhibit F drawings, also filed on January 4, 2019, and found that they conform to the Commission's rules and regulations and should be approved, as shown in ordering paragraph (D). In ordering paragraph (E), we are requiring the licensee to file the approved exhibit drawings in electronic format. Prior to filing the drawings in electronic file format, the licensee must label the drawings with the corresponding exhibit numbers.

37. Article 303 of the license requires the licensee, within 90 days of completion of construction of the authorized facilities, to file for Commission approval, revised Exhibits A and F, as applicable, to describe and show those project facilities as built. A courtesy copy must be filed with the Commission's Division of Dam Safety and Inspections (D2SI) – New York Regional Engineer, the Director, D2SI, and the Director, Division of Hydropower Administration and Compliance. The licensee is reminded that it must file for Commission approval, revised Exhibits A and F to describe and show those project facilities as built (e.g. if the as-built conditions are different from the approved drawings).

38. The licensee is also reminded of its obligations set forth under its license articles, including the requirements that the licensee consult with the Commission's Division of Dam Safety and Inspections (D2SI)-New York Regional Engineer, and that the licensee may not begin construction until the D2SI-New York Regional Engineer has reviewed and commented on the plans and specifications, determined that all preconstruction requirements have been satisfied, and authorizes the start of construction.

Conclusion

39. Based on information provided by the licensee in its application and staff's analysis, approving the amendment application to allow for the installation of pneumatic crest gates on the East Channel dam would not significantly alter project operation or

how flows are released at the project. The normal reservoir elevation would remain the same. Approval of the licensee's application would have minor temporary impacts, primarily on fish, with temporary closures to the fish passage facilities. Potential impacts to aquatic resources and water quality would be minimized with implementation of the proposed drawdown and refill rates, as well as best management practices during construction. The licensee's application to amend the license as discussed herein, should be approved.

The Director orders:

(A) Brookfield White Pine Hydro, LLC, application for amendment of license to install pneumatic crest gates on the East Channel (Cataract) Dam, filed on January 4, 2019, and supplemented on February 21, 2019, for the Cataract Hydroelectric Project No. 2528, is approved.

(B) The project description in ordering paragraph B(2) of the license is revised to read as follows:

(2) Project works include: (a) the East Channel (Cataract) Dam consisting of an 88-foot 8-inch long concrete gravity overflow section with a fixed crest at elevation 39.5 USGS with five-foot-high pneumatic crest gates and a control building located above the powerhouse intake, a gated section containing a vertical lift Broome gate, 20-feet-wide by 15-feet-high, with a sill elevation of 29 feet USGS, and an intake section that is 49 feet 3 inches wide equipped with racks and two intake openings; (b) the West Channel Dam consisting of an overflow section with a crest elevation at 40.5 feet USGS with a four-foot-high inflatable rubber bladder; (c) both the East Channel and West Channel Dams create a 14-acre reservoir with a normal surface elevation of 44 feet USGS with a storage capacity of 1.2 million cubic feet; (d) two additional existing dams: the Bradbury Dam and the Springs Dam, the Bradbury Dam consists of two overflow sections both with a fixed crest at elevation 47.7 feet USGS and 20-inch pin-type flashboards; (e) both Bradbury and Springs Dams create a 359-acre reservoir with a normal surface elevation of 49.2 feet USGS with a storage capacity of 31 million cubic feet; (f) an existing steel and brick powerhouse at the Cataract Dam which contains one turbine/generator with a total rated capacity of 6,650 kW; (g) a concrete plugged and backfilled headgate structure and an abandoned 600-foot-long flume; (h) a three-phase, 11.5-kilovolt (kV) line beginning at the 11.5-kV terminals of the East Channel generator and running underground for about 150 yards to the 11.5-kV terminals of a 11.5/34.5-kV step-up transformer located at the applicant's Factory Island substation; and (i) appurtenant facilities.

(C) The revised Exhibit A for the Cataract Hydroelectric Project No. 2528, filed on January 4, 2019, is approved and made part of the license, superseding the old Exhibit A under the license.

(D) The following Exhibit F drawings, filed on January 4, 2019, conform to the Commission's rules and regulations and are approved and made part of the license. The superseded Exhibits F-1 and F-2 (drawing numbers P-2582-14 and 2582-22) are deleted from the license.

Exhibit No.	FERC Drawing No.	Superseded FERC Drawing No.	Drawing Title
F-1	P-2528-28	P-2528-14	East Channel Dam & Sections ¹⁸
F-2	P-2528-29	P-2528- 22	Cataract Powerhouse Plan & Sections ¹⁶

(E) Within 45 days of the date of issuance of this order, as directed below, the licensee must file two sets of the approved exhibit drawings in electronic file format on compact disks with the Secretary of the Commission, ATTN: OEP/DHAC.

The licensee must prepare digital images of the approved exhibit drawings in electronic format. Prior to preparing each digital image, show the FERC Project-Drawing Number (*i.e.*, P-2528-28 and P-2528-29) in the margin below the title block of the approved drawing. The licensee must identify Exhibit F drawings as **Critical Energy Infrastructure Information (CEII) material under 18 C.F.R. § 388.113**. Each drawing must be a separate electronic file, and the file name must include: FERC Project-Drawing Number, FERC Exhibit Number, Drawing Title, date of this order, and file extension in the following format [P-2528-28, F-1, East Channel Dam & Sections, MM-DD-YYYY.TIF]. All digital images of the exhibit drawings must meet the following format specification:

IMAGERY: black & white raster file
FILE TYPE: Tagged Image File Format, (TIFF) CCITT Group 4 (also known as T.6 coding scheme)
RESOLUTION: 300 dots per inch (dpi) desired, (200 dpi minimum)
SIZE FORMAT: 22" x 34" (minimum), 24" x 36" (maximum)
FILE SIZE: less than 1 megabyte desired

¹⁸ This exact drawing title must be used when filing the electronic file format drawings required in ordering paragraph (E). Commission staff shortened the drawing title due to filename character limits.

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(F) *Contract Plans and Specifications.* At least 60 days prior to the start of any construction, the licensee must submit one copy of its final plans and specifications and supporting design document to the Commission's Division of Dam Safety and Inspections (D2SI)-New York Regional Engineer, and two copies to the Commission (one of these must be a courtesy copy to the Director, D2SI). The submittal to the D2SI-New York Regional Engineer must also include as part of preconstruction requirements: a Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, and Soil Erosion and Sediment Control Plan. The licensee may not begin construction until the D2SI-New York Regional Engineer has reviewed and commented on the plans and specifications, determined that all preconstruction requirements have been satisfied, and authorized start of construction.

(G) *Cofferdam and Deep Excavation Construction Drawings.* Should construction require cofferdams or deep excavations, the licensee must: (1) have a Professional Engineer who is independent from the construction contractor, review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction; and (2) ensure that construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of any cofferdams or deep excavations, the licensee must submit one copy to the Commission's Division of Dam Safety and Inspections (D2SI)-New York Regional Engineer and two copies to the Commission (one of these copies must be a courtesy copy to the Commission's Director, D2SI), of the approved cofferdam and deep excavation construction drawings and specifications, and the letters of approval.

(H) 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 (2012), and the Commission's regulations at 18 C.F.R. § 385.713 (2018). 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.

Andrea Claros, Acting Chief
Environmental and Project Review Branch
Division of Hydropower Administration
and Compliance

Document Content(s)

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