

171 FERC ¶ 62,119
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Black Bear Hydro Partners, LLC

Project No. 2712-092

ORDER AMENDING MINIMUM FLOWS PURSUANT TO ARTICLE 402

(Issued June 8, 2020)

1. On November 8, 2019, Black Bear Hydro Partners, LLC, co-licensee¹ for the Stillwater Hydroelectric Project No. 2712, filed a request for an amendment of the minimum flow release requirements pursuant to Article 402 of the amended project license.² The project is located on the Stillwater Branch of the Penobscot River in Penobscot County, Maine.

License Requirements and Background

2. The Stillwater Project is operated run-of-river pursuant to the amended project license and the amended Water Quality Certification (WQC) issued by the Maine Department of Environmental Protection (Maine DEP).³ Article 402 of the project license describes the minimum flow releases to the bypassed channels downstream of Stillwater Dam. As previously amended,⁴ the licensee is required to release a permanent minimum flow of 20 cubic feet per second (cfs) into the west bypassed channel, and a permanent minimum flow of 50 cfs into the east bypassed channel, or inflow to the project reservoir, whichever is less, for the protection and enhancement of fish and wildlife resources, water quality, and recreation opportunities on the Stillwater Branch of

¹ Black Bear Hydro Partners, LLC, filed the report on behalf of Black Bear SO, LLC, and Black Bear Development Holdings, LLC, who, along with Black Bear Hydro Partners, LLC, are the co-licensees for the Stillwater Project.

² Order Amending License and Revising Annual Charges (140 FERC ¶ 62,195), issued September 14, 2012.

³ Minimum flow requirements were specified in the January 13, 2005, WQC conditions, and carried over by reference in the amended August 23, 2011 WQC.

⁴ Order Modifying and Approving Amendment of License (111 FERC ¶ 62,065), issued April 18, 2005.

the Penobscot River. The licensee ensures compliance with the minimum flow requirements under the Operations and Flow Monitoring Plan (Plan).⁵ The Plan indicated that the 20 cfs minimum flow in the west channel would be conveyed by a 1.6 foot wide notch in the flashboards, while the 50 cfs flow in the east channel would be satisfied with 70 cfs routed through the downstream fish passage facility at Powerhouse B, both during the fish passage season⁶ and when Powerhouse B is off-line. Outside of the fish passage season (that is, January 1 through March 30), operation of at least one unit of Powerhouse B satisfies the 50 cfs requirement in the east channel, as Powerhouse B discharges directly into the east channel.

3. Pursuant to the requirements of articles 407 and 408 of the 2012 license amendment, the licensee developed a design plan for eel passage facilities at the project and proposed to monitor the effectiveness of the facilities and make any necessary adjustments or changes to the facilities to allow the successful upstream passage of American eels.⁷ The 2016 monitoring results, filed with the Commission on March 31, 2017, demonstrated that the Stillwater eel ladder did not pass eels upstream effectively. This may have been due to a number of factors including: the absence of climbing substrate at the concrete transition area from the ledge pool to the eel ladder entrance; the water flow exiting the ladder possibly acting as a velocity barrier to juvenile eels attempting to enter the ladder; and leakage through the flashboards in that area of the spillway, which attracted eels away from the ladder entrance. During the monitoring, no eels were observed on video exiting the eel ladder. Based on these results, the licensee proposed to conduct a second year of video monitoring and nighttime surveys in 2017 following additional facility modifications to: (1) reduce the leakage through the flashboards in the area of the spillway immediately adjacent to the eel ladder entrance (in order to remove/reduce the competing attraction flow), (2) further experiment with adjusting water flow through the eel ladder with the use of stop logs, and (3) add substrate directly to the eel ladder to create resting refuges.

⁵ Order Approving Operations and Flow Monitoring Plan Pursuant to Article 401 (144 FERC ¶ 62,178), issued August 27, 2013.

⁶ The downstream fish passage season is described by Article 406 of the license encompasses April 1 through December 31, as follows: April 1 to June 30 and November 1 to December 15 for Atlantic salmon, July 1 to December 31 for alosines, and August 15 to November 15 (or other time periods determined when adequate information is available, and during any spring run that may occur) for American eel.

⁷ Order Modifying and Approving Upstream American Eel Fishway Plan and Revised American Eel Assessment and Monitoring Plan Pursuant to Articles 407 and 408 (151 FERC ¶ 62,009), issued April 1, 2015.

4. In order to complete the second year of studies, the licensee requested a temporary variance from the minimum flow requirements in order to reduce leakage flows from the flashboards as much as possible during the 2017 upstream eel passage season. The license-required 70 cfs total minimum flow to the bypass channel would continue to be satisfied by flows via the downstream fishway (70 cfs) and upstream eelway. This would be accomplished by eliminating the 1.6-foot notch and by sealing leakage through the flashboards⁸, thereby leaving the upstream eelway flow (estimated to be 1-2 cfs) as the primary source of flow to the west channel in order to facilitate upstream eel passage. Commission staff approved the temporary variance on June 13, 2017.⁹

5. The licensee's 2017 upstream eel passage report, filed on March 26, 2018, indicated that an estimated 11,500 eels were observed using the upstream eel passage. The licensee also observed a large numbers of eels ascending the ledges and spillway, and successfully passing into the headpond at multiple locations across the dam during the nighttime surveys. The licensee stated that the addition of the climbing substrate at the eel ladder entrance improved the ability of eels to access the entrance of the eel ladder. Nighttime surveys revealed that the eels were aggregating in pools located in the bedrock outcropping downstream of the route toward the eel ladder and were also bypassing the route toward the eel ladder entrance and choosing other routes over the dam. Based on the demonstrated improved use of the upstream eel passage in 2017, the licensee stated it would discontinue upstream eel passage video and nighttime monitoring studies at the Stillwater Project, and would follow agency guidance regarding future modification of the 20 cfs minimum flow in the west channel.

Licensee's Proposed Amendment

6. The licensee requests an amendment of the minimum flow release requirements pursuant to Article 402. The licensee proposes the elimination of the specific minimum flow conveyance locations (i.e., eliminate the requirement to pass 20 cfs at the west bypass channel and 50 cfs to the east bypass channel), to instead release a total minimum flow of 70 cfs into the bypassed channel, or inflow to the project reservoir, whichever is less. The licensee states that upstream passage at the project improved under the modified flow conditions and other improvements to the entrance of the eel ladder. Additionally, the licensee is concerned that the flashboard notch could pose a hazard to downstream migrating fish due to the potential for fish striking ledges and/or debris below the notch, especially with the recent increases in alosine populations on the Penobscot River.

⁸ Due to site conditions and the safety protocols requiring a 6-inch draw down of the head pond each time the eel ladder was visited, the plugging of the leaks could not be maintained.

⁹ Order Approving Temporary Minimum Flow Variance (159 FERC ¶ 62,274).

Pre-Filing Consultation

7. On August 12, 2019, the licensee provided the minimum flow proposal to the Maine Department of Inland Fisheries and Wildlife, Maine Department of Marine Resources (Maine DMR), Maine Department of Environmental Protection (Maine DEP), U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS), and Penobscot Indian Nation (PIN) (collectively, the resource agencies and PIN) for review and comment. On August 14, 2019, FWS stated that the modified flow conditions improved eel passage and concurred that the modified flow conditions should be maintained. On August 19, 2019, Maine DMR also agreed with making a permanent change to the minimum flow conditions. No other comments on the amendment were provided.

Public Notice

8. On December 9, 2019, the Commission issued a public notice that the amendment application was accepted for filing and was ready for environmental analysis, and soliciting comments, motions to intervene, and protests, setting a deadline of January 8, 2020. On January 6, 2020, the U.S. Department of the Interior filed a notice of intervention, on behalf of the FWS, National Park Service, and Bureau of Indian Affairs.

Water Quality Certificate

9. Under section 401(a) of the Clean Water Act (CWA),¹⁰ the Commission may not authorize construction or operation of a hydroelectric project that may result in a discharge from the project unless the state water quality certifying agency either has issued water quality certification for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year. Section 401(d) of the CWA provides that the certification shall become a condition of any federal license that authorizes construction or operation of the project.¹¹

10. On September 30, 2019, the licensee submitted an application to the Maine DEP for modification of minimum flow requirements contained in the WQC for the Stillwater Project. Maine DEP's Division of Environmental Assessment staff reviewed the WQC amendment application and had no comments or concerns regarding the proposed minimum flow changes. The Maine DEP also noted that the licensee conducted various studies since 2013 and worked in consultation with the resource agencies to develop the flow modifications proposed for the Project, and that the flow modifications were agreed to by the resource agencies and the PIN. The Maine DEP concluded that the proposed

¹⁰ 33 U.S.C. § 1341(a) (2018).

¹¹ 33 U.S.C. § 1341(d) (2018).

flow modification at the project is a minor change and would not significantly affect any issues identified during Maine DEP's previous reviews of the project site, and that the WQC modification is in accordance with all relevant departmental standards. On October 28, 2019 the Maine DEP issued a modified WQC which modified the Project's minimum flow requirements by eliminating the requirement to split minimum flows into two conveyance locations. The modified WQC maintains the 70 cfs total minimum flow requirement, but eliminates the requirement to pass 20 cfs into the west bypass channel and 50 cfs into the east bypass channel.

Discussion

11. Commission staff reviewed the licensee's application and the modified WQC for any potential water quality, aquatic habitat, and fisheries resources effects that could result from a change in the minimum flow release location. Commission staff determined how resources may be affected by reviewing the analyses in the 2012 Environmental Assessment for the project.¹² The proposed amendment of the minimum flow conveyance location would have no substantive effects on cultural resources, recreation, land use, or aesthetics, therefore these resources are not considered in review of this amendment.

12. The reach downstream of Stillwater dam is complex with several channels and islands. The east channel and west channel are the two main channels downstream of each spillway section. The approximately 390-foot-long east channel contains large deep pools, riffles, flat shallow pools, and backwater areas with varied substrates. The approximately 100-foot-long west channel contains generally shallow riffle habitats with coarse substrates. The channels join at a large pool. In a 1991 instream flow study conducted in conjunction with relicensing of the project, the weighted usable area was calculated for different life stages of resident (smallmouth bass) and anadromous species (Atlantic salmon and American shad) at various flows in both channels.¹³ Based on the available information, the reduction of flow in the west channel to leakage (approximately 1-2 cfs) is expected to result in an overall reduction of the usable habitat for anadromous fish, but may slightly increase habitat for young-of-the-year and adult smallmouth bass. However, relatively minimal suitable habitat for anadromous species exists in the west bypass channel, even at the current flows. Due to the availability of habitat in the east bypass channel and elsewhere in the Stillwater Branch of the Penobscot River, the change in conveyance location for minimum flow is not expected to have a significant effect on habitat for those species.

¹² Environmental Assessment Issued July 9, 2012.

¹³ The habitat study information is summarized in the licensee's June 25, 2004 application to amend the Stillwater license.

13. The reduced minimum flow is beneficial to the migration success of juvenile eels, as demonstrated in the results of the 2016 and 2017 juvenile eel passage studies conducted under different flow conditions and with improvements to the passage facility. The reduced flow eliminates false attraction to areas that do not provide suitable upstream passage, thereby ensuring attraction to the passage facility (as the primary source of flow to the west channel). Upstream passage is not provided for anadromous salmon and alosines at the Stillwater Project, therefore this change in flow would have no impact on their upstream migrations. The licensee has completed recent downstream passage studies for alosines (adult shad and adult river herring; see reports filed April 12, 2018 and February 12, 2019, respectively) and reported that the majority of both species utilized the downstream bypasses with no passage via spill. Though spill passage is reported to be infrequent for alosines at the Stillwater project, sealing the flashboard notch would further ensure safe downstream passage at the site as it reduces the potential for fish to strike ledges and/or debris below the notch. Additionally, the operation of the downstream fish bypass (from April through December, or when Powerhouse B is offline) meets minimum flow requirements through the east channel bypass.

14. In compliance with the Species Protection Plan (SPP)¹⁴ and in consultation with the resource agencies and PIN, the licensee has conducted downstream salmon smolt passage studies and enacted flow modifications at the project by increasing spill through a flashboard cut-out (to ensure concentration of flow) during peak smolt outmigration in the month of May, in order to enhance safe downstream passage of smolts. Based on the significant changes to the Penobscot River since 2012 and the results of smolt studies since 2014, on April 25, 2019, the Commission designated the licensee as its non-federal representative in conducting informal reinitiation of consultation with NMFS and FWS, which may result in a revised Biological Opinion with updated performance standards. The minimum flow amendment would not affect downstream migrating smolts as the passage enhancement protocol of providing additional spill exceeds the required minimum flow release.

15. The licensee's Operations and Flow Monitoring Plan, approved in 2013, describes how the project will be operated in compliance with minimum flows and how the mandatory flows will be met at all times, including flood events, powerhouse shutdowns, and flashboard repairs. The plan also ensures the accuracy of monitoring information, provides monitoring data to the agencies and general public on a timely basis, and enables the Commission to determine the licensee's compliance with license requirements. The change in the flow conveyance location would require an update to the Operations and Flow Monitoring Plan in order to indicate and ensure compliance with minimum flows, which the licensee indicates it plans to file with the Commission following the amendment of the minimum flows. Ordering paragraph B of this order

¹⁴ Order Modifying and Approving Revised Species Protection Plan and Revised Atlantic Salmon Passage Study Plan (146 FERC ¶ 62,224), issued March 27, 2014.

makes an update of the Operations and Flow Monitoring Plan a requirement and sets a deadline for filing the plan.

16. In compliance with Article 415 of the 2012 Amendment, the licensee provided a plan for monitoring dissolved oxygen (DO) downstream of the Powerhouse B,¹⁵ in order to determine whether the reduced spill volumes (due to the increased hydraulic capacity of the generating facilities at the Stillwater Project) could adversely affect DO concentrations downstream of the project during the summer and early fall. The results indicated that DO during the monitoring period were in compliance with the water quality standards during the entire June 1 through September 30, 2014 monitoring period, and on July 24, 2015, Commission staff accepted the results of the DO monitoring and concurred that no additional DO monitoring is warranted. The project continues to be operated in a run-of-river mode to protect aquatic life and water quality, minimum flows continue to be maintained via generation and/or flow through fish passage facilities, and the total minimum flow of 70 cfs has not changed. Therefore, water quality in the vicinity of the project is expected to remain suitable to support habitat for fish and other aquatic life.

Conclusion

17. The proposed minimum flows will continue to provide protection of fisheries and aquatic resources in the bypass, and would support improved upstream passage of eels at the project. The proposed flows have been developed in consultation with the resource agencies and PIN, and the licensee has obtained a revised WQC from Maine DEP. Further, the amendment remains consistent with the Penobscot River Multiparty Settlement Agreement (filed with the Commission on July 2, 2004) which requires a 70 cfs minimum flow to the Stillwater bypass reach and does not designate conveyance locations.

18. Based on our review, the change to the minimum flow conveyance locations would not have a significant effect to any resources in the project area and allows the licensee to address false attraction issues for upstream migrating eels. The licensee is required to file a revised Operations and flow Compliance Monitoring Plan pursuant to Article 401 in order to incorporate the amended minimum flow release. The licensee's amendment request is reasonable and is supported by the resource agencies and PIN, and should be approved.

The Director orders:

- (A) Black Bear Hydro Partners, LLC's request to eliminate the minimum flows

¹⁵ Order Modifying and Approving Dissolved Oxygen Monitoring Plan Pursuant to License Article 415 (145 FERC ¶ 62,071), issued October 29, 2013.

Project No. 2712-092

- 8 -

conveyance location, filed November 8, 2019, pursuant to Article 402 of the license for the Stillwater Hydroelectric Project No. 2712, is approved. The reference to minimum flows required by the article is amended to read:

“The Licensee shall release from the Stillwater Project a permanent minimum flow of 70 cfs into the bypassed channel, or inflow to the project reservoir, whichever is less, for the protection and enhancement of fish and wildlife resources, water quality, and recreation opportunities on the Stillwater Branch of the Penobscot River.”

(B) By August 10, 2020, the licensee shall file, for Commission approval, a revised Operations and Flow Compliance Monitoring Plan to provide an updated detailed description of how the minimum flows will be measured or calculated in order to comply with the amended requirements of Article 402. The Operations and Flow Compliance Monitoring Plan shall be developed in consultation with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, Penobscot Indian Nation, Maine Department of Inland Fisheries and Wildlife, Maine Department of Marine Resources, and Maine Department of Environmental Protection. Following the development of the plan in consultation with the resource agencies and Penobscot Indian Nation, the licensee shall provide a copy of the proposed plan to these entities and allow them a minimum of 30 days to review and comment on the plan. The final plan filed with the Commission shall include documentation of consultation including copies of any comments received. The licensee shall address all comments and recommendations in its filing. If the licensee does not adopt a recommendation from the resource agencies or Penobscot Indian Nation, the licensee shall include its reasons based on project-specific information. The Commission reserves the right to make changes to the plan in order to ensure compliance with license requirements and protect environmental resources.

Project No. 2712-092

- 9 -

(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 (2018), and the Commission's regulations at 18 C.F.R. § 385.713 (2019). 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.

Thomas J. LoVullo, Chief
Aquatic Resources Branch
Division of Hydropower Administration
and Compliance

Document Content(s)

P-2712-092 Art 402 Amendment.DOCX.....1