

142 FERC ¶ 62,139
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Black Bear Hydro Partners, LLC

Project No. 2712-079

ORDER MODIFYING AND APPROVING FISH PASSAGE DESIGN DRAWINGS
UNDER ARTICLE 416

(Issued February 21, 2013)

1. On January 11, 2013, Black Bear Hydro Partners, LLC (licensee), filed fish passage design drawings and related materials pursuant to Article 416 of the amended license for the Stillwater Project.¹ The project is located on the Stillwater Branch of the Penobscot River in Penobscot County, Maine.

BACKGROUND

2. The amended license approved the licensee's proposal to increase the generation capacity at the Stillwater project by constructing a second powerhouse, referred to as Powerhouse B. Article 416 of the amended project license requires the licensee to construct and operate a downstream fishway at Powerhouse B of the Stillwater Project. Article 416 requires the fishway to be operated during the migration seasons defined in Article 406,² beginning the first downstream passage season following commencement of operation of Powerhouse B, and to develop fishway maintenance and operational plans. The fish passage design and drawings for Powerhouse A were previously approved by the Commission, pursuant to Article 406.³

¹ Order Amending License and Revising Annual Charges. 140 FERC ¶ 62,195 (issued September 14, 2012).

² Order Modifying and Approving Amendment of License. 111 FERC ¶ 62,065 (issued April 18, 2005). The downstream migration seasons are: April 1 to June 30 and November 1 to December 15 for Atlantic salmon; July 1 to December 31 for American shad and alewife; August to December 31 for blueback herring; 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. The overall downstream fish passage season is April 1 through December 31.

³ Order Modifying and Approving Fish Passage Design Drawings Under Article 406. 140 FERC ¶ 62,213 (issued September 20, 2012).

3. Article 416 requires the licensee to file, for approval by the Federal Energy Regulatory Commission (Commission), detailed design drawings for the surface and bottom bypasses at Powerhouse B. The filing must include, but not be limited to: (1) detailed final design drawings for the downstream fishway; (2) a schedule for installing the facilities so that they are operational during the first passage season that Powerhouse B operates; and (3) procedures for operating and maintaining the facilities (O&M Plan). The licensee was required to develop the design, schedule, and operating procedures in consultation and cooperation with the U.S. Fish and Wildlife Service (FWS), Penobscot Indian Nation (PIN), Maine Department of Inland Fisheries and Wildlife (Maine DIFW), Maine Department of Marine Resources (Maine DMR), and the National Marine Fisheries Service (NMFS) (collectively, the consulted parties).

LICENSEE'S PLANS

4. The licensee's O&M Plan describes how the licensee plans to operate the downstream fish passage facilities at Powerhouse B. The proposed schedule states that construction would begin in May 2013, and is expected to be completed by October 2013.

5. The proposed downstream fish passage facility consists of a single surface bypass and a single low level bypass (for bottom oriented fish, such as eels). The licensee states that the distribution of flows through the surface and low level entrances may be varied seasonally based on passage needs (for example, attraction flow to the lower entrance could be increased during eel migration season). Both bypass entrances are located at the furthest downstream end of the 1-inch clear spaced angled trashracks and are oriented perpendicular to the face of the racks. During low-flow conditions, the licensee states that stop logs at control weirs will be adjusted to accommodate adequate flow through the upper and lower entrances, as dictated by passage needs. The licensee will not try to minimize fishway flow during high flow events, and therefore does not plan to adjust the stop logs or entrance gates during high flow conditions.

6. The licensee states that the proposed surface bypass consists of a 4 foot by 4 foot notch in the intake wall. The surface bypass will have an attraction flow range is 40 to 70 cubic feet per second (cfs), controlled by removable stoplogs, and will discharge into a 5 foot deep plunge pool. The upper fish passage entrance is designed to pass the full range of the fishway flow (4 percent station flow, or 70 cfs).

7. The proposed low level bypass entrance consists of a 4 foot by 4 foot opening capable of accepting different sized orifice plates which can be lowered from the surface into the slots. The lower eel entrance is designed to pass up to 50 percent of the fishway flow (the surface entrance will never be shut off even during eel migration season). The licensee states that the dimensions of the low level bypass entrance will be maintained through an elbow which directs the flow into a 4 foot by 4 foot vertical flow control box. Flow discharged from the fishway will be spilled over a flow control weir into the 5 foot

deep plunge pool. Further, the licensee states that the final configuration (i.e., bell mouth, slot, etc.) of the removable orifice plate for the bottom entrance will be determined based on effectiveness testing.

8. During the downstream fish passage seasons (defined in Article 406), the licensee states that the Powerhouse B generating units will be operated to maximize attraction to the downstream bypass facility; the unit closest to the bypass entrance will be operated as first on and last off, unless otherwise determined through discussions with the consulted parties. The licensee proposes to inspect the fish passage facility several times per day during daily operations to adjust flow controls and to ensure that the trashracks and grizzly rack are free of debris. To ensure proper operation of the facility, the licensee states that it will remove debris completely. Additionally, the licensee proposes to clean trashracks daily or several times per day depending on flows and debris load. Trashrack head differential will be measured using staff gages, and the licensee states that it will clean the trashrack when an adverse differential is observed. Debris accumulation on the one-foot grizzly rack at the low level bypass entrance will be removed by using a hand rake, grapple, or divers, as needed. The licensee also plans to monitor the system periodically for debris accumulation by using an underwater camera.

9. On an annual basis, the licensee plans to inspect the facility for cleaning, maintenance (such as removing debris and inspecting the integrity of the structure), essential repairs, and mechanical and structural adjustments. During the annual inspection, the licensee will eliminate or reduce flow through the fish passage facility, and remove any fish found. The licensee will complete annual inspections prior to April 1 (the beginning of the spring downstream passage season), and will winterize the facility after December 31 (the end of the fish passage season). Finally, the licensee proposes to provide the consulted parties with periodic reports of fishway operation, any corrective actions taken, and any associated maintenance activities.

CONSULTED PARTIES' COMMENTS

10. Article 416 requires the licensee to include with the filing, documentation of consultation, copies of comments and recommendations on the drawings, plans, and schedules (after they have been prepared and provided to the consulted parties), and specific descriptions of how the consulted parties' comments and recommendations are accommodated in the licensee's facilities. The licensee is to allow a minimum of 30 days for the consulted parties to comment and make recommendations before filing the drawings, plans, and schedule with the Commission. If the licensee does not adopt a recommendation, the filing must include the licensee's reasons, based on project-specific information.

11. The licensee worked with the consulted parties during development of the fishway designs, schedule, and operations and maintenance procedures, and also consulted with them during the 30, 60, and 90 percent design phases. Over the course of meetings and

discussions with the consulted parties, the licensee finalized the fishway design and O&M plan and provided it to the consulted parties for a final 30-day review and comment period on December 3, 2012. NMFS provided comments via email dated January 4, 2013, and the Maine DMR stated in a letter dated January 4, 2012, that it concurred with the comments provided by NMFS. The PIN emailed comments on January 7, 2012. The FWS and Maine DIFW did not provide any comments.

12. NMFS requested that the licensee ensure that the fishway has been designed to the 5 and 95 percent exceedence flow, describe the flow monitoring equipment, and install staff gages in the entrances, exits, and tailraces. NMFS suggested that a variation of the Alden weir should be installed at the bypass entrance and made recommendations for the bypass entrance velocity. NMFS recommends that the left side of the downstream passages should be angled to match the angle of the trashracks. In order to help facilitate future efficiency studies with fish, NMFS recommended that the licensee include slots for PIT tag antennae at the fishway entrance and exits. NMFS stated that the flows in the fishway should not be reduced or suspended during trashrack cleaning, but it would be allowable to do so when the licensee cleans the fishway, and also asked for specific details for the frequency of using the underwater camera to check for debris. NMFS recommended that the clause "unless otherwise directed by the agencies" be added to the licensee's description of generating unit priority. NMFS requested that the licensee file weekly reports during the fish passage season in order to document the condition of the fishway, maintenance activities (such as trash removal), and other issues that arise, such as observed fish injuries or fish kills.

13. The PIN stated that it concurred with all of the NMFS' comments, and additionally recommended that the deep orifice downstream fishways should be operational year-round, until future studies eliminate the need for year-round passage availability. The PIN cited a recent study regarding American eels that found peaks in eel passage throughout the year, rather than being limited seasonally to mid-August through mid-November.

14. The licensee included the majority of the comments provided by the consulted parties into their final plan. The licensee did not adopt NMFS's recommendation to provide slots for PIT tag antennae in the current design, stating that the specific locations slots for PIT tag antennae will be determined in the field during development of the effectiveness study plans, required by license articles 408 and 417. The licensee notes that there are several suitable locations for antennae in the flumes, weir slots, and openings that may be used in the future. Additionally, the licensee states that the flow monitoring equipment and staff gages will be addressed by the Operation and Flow Compliance Monitoring Plan, required by amended Article 401, and does not include those details in this plan. The licensee does not respond to PIN's request for year-round eel passage, but the O&M Plan states that the fishway will be operated during the fish passage season (April 1 through December 31).

DISCUSSION AND CONCLUSIONS

15. The licensee did not incorporate NMFS's recommendation to provide slots for PIT tag antennae in the current design. The licensee states that it will identify specific locations for PIT tag antennae once field work begins for the fish passage effectiveness study plans required by license articles 408 and 417. Commission staff agrees that it is not necessary to determine the locations for the PIT tag antennae until the fish passage effectiveness studies commence in order to determine the optimal location.

16. The licensee states that it will provide the consulted parties with periodic reports of fishway operation, corrective actions, and maintenance activities. Commission staff believes that these reports will provide valuable information in establishing and evaluating the adequacy of routine operation and maintenance activities.

17. The licensee did not provide a response to the PIN's request to operate the downstream passage facility for eels year-round. The licensee is required to perform fish passage effectiveness monitoring pursuant to amended Article 408. Specifically, the licensee is required to develop a plan for monitoring and evaluating the effectiveness of the facilities and flows required by articles 406, 407, and 416. Commission staff believes that the results of these monitoring studies would inform any decisions about year-round operation of the downstream passage facility for eels and provide a basis for recommending future structural or operational changes specific to the conditions at the project.

18. The licensee's filing did not include any details regarding the construction schedule for the proposed downstream fishway; the only dates provided are milestones for the anticipated start and end dates of construction (May 2013 and October 2013, respectively). The licensee should file a revised schedule for constructing the facilities and include information regarding the planned construction activities. In particular, the filing should address how the construction will be timed to avoid or minimize conflicts with the downstream migration periods (see footnote 2) and what, if any, coordination is necessary with the construction at Powerhouse B or modifications to the existing downstream fish passage facility at Powerhouse A. The licensee should file a construction schedule and this outstanding information as part of its final contract design and specifications. If the licensee's schedule allows, the Powerhouse B construction schedule may be combined with a similar requirement for a fishway construction schedule at Powerhouse A, as required in Ordering Paragraph (C) of the Commission's Order Modifying and Approving Fish Passage Design Drawings Under Article 406.

19. Within 90 days following the completion of construction activities, the licensee should provide as-built Exhibit F drawings to reflect the construction of the facilities approved in this order. Further, the licensee should provide the Commission's Division of Dam Safety & Inspections-New York Regional Office (D2SI-NYRO) with final contract drawings and specifications (including a supporting design report consistent with

the Commission's engineering guidelines and cofferdam construction drawings, if applicable).

20. The licensee filed its fish passage design drawings, Operation and Maintenance Plan, and construction schedule pursuant to Article 416. The filing also included documentation of consultation. The downstream fish passage facility at Powerhouse B will help the licensee meet the goals of the Lower Penobscot River Multiparty Settlement Agreement by providing access for migratory fish species that are present now or may have historically occurred in the Penobscot River, and provide monitoring and evaluation to help ensure that the facilities are effective. The licensee's January 11, 2013, filing, as modified below, meets the requirements of Article 416 and should be approved.

The Director orders:

(A) Black Bear Hydro Partners, LLC (licensee) fish passage design drawings and Operations and Maintenance Plan, filed January 11, 2013, pursuant to Article 416 for the Stillwater Hydroelectric Project, as modified by paragraphs (B) and (C), is approved.

(B) At least 60 days prior to start of construction, the licensee shall submit one copy of: the final contract plans and specifications; a construction schedule that accommodates downstream fish migration and its modifications made to the Powerhouse A fishway, as appropriate; and a supporting design report to the Federal Energy Regulatory Commission's (Commission) Division of Dam Safety and Inspections (D2SI) – New York Regional Engineer, and two copies to the Commission (one of these shall be a courtesy copy to the Director, D2SI). The submittal shall 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.

(C) Within 90 days of completion of construction activities authorized by this order, the licensee shall file for Commission approval, revised Exhibits F drawings to show those project facilities as built. A courtesy copy shall be filed with the Commission's D2SI – New York Regional Engineer; the Director, D2SI; and the Director, Division of Hydropower Administration and Compliance.

(D) 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 (2012). 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 Review Branch
Division of Hydropower Administration
and Compliance