140 FERC ¶ 62,195
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Black Bear Hydro Partners, LLC Project No. 2712-074

ORDER AMENDING LICENSE AND REVISING ANNUAL CHARGES

(Issued September 14, 2012)

1. On May 18, 2011, Black Bear Hydro Partners, LLC (licensee), filed an application to amend its license for the Stillwater Project (No. 2712) in order to construct a second powerhouse and extend the term of the license. The licensee also proposes to construct a new downstream fish passage facility and a new upstream eel passage facility to replace an existing eel trap. The application was supplemented on October 7, 2011; January 20, 2012; March 7, 2012; March 14, 2012; and June 5, 8, and 21, 2012. The project is located on the Stillwater Branch of the Penobscot River in Penobscot County, Maine.

Background

2. The license for the Stillwater Project was issued April 20, 1998.[1] The project, as amended,[2] consists of: (a) a main concrete gravity dam, totaling about 1,720-feet-long, with a maximum height of 22 feet at crest elevation 91.65 feet National Geodetic Vertical Datum (NGVD), equipped with 3-foot-high wooden flashboards; (b) a concrete and wooden powerhouse (Powerhouse A) equipped with four horizontal generating units: three of which are rated at 450 kilowatts (kW) each, and one rated at 600 kW, all totaling a rated capacity of 1,950 kW; (c) an impoundment, about 3.1-miles-long, having a surface area of about 300 acres, a gross storage capacity of 3,040 acre-feet, a negligible useable storage capacity, a normal headwater surface elevation of about 94.65 feet NGVD; and (d) appurtenant facilities.

Proposed Action

3. In June 2004, the licensee entered into the Lower Penobscot River Multi-Party Settlement Agreement (Settlement Agreement) with federal and state resource agencies, the Penobscot Indian Nation, several non-governmental organizations, and others. The

[1] *See* Order Issuing New License, 83 FERC ¶ 61,038 (issued April 20, 1998).

[2] *See* Order Modifying and Approving Amendment of License, 111 FERC ¶ 62,065 (issued April 18, 2005).

Settlement Agreement stipulated that three projects within the Penobscot River basin would be decommissioned[3] and provided the opportunity to increase generation capacity at several other projects in the river basin to make up for the generation capacity lost in the decommissioning of the three projects. The licensee's proposed amendment at the Stillwater Project is based on the terms of the Settlement Agreement. The licensee simultaneously filed a similar application to amend its license for the Orono Project (No. 2710) which is being addressed in a separate order issued today.

A. Proposed Facilities

4. The licensee proposes to increase the generation capacity at the Stillwater Project by constructing a second reinforced concrete and steel powerhouse about 55-feet-long, 40-feet-wide, and 56-feet-high adjacent to the left buttress of the Stillwater dam. The new powerhouse (referred to as Powerhouse B in the application) would contain three new 743 kW turbine/generator units. The powerhouse would include a 60-foot-long, 60-foot-wide forebay and a 60-foot-wide, 22-foot-high intake. The intake would include an entrance for a new downstream fish passage facility. A new upstream eel passage would be constructed adjacent to the proposed powerhouse to replace an existing eel trap near the same location. In addition, the licensee proposes to construct a 300-foot-long, 12.5 kilovolt transmission line from the new powerhouse to interconnect with an existing line on the left bank of the river.

B. Proposed Operations

5. The licensee proposes to operate the project in a run-of-river mode and to maintain the reservoir within one foot of the normal full pond elevation of 94.65 feet NGVD as required by Article 401. The licensee would reallocate flows between the main stem of the Penobscot River and the Stillwater Branch through operation of its Milford Project (No. 2534), resulting in more water flowing through the Stillwater Branch in order to increase the power generation that would be realized by the proposed amendments at the Stillwater and Orono Projects. The flow reallocation is within the range of operations allowed by the current licenses for the Milford, Stillwater, and Orono Projects.

6. The licensee proposes to continue to maintain the minimum flow required by Article 402 of the license which is 70 cubic feet per second (cfs): 20 cfs in the west bypassed channel and 50 cfs in the east bypassed channel. The minimum flows would be maintained via generation and/or flow through fish passage facilities. High flows in excess of the hydraulic capacity of the project would spill over the existing flash boards that are designed to fail when they are overtopped by 1 foot of water.

---

[3] *See* Order Accepting Surrender of Licenses with Dam Removal and Dismissing Applications for New Licenses, 131 FERC ¶ 62,238 (issued June 16, 2010).

C. License Term Extension

7. As contemplated in the Settlement Agreement, the licensee also proposes to extend the term of the Stillwater Project license by 10 years so that it would expire in 2048.

D. Proposed Environmental Measures

8. The licensee proposes to construct and operate the project with the following environmental protection, mitigation, and enhancement measures: (1) develop and implement a soil erosion and sediment control plan; (2) re-vegetate the temporary access road and laydown area that would be used during construction; (3) develop and implement a blasting plan to address potential effects of construction on fish and aquatic species; (4) implement the Species Protection Plan for Atlantic salmon and the corresponding Atlantic Salmon Study Passage Plan filed June 8, 2012; (5) implement the Mussel Relocation Plan filed with the amendment application; (6) construct and operate a new downstream fish passage facility consisting of full-depth trashracks with 1-inch-clear spacing and a bypass adjacent to the intake for the proposed new powerhouse which would include surface and bottom entrances each with a flow capacity up to 70 cfs to be allocated in full to either entrance or divided between the two entrances depending on fish passage needs; and (7) construct and operate a new upstream eel passage facility adjacent to the new powerhouse to replace an existing eel trap near the same location.

Consultation

9. Prior to filing its application with the Commission, the licensee consulted with the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (FWS), Bureau of Indian Affairs, U.S. Army Corps of Engineers, National Park Service, Penobscot Indian Nation, Maine Department of Environmental Protection (Maine DEP), Maine Department of Conservation, Maine State Historic Preservation Officer (Maine SHPO), Maine Department of Marine Resources (Maine DMR), Maine Department of Inland Fisheries and Wildlife (Maine DIFW), Maine State Planning Office, Town of Orono, City of Old Town, Penobscot River Restoration Trust, Trout Unlimited, Atlantic Salmon Federation, The Nature Conservancy, Natural Resources Council of Maine, Maine Audubon Society, and American Rivers. The licensee provided these entities with copies of the draft application for comment on October 5, 2010. On October 26, 2010, the licensee held a meeting with the consulted parties to provide them with information and to answer any questions about the proposed amendments.

10. The licensee received comments on its draft application from NMFS, FWS, Penobscot Indian Nation, Maine SHPO, Maine DMR, Maine DEP, and Maine Department of Conservation. The licensee discussed the comments and study requests it received with these entities between October 2010 and April 2011, and addressed comments and recommendations in the final amendment application.

Public Notice and Environmental Assessment

11. On March 30, 2012, the Commission issued public notice that the amendment application was accepted for filing, that the project was ready for environmental analysis, and soliciting comments, recommendations, terms and conditions, and prescriptions. In response, notices of intervention were filed by the Department of the Interior, NMFS, Maine DMR, and Maine DIFW. Motions to intervene were filed by the Penobscot Indian Nation and Douglass H. Watts.[4] Comments were filed by the Department of the Interior, NMFS, Penobscot Indian Nation, the licensee, Town of Orono, City of Old Town, Maine Audubon, Trout Unlimited, American Rivers, The Nature Conservancy, Penobscot River Restoration Trust, and several congresspersons. The majority of the commenters expressed support for the amendment application as being consistent with the Settlement Agreement. No entity opposed the licensee's proposed amendment application.

12. On July 25 and 26, 2012, Commission staff visited the project and met with the licensee, FWS, NMFS, Penobscot Indian Nation, and the Penobscot River Restoration Trust. On July 9, 2012, Commission staff issued an Environmental Assessment (EA) for the proposed amendments at the Stillwater and Orono Projects. Comments on the EA were filed by NMFS, FWS, Maine DMR, and the licensee.

13. Both NMFS and FWS generally had concerns that some staff conclusions in the EA regarding fisheries resources were unsubstantiated due to a lack of information and ongoing concerns about fish passage effectiveness. NMFS and FWS stated that any conclusions regarding the effectiveness or adequacy of the fish passage facilities can only be made after effectiveness studies have been completed. Maine DMR stressed the importance of the monitoring studies to determine whether fish passage is effective.

14. NMFS stated that the finding of no significant impact should be better documented in the analysis and that the EA should address the effects of climate change. NMFS also expressed other concerns regarding project operations and how the licensee would monitor run-of-river operations and minimum flow requirements.

15. In addition to its comments regarding fish passage, FWS stated that the licensee would have to consult with FWS for any required blasting in the project tailrace.

16. The licensee's comments focused on the proposed amendment at the Orono Project.

[4] Mr. Watts' late intervention was granted by notice issued June 15, 2012.

17. All comments, recommendations, and motions to intervene have been fully considered in determining whether, and under what conditions, to issue this amendment of license.

Water Quality Certification

18. Under section 401(a) of the Clean Water Act (CWA),[5] 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.[6]

19. On May 19, 2011, the licensee applied to the Maine DEP, under section 401 of the CWA, for a water quality certification for the proposed amendment. The Maine DEP issued an amended section 401 water quality certification which was filed with the Commission on August 23, 2011. The amended water quality certification is incorporated into the license by ordering paragraph (I) and attached to this order as Appendix A.

Threatened and Endangered Species

20. Section 7(a)(2) of the Endangered Species Act of 1973,[7] 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. The Gulf of Maine Distinct Population Segment of Atlantic salmon, a federally listed endangered species, is present at the project.

21. On March 7, 2012, the licensee provided the Commission with its Biological Evaluation (BE) regarding the effects of the proposed amendment on Atlantic salmon.[8] The licensee filed a revised BE on June 8, 2012, which included a revised Species

[5] 33 U.S.C. § 1341(a) (2006).

[6] 33 U.S.C. § 1341(d) (2006).

[7] 16 U.S.C. § 1536(a) (2006).

[8] The BE also analyzes proposed actions at the licensee's other nearby projects on two other endangered species, Atlantic sturgeon and shortnose sturgeon. These two species are not present within the area of the Stillwater Project.

Protection Plan and an Atlantic Salmon Passage Study Plan. The BE determined that the actions proposed at the Stillwater Project are likely to adversely affect Atlantic salmon due to the potential for causing injury or mortality to a small number of downstream migrating smolts. The BE concluded that the proposed Species Protection Plan and Atlantic Salmon Passage Study Plan would minimize any adverse impacts.

22. By letter issued April 27, 2012, Commission staff adopted the licensee's BE as its biological assessment and requested that NMFS initiate formal consultation on the actions contained in the licensee's proposed amendment application. NMFS received the request and initiated formal consultation on May 3, 2012. In addition, on June 27, 2012, Commission staff forwarded the Atlantic Salmon Passage Study Plan to NMFS for inclusion in the formal consultation process.

23. On August 31, 2012, NMFS filed its Biological Opinion (Opinion) for the proposed amendment application which concluded that the proposed actions in the amendment application may adversely affect but are not likely to jeopardize the continued existence of the Gulf of Maine Distinct Population Segment of Atlantic salmon. Furthermore, the Opinion concluded that the proposed action would not adversely modify or destroy critical habitat designated for Atlantic salmon. In its Opinion, NMFS issued an incidental take statement and included reasonable and prudent measures and terms and conditions to minimize and monitor incidental take of Atlantic salmon. The terms and conditions include measures regarding: construction activities; erosion and sedimentation control; fish salvage; reporting of interactions with endangered species; fish passage design; fish passage performance standards and effectiveness monitoring; and access to project facilities. The terms and conditions, as they pertain to the Stillwater Project, are incorporated into the license by ordering paragraph (J), attached to the license as Appendix B, and referenced in specific articles, where appropriate.

National Historic Preservation Act

24. Under section 106 of the National Historic Preservation Act,[9] and its implementing regulations,[10] federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register of Historic Places (defined as historic properties) 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 SHPO to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any

[9] 16 U.S.C. § 470 (2006) *et seq*.

[10] 36 C.F.R. Part 800 (2012).

adverse effects. In the event that Indian tribe properties are identified, section 106 requires that the Commission consult with any potentially interested Indian tribes that might attach religious or cultural significance to such properties.

25. The licensee consulted with the Maine SHPO and Penobscot Indian Nation and by letter dated October 13, 2010 (filed with the amendment application), the Maine SHPO stated that no historical or archeological properties would be affected by the proposed action. The Penobscot Indian Nation did not identify any concerns regarding historic properties in the project area.

26. A Cultural Resources Management Plan for the project, which contains a discovery provision (Section III), was approved by the Commission on November 29, 1999.[11] Although no cultural resources have been previously identified in the vicinity of the proposed project area,[12] the potential does exist for the discovery of cultural resources during the proposed construction, operation, and maintenance activities. If a previously undiscovered cultural resource site is identified during construction, operation, and/or maintenance of the facilities, the licensee is reminded that it should immediately cease all work at the site and follow the provisions as set forth in the discovery section of the Cultural Resources Management Plan for the Stillwater Project.

Section 18 Fishway Prescriptions

27. Section 18 of the Federal Power Act (FPA)[13] provides that the Commission shall require the construction, maintenance, and operation by a licensee of such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce, as appropriate.

28. The license for the Stillwater Project contains fishway prescriptions from both NMFS and FWS. Articles 406, 407, 408, and 409 of the Stillwater Project license require the implementation of fishway prescriptions from NMFS and FWS that include downstream passage for Atlantic salmon, American shad, alewife, blueback herring, and American eel, and upstream passage for American eel. These existing prescriptions would remain requirements of the license.

29. For the proposed amendment, NMFS and FWS, by letters filed May 23, 2012, and May 29, 2012, respectively, request that a reservation of authority to prescribe fishways

[11] *See* Order Approving Cultural Resources Management Plans, 89 FERC ¶ 62,161.

[12] *See* EA at 8 and 88-90.

[13] 16 U.S.C. § 811 (2006).

under section 18 be included in any license amendment issued for the project. Consistent with Commission policy, ordering paragraph (H) modifies the language of existing Article 409 which reserves the Commission's authority to require fishways that may be prescribed by the Secretaries of Interior or Commerce for the Stillwater Project in the future.

Magnuson-Stevens Fishery Conservation and Management Act

30. The Magnuson-Stevens Fishery Conservation and Management Act requires federal agencies to consult with NMFS on all actions that may adversely affect Essential Fish Habitat (EFH).

31. The licensee filed its assessment of effects on EFH on October 7, 2011. Commission staff concluded that amending the project licenses would not likely adversely affect EFH for Atlantic salmon. In comments filed August 8, 2012, NMFS stated that it disagrees with staff's conclusion because the construction and operation of the new powerhouse would result in adverse alteration of essential fish habitat; however, NMFS found that the proposed mitigation measures are sufficient and indicated no further consultation is required.

Recommendations Pursuant to Section 10(j) of the FPA

32. Section 10(j) of the FPA[14] requires the Commission to include license conditions based upon recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act,[15] to "adequately and equitably protect, mitigate damages to, and enhance, fish and wildlife (including related spawning grounds and habitat)" affected by the project. In response to the Commission's March 30, 2012 notice, NMFS and Interior filed on May 23, 2012, and May 29, 2012, respectively, a total of six recommendations under section 10(j) of the FPA. These recommendations include: (1) operate the project run-of-river; (2) develop fish passage effectiveness plans; (3) provide for agency review of fishway design, effectiveness plans, and operation and maintenance plans; (4) provide project access to NMFS to monitor the construction and operation of fish passage facilities; (5) monitor flows in the Stillwater Branch of the Penobscot River; and (6) define the downstream migration seasons for various fish species. Of NMFS' and Interior's six recommendations, we consider the first two of them to fall within the scope of section 10(j). Recommendations (3) through (6) fall outside the scope of section 10(j) because they are not specific measures to

[14] 16 U.S.C. § 803(j) (2006).

[15] 16 U.S.C. §§ 661 (2006) *et seq*.

protect, mitigate, or enhance fish and wildlife resources and, therefore, we consider them below under section 10(a) of the FPA.

33. NMFS and FWS recommend the project operate in run-of-river mode. Article 401 of the license requires the licensee to operate the project in run-of-river mode and this aspect of the article is not being changed in this amendment. In addition, this is a condition of the water quality certification and, therefore a condition of the license as incorporated by ordering paragraph (I).

34. NMFS and FWS recommend the licensee develop an upstream and downstream fish passage effectiveness plan at the project. Article 417 requires the licensee to revise and implement the proposed Species Protection Plan and Atlantic Salmon Passage Study Plan which include the monitoring and evaluation of upstream and downstream fish passage effectiveness for Atlantic salmon (see discussion below). Monitoring and evaluation of fish passage effectiveness for other species is incorporated into a revised Article 408.

Recommendations Pursuant to Section 10(a) of the FPA

35. Section 10(a) of the FPA[16] requires that any project for which the Commission issues a license shall be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce; for the improvement and utilization of waterpower development; for the adequate protection, mitigation, and enhancement of fish and wildlife; and for other beneficial public uses, including irrigation, flood control, water supply, recreation, and other purposes.

36. The licensee's proposed environmental measures are described above. Below we discuss modifications to these measures as well as measures recommended by agencies, commenters, stakeholders, and Commission staff. We also address the four remaining recommendations made by NMFS under section 10(j) that are not specific measures to protect, mitigate damages to, or enhance fish and wildlife. These four recommendations are discussed and adopted in sections A, B, D, and F.

A. Agency Review of Plans

37. NMFS recommends the licensee allow at least 30 days for the resource agencies to review draft fishway designs, effectiveness plans, and operation and maintenance plans. This recommendation is implemented through the consultation specifications in each article requiring the particular plan.

[16] 16 U.S.C. § 803(a)(1) (2006).

B. Operation and Flow Compliance Monitoring

38. The proposed amendment would change the means by which the licensee complies with the operating requirements of its license. NMFS recommended that the licensee monitor flow in the Stillwater Branch of the Penobscot River. In addition, in NMFS' comments on the EA, questions arose regarding: how the licensee would comply with the flow and operational requirements of its license during maintenance activities; requirements for reporting deviations from the flow and operational requirements; and how minimum flow volumes are calculated and/or verified.[17] In the EA, Commission staff found that revising the Water Level Monitoring Plan required by Article 401[18] would enable the Commission to determine compliance with license requirements.[19] A revised plan would also address NMFS' recommendations and the concerns mentioned above. Consequently, ordering paragraph (E) amends Article 401 to require the licensee to file an Operation and Flow Compliance Monitoring Plan to replace the project's approved Water Level Monitoring Plan.

C. Dissolved Oxygen Monitoring

39. In the EA, Commission staff concluded that increasing the hydraulic capacity of the generating facilities at the Stillwater Project would reduce spill volumes, even with increased flow in the Stillwater Branch. Reduced spill volumes could contribute to dissolved oxygen (DO) concentrations downstream of the project being below the state water quality standards during the summer and early fall.[20] Article 415 requires the licensee to develop and implement a plan to conduct DO monitoring downstream of the Stillwater Project for at least the first year of project operation under the amended license.

---

[17] Staff notes that while Article 401 allows for the temporary modification of run-of-river during "approved maintenance activities" no such modification is permitted for the minimum flow requirements of Article 402 or fish passage flow requirements during the defined migration periods.

[18] *See* Order Approving Water Level Monitoring Plan, 85 FERC ¶ 62,119 (issued November 20, 1998).

[19] *See* EA at 38-39.

[20] *See* EA at 39-42.

D. Final Design of Fish Passage

40. The licensee stated that final fish passage designs would be completed in consultation with the resource agencies and Penobscot Indian Nation. NMFS recommended that the downstream migration period be defined as 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 spring runs that may occur) for American eel. In addition, the terms and conditions of NMFS' Opinion require the licensee to consult with NMFS on fish passage design plans at the 30, 60, and 90 percent design phases.

41. The fish migration periods recommended by NMFS are defined in license Article 406 and required by the existing Section 18 fishway prescriptions. The licensee does not propose any change to these migration periods. Below we add Article 416 to require the licensee to construct the new downstream fish passage facilities at Powerhouse B and operate these facilities during the migration periods recommended by NMFS (which are defined in license Article 406). Article 416 also requires the licensee to consult with NMFS, FWS, Maine DMR, Maine DIFW, and Penobscot Indian Nation on fish passage design plans at the 30, 60, and 90 percent design phases. In addition, we require the licensee to finalize the downstream fishway design at Powerhouse B in consultation with these entities and allow them a minimum of 30 days to review and comment prior to filing the final designs for Commission approval.

E. Fish Passage Effectiveness

42. Many of the comments on Commission staff's EA stressed the importance of monitoring and evaluating the effectiveness of the fish passage facilities to ensure the safe and effective passage of fish at the project. In addition, the terms and conditions of the Opinion require certain measures regarding fish passage effectiveness.

43. Article 408 of the license requires the licensee to file a plan to monitor the effectiveness of all the facilities and flows provided pursuant to Article 406 (which requires downstream fish passage facilities for Atlantic salmon, American shad, alewife, blueback herring, and American eel) and Article 407 (which requires upstream passage for American eel). The plan must be developed in consultation with the resource agencies and Penobscot Indian Nation.

44. The Species Protection Plan and corresponding Atlantic Salmon Passage Study Plan, filed June 8, 2012, were proposed by the licensee to establish performance standards for fish passage facilities and to monitor and evaluate the effectiveness of fish passage facilities with respect to Atlantic salmon. The proposed plans are inconsistent with several terms and conditions of the Opinion including the requirements to (1) develop a plan to study downstream kelt passage for three years, and (2) meet the fish

passage performance standards on an annual basis (rather than on an average of three years as proposed by the licensee). Therefore, Article 417[21] requires the licensee to revise the above plans to incorporate the terms and conditions of the Opinion. The plans should be revised in consultation with the agencies and Penobscot Indian Nation and filed for Commission approval.

45. We are also modifying Article 408 to remove references to Atlantic salmon and to require the licensee to monitor and evaluate the effectiveness of both the existing and new downstream fishways for diadromous species other than Atlantic salmon.

46. In the EA, Commission staff concluded that the proposed new powerhouse would change the location of one of the existing upstream eel passage facilities and has the potential to change the location where upstream migrating eels would congregate.[22] To address this concern, we modify Article 407 to require the licensee to develop an Eel Passage Location Study Plan, in consultation with the resource agencies and Penobscot Indian Nation, to study and verify where eels are congregating in order to locate the new upstream eel passage facility and ensure successful upstream passage. Article 407 also requires the licensee to develop a plan for the design, location, and operation of the fishway based on the results of the location monitoring. In addition, we modify Article 408 to require the licensee to revise the approved American Eel Upstream Assessment Plan,[23] as it pertains to the Stillwater Project, to evaluate the effectiveness of the upstream American eel passage facility at Powerhouse B.

F. Project Access

47. The NMFS also recommends that one of its engineers be allowed access to monitor the construction of fish passage facilities. This is being implemented through Article 418.

---

[21] On March 7, 2012, the licensee filed proposed license articles which correspond to the provisions of the Species Protection Plan. We note that an article requiring the implementation of the plan serves the same purpose as the proposed articles; in addition, we are requiring the licensee to revise the plans. Therefore, we are not including the proposed articles in this order.

[22] *See* EA at 57-58.

[23] *See* Order Approving American eel Upstream Assessment Plan under Articles 408, 409, 46 and Paragraph (E), 125 FERC ¶ 62,060, (issued October 16, 2008).

G. Bald Eagles

48. In the EA, Commission staff concluded that there are bald eagles that use habitat and are nesting in the project area and therefore, could be harmed (electrocuted) by the proposed new transmission lines.[24] Article 419 requires the licensee to construct new transmission lines in accordance with Avian Power Line Interaction Committee guidelines in order to prevent raptor electrocutions.

H. Revegetate following Construction

49. The licensee proposes to revegetate the temporary access road and laydown area that would be used during construction. The licensee states that some areas would be allowed to revegetate naturally and does not provide details regarding the methods that would be used to revegetate in other areas. In the EA, Commission staff concluded that the use of native species would be appropriate for restoring disturbed areas because they would likely provide greater value to wildlife.[25] Staff also concluded that measures should be taken to prevent the introduction and spread of invasive species in areas disturbed by construction activities. Article 421 requires the licensee to develop and implement a plan to revegetate disturbed areas with native species and to control invasive species.

I. Sensitive Species Protection

50. In the EA, Commission staff concluded that three state-listed species of concern, the hyssop-leaved fleabane, New England violet, and long-leaved bluet, occur in the project area and have the potential to be adversely impacted during construction.[26] Article 422 requires the licensee to develop a Sensitive Species Protection Plan to protect these plants.

J. Blasting Plan

51. The licensee proposes to develop and implement a blasting plan in order to avoid and minimize the potential effects of construction on fish and wildlife resources. However, the licensee did not indicate whether it would consult with the resource agencies while developing the plan. Article 301 requires the license to consult with Maine DIFW, Maine Department of Conservation, and FWS in the preparation of a

[24] *See* EA at 77-78.

[25] *See* EA at 72-73.

[26] *See* EA at 75-76.

blasting plan to avoid or minimize any adverse impacts to fish and wildlife resources, including bald eagles.

K. Fish Salvage during Construction

52. In the EA, Commission staff concluded that fish could potentially become trapped and stranded within the cofferdams and dewatered areas during construction.[27] In addition, the terms and conditions of NMFS' Opinion require the licensee to consult with NMFS regarding fish salvage prior to commencing construction. Article 420 requires the licensee to develop a Fish Salvage Plan to be implemented during construction activities. Cofferdam construction or dewatering of areas should not begin until the plan is filed with the Commission.

L. Mussel Relocation Plan

53. The licensee filed a Mussel Relocation Plan with its application to detail methods for the salvage and relocation of mussels found in dewatered areas. Ordering paragraph (L) approves this plan and requires its implementation.

Other Issues

54. Most of the comments received in response to the EA are resolved in the requirements and discussion above. Any outstanding comments are addressed in this section.

55. NMFS and FWS state that absent monitoring results, it is unclear how staff can conclude (in the EA) that the fish passage facilities would ensure minimal delay, mortality, or other adverse effects to fisheries as a result of the proposed amendments. While staff agrees that the rate of mortality, delay, passage, etc, will not be fully known until monitoring and effectiveness studies are complete, the license and this order require these facilities to be effective. If the studies identify that these facilities are not effective, the license and this order require the licensee, in consultation with the resource agencies and Penobscot Indian Nation, to determine what actions are necessary to remedy the issue. Therefore, staff can reasonably conclude that the facilities and associated requirements to monitor the effectiveness and to take action if facilities are found to be ineffective would ensure that these facilities minimize fisheries-related impacts of the project.

56. NMFS states that the EA should address climate change effects and specifically how flow allocations and water temperature may be affected by these changes and any

[27] *See* EA at 48.

implications for fish passage. Attempting to predict future flow scenarios that may occur due to climate change would be too speculative given the state of the science at this time. The licensee is required to maintain certain minimum flows, including flows for fish passage, and develop a plan to monitor those flows. The plan must include a provision to timely report any deviation from those flows to the resource agencies and the Commission. In addition, the licensee is required to monitor fish passage effectiveness over the life of the license. If there is a future need to modify project operations or facilities to accommodate changes to the flow regime or fish passage facilities because of climate change or other factors, it would be identified in the context of these requirements and the licensee would be required to file an application to amend the project license to modify any approved project facilities or operations.

Comprehensive Plans

57. Section 10(a)(2)(A)[28] of the FPA requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving waterways affected by the project.[29] Five plans address resources relevant to the Stillwater Project.[30] No conflicts were found.

Applicant's Plans and Capabilities

A. Conservation Efforts

58. Section 10(a)(2)(C) of the FPA requires the Commission to consider the electricity consumption improvement program of the applicant, including its plans, performance, and capabilities for encouraging or assisting its customers to conserve electricity cost effectively, taking into account the published policies, restriction, and requirements of state regulatory authorities.

59. The licensee is an independent power producer, not an electric utility, and, as such, is not required to address the energy efficiency improvement programs as required by Section 10(a)(2) of the FPA.

B. Safe Management, Operation, and Maintenance of the Project

60. Commission staff has reviewed the licensee's management, operation and maintenance of the Stillwater Project pursuant to the requirements of 18 C.F.R. Part 12 of

[28] 16 U.S.C. § 803(a)(2)(A) (2006).

[29] Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2012).

[30] *See* EA at 104 for a list of relevant comprehensive plans.

the Commission's regulations and the Commission's Engineering Guidelines and periodic Independent Consultant Safety Inspection Reports. We have determined that the proposed amendment should not prevent the licensee from safely managing, operating, and maintaining the project.

Project Economics

61. In determining whether to grant the license amendment, which would increase the project's total installed capacity, the Commission considers a number of public interest factors, including the economic benefits of project power. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in *Mead Corporation*,[31] the Commission uses current costs to compare the costs of the project and likely alternative power with no forecasts concerning potential future inflation, escalation, or deflation beyond the license amendment issuance date. The basic purpose of the Commission's economic analysis is to provide a general estimate of the potential power benefits and the costs of a project, and of reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license amendment.

62. Commission staff applied this analysis to the proposed Stillwater amendment. The proposed changes would result in an increase in annual generation of approximately 20,000 megawatt-hours (MWh). When the estimate of average annual generation increase is multiplied by the regional estimated alternative energy value of $35.68/MWh, the total value of the Stillwater Project's additional energy would be $1,068,010 annually. As proposed by the licensee with staff recommended measures and mandatory conditions, the levelized annual cost of implementing the proposed actions would be $1,251,620.[32] To determine whether the proposal is economically beneficial, the cost of the proposal is subtracted from the value of the energy gains. Therefore, the cost of the licensee's proposal, including total capital costs and generation benefits, would be approximately $183,610 annually.

Comprehensive Development

63. Sections 4(e) and 10(a)(1) of the FPA,[33] require the Commission to give equal consideration to power development purposes and to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of fish and

[31] 72 FERC ¶ 61,027 (1995).

[32] Assuming a 20 year financing period with an interest rate of six percent.

[33] 16 U.S.C. §§ 797(e) and 803(a)(1) (2006).

wildlife, the protection of recreational opportunities, and the preservation of other aspects of environmental quality. Any license issued shall be such as in the Commission's judgment would be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to issue this license amendment, and the terms and conditions included herein, reflect such consideration.

64. The EA for the licensee's proposal contains background information, analysis of impacts, and support for related license articles. The project would be safe if operated and maintained in accordance with the requirements of the license.

65. Based on staff's independent review and evaluation of the project, recommendations from resource agencies, and the no-action alternative, as documented in the EA, we have selected the licensee's proposal, with the staff-recommended measures, and find that it is best adapted to a comprehensive plan for improving or developing the Penobscot River.

66. We selected this alternative because: (1) issuance of the amendment would serve to maintain a beneficial and dependable source of electric energy; (2) the project with an increased installed capacity of 2,229 kW, would eliminate the need for an equivalent amount of fossil fuel produced energy and capacity, which helps conserve these nonrenewable resources and decreases atmospheric pollution; and (3) the proposed and staff-recommended environmental measures would protect project resources.

Administrative Conditions

A. Annual Charges

67. The licensee proposes to increase the installed capacity at the Stillwater Project by 2,229 kW. The Commission collects annual charges from licensees for administration of Part I of the FPA. These charges are based on the project's authorized installed capacity and the amendment of such requires the revision of the project's annual charges under Article 201. In accordance with 18 C.F.R section 11.1(c)(5) of the Commission's regulations, the assessments of annual charges for the additional capacity starts on the date of commencement of construction of such capacity. As such, Article 305 requires the licensee to file a report stating the date of commencement of construction of the authorized additional capacity.

B. Project Description

68. The licensee submitted, with its May 18, 2011 amendment application, a revised Exhibit A that describes the project. The revised Exhibit A conforms to the Commission's rules and regulations and is approved in ordering paragraph (K).

C. Exhibit Drawings

69. The Commission requires licensees to file sets of approved project drawings on microfilm and in electronic file format. Six new Exhibit F drawings were included with the amendment application. These drawings show the proposed powerhouse, intake, and fish passage facilities. Staff has reviewed these Exhibit F drawings and determined that they conform to the Commission's regulations and are approved by ordering paragraph (M). Article 204 requires the licensee to file the approved drawings in electronic and aperture card format.

70. The licensee did not submit a revised Exhibit G drawing with the application as it determined it to be unnecessary because the project boundary was not changing. However, the Commission's regulations state an Exhibit G must show the relative locations and physical interrelationships of principal project works and other features described in the Exhibit A. The proposed powerhouse and associated structures are principal project works, described in the Exhibit A, and should accordingly be shown on the Exhibit G drawings. Article 205 requires the licensee to file, for Commission approval, a revised Exhibit G showing the proposed structures.

71. In addition, Article 303 requires the licensee to submit as-built Exhibits A, F and G, as appropriate, to reflect the construction of the facilities approved in this order, within 90 days following the completion of construction activities.

D. Review of Final Plans and Specifications

72. Article 301 requires the licensee to provide the Commission's Division of Dam Safety & Inspections-New York Regional Office (D2SI-NYRO) with final contract drawings and specifications – together with a supporting design report consistent with the Commission's engineering guidelines. Article 302 requires the licensee to provide the Commission's D2SI-NYRO with cofferdam construction drawings. Article 304 requires the licensee to notify the Commission's D2SI-NYRO as soon as possible if changes to project facilities or operations are being proposed a result of environmental requirements.

E. License Term

73. Section 15(e) of the FPA[34] provides that a license should be issued for a term that the Commission determines to be in the public interest, but not less than 30 years or more than 50 years. The Commission's general policy is to establish 30-year terms for projects with little or no redevelopment, new construction, or environmental mitigation and

[34] 16 U.S.C. § 808(e).

enhancement measures; 40-year terms for projects with a moderate amount of such activities; and 50-year terms for projects with extensive measures.

74. A new license was issued for the Stillwater Project on April 20, 1998 for a period of 40 years. The license required a moderate amount of construction and environmental measures. In its application, the licensee proposes to extend the term of the Stillwater Project license by 10 years so that it would expire in 2048. Adding 10 years to the license term would result in a total license term of 50 years. As described above, the proposed amendment constitutes significant construction and environmental measures.

75. In addition, the extension would also serve to coordinate the expiration of this license with the expiration of the Orono Project license. This is consistent with Commission policy regarding the coordination of expiration dates of licenses of projects located in the same river basin.[35] Coordination of the expiration dates of the Stillwater and Orono Projects would make it possible to maximize future consideration of cumulative impacts of the two projects at the time of license expiration. Therefore, the license term is being extended by 10 years.

Conclusion

76. Commission staff concludes that the proposed amendment for the Stillwater Project, with the mitigation measures required by this order, would not constitute a major federal action significantly affecting the quality of the human environment. Therefore, the amendment application will be granted, as considered herein.

The Director orders:

(A) The license for the Stillwater Project No. 2712 is amended as provided by this order, effective the day this order is issued.

(B) The term of the license for the Stillwater Project No. 2712 is extended to March 31, 2048.

(C) Ordering paragraph (B) of the license is revised, in part, to read as follows:

(a) A main concrete gravity dam, totaling about 1,720 feet long, with a maximum height of 22 feet at crest elevation 91.65 feet National Geodetic Vertical Datum (NGVD), consisting of 13 sections: a non-overflow section, totaling 63 feet in length, which serves as an abutment and wingwall; a 381-foot-long section including a 60-foot-wide powerhouse B intake, and a 321-foot-long primary spillway section with a maximum

[35] 18 C.F.R. § 2.23.

height of 22 feet at a crest elevation of 91.65 feet NGVD topped with 3.0-foot-high, pin-supported flashboards;…

(b) A concrete and wooden powerhouse A, about 83.5-feet-long, 32-feet-wide, and 45-feet-high equipped with four horizontal generating units: three of which are rated at 450-kilowatts (kW) each, and one rated at 600 kW; a concrete and steel powerhouse B about 55-feet-long, 40-feet-wide, and 56-feet-high equipped with three 743 kW generating units; all totaling a rated capacity of 4,179 kW; two 12.5 kilovolt transmission lines, 50-feet-long and 300-feet-long from powerhouse A and B, respectively;…

(D) Article 201 of the license is revised to read as follows:

The Licensee shall pay the United States the following annual charges, effective as of the first day of the month in which this license is issued, for the purposes of reimbursing the United States for the costs of administering Part I of the Federal Power Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is as follows:

a. 1,950 kilowatts based on the authorized and currently existing capacity.

b. 4,179 kilowatts upon commencement of construction of the additional capacity authorized in this order.

(E) The last paragraph of Article 401 is deleted and replaced in its entirety with the following:

Within 9 months of issuance of this order, the licensee shall file, for Commission approval, an Operation and Flow Compliance Monitoring Plan to replace the approved Water Level Monitoring Plan. The Operation 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.

The plan shall include the following: (1) a detailed description of how the impoundment level, minimum flows, generation flows, and inflows will be measured or calculated in order to comply with the requirements of Articles 401, 402, and 406; (2) a maintenance plan to ensure that the methods remain accurate over time; (3) a provision to make flow and impoundment elevation data publicly available; (4) a provision to provide minimum flows at all times and impoundment elevations; (5) a description of how fish passage flows will be provided during the passage seasons defined in Articles 406, 407, and 416 and at all impoundment elevations; (6) a description of how the licensee will

minimize the level of impoundment fluctuation as required by Article 401; (7) a list and description of the "approved maintenance activities" mentioned in Article 401 (which allow for the temporary modification of run-of-river operation) including estimates for the frequency and duration that these activities occur; (8) a provision to notify the Commission, resource agencies, and Penobscot Indian Nation when deviations from license requirements occur; and (9) a provision to provide reports and data to the resource agencies and the Penobscot Indian Nation, the level of detail and timing/frequency of reporting to be determined in consultation with these entities.

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.

The licensee shall continue to implement the Water Level Monitoring Plan until the Operation and Flow Compliance Monitoring Plan is approved by the Commission.

(F) Article 407 is deleted in its entirety and replaced with the following:

Article 407. *Upstream American Eel Passage*. The licensee shall install and operate permanent upstream fish passage facilities at the Stillwater Project for American eel. Fishways shall be maintained and operated to maximize fish passage effectiveness throughout fish migration period(s) as defined below. The upstream migration period shall be defined as April 1 to November 30. The licensee shall keep the fishways in proper order and shall keep fishway areas clear of trash, logs, and material that would hinder passage. Anticipated maintenance shall be performed in sufficient time before a migratory period such that fishways can be tested and inspected and will operate effectively prior to and during the migratory periods.

Within 1 year of issuance of this order, the licensee shall file, for Commission approval, an Eel Passage Location Study Plan to assess the appropriate location for the siting of the new upstream eel fishway at Powerhouse B. The plan shall be developed in consultation and cooperation with the U.S. Fish and Wildlife Service (FWS), the Penobscot Indian Nation, Maine Department of Inland Fisheries and Wildlife (Maine DIFW), Maine Department of Marine Resources (Maine DMR), and National Marine Fisheries Service (NMFS). The plan shall include, but not be limited to: methods for monitoring the river reach immediately below the project for congregating American eel during at least one full upstream migration season following commencement of

Powerhouse B operation; and a provision for reporting the results to the consulted entities within 60 days of completing the study.

Within 6 months of completion of the location study, the licensee shall file, for Commission approval, a Fishway Plan. The Fishway Plan shall include but not be limited to: (1) the location and design specifications of the upstream passage facility at Powerhouse B, based on results of the location monitoring study; (2) a schedule for installing the facility so that it is operational as soon as possible, but no later than prior to the third upstream migration season following commencement of Powerhouse B operation; and (3) procedures for operating and maintaining the facility. The plan shall be developed in consultation and cooperation with the FWS, Penobscot Indian Nation, Maine DIFW, Maine DMR, and NMFS. No construction of upstream fish passage facilities shall begin until the licensee is notified by the Commission that the plan is approved.

Following the development of the Eel Passage Location Study Plan and Fishway Plan in consultation with the resource agencies and Penobscot Indian Nation, the licensee shall provide a copy of the proposed plans to these entities and allow them a minimum of 30 days to review and comment on the plan. The final plans 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 filings. 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 plans in order to ensure compliance with license requirements and protect environmental resources.

The licensee shall continue to operate and maintain the upstream fish passage facility at Powerhouse A in accordance with the approved Design and Plan for Upstream Eel Passage Facilities as it pertains to the facility at Stillwater Powerhouse A.

(G) Article 408 is deleted in its entirety and replaced with the following:

Article 408. *Fish Passage Effectiveness Monitoring*. Within 1 year of issuance of this order, the licensee shall file, for Commission approval, a plan to monitor and evaluate the effectiveness of the facilities and flows required by Articles 406, 407, and 416 as those articles pertain to the following species: American shad, alewife, blueback herring, and American eel. The results of these monitoring studies shall provide a basis for recommending future structural or operational changes at the project.

Within 90 days of a Commission order approving the Fishway Plan under Article 407, the licensee shall file, for Commission approval, a revised American eel Upstream Assessment Plan, to include a provision to monitor and evaluate the effectiveness of the upstream American eel passage facility at Powerhouse B.

The plans shall be developed in consultation and cooperation with the U.S. Fish and Wildlife Service (FWS), the Penobscot Indian Nation, Maine Department of Inland Fisheries and Wildlife (Maine DIFW), Maine Department of Marine Resources (Maine DMR), and National Marine Fisheries Service (NMFS). The plans shall include, but not be limited to: (1) the methods, locations, and equipment used for the monitoring; (2) how effectiveness will be quantified and evaluation criteria for determining if passage is adequate; (3) a provision to provide the data and a report to the consulted entities and a schedule for consultation regarding the results; and (4) a schedule for implementing the plan.

Following the development of the Effectiveness Monitoring Plan and revised American eel Upstream Assessment Plan in consultation with the resource agencies and Penobscot Indian Nation, the licensee shall provide a copy of the proposed plans to these entities and allow them a minimum of 30 days to review and comment on the plans. The final plans 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 filings. 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 plans in order to ensure compliance with license requirements and protect environmental resources.

If the results of the monitoring indicate that changes in project structures or operations, including alternative flow releases, are necessary to protect fish resources, the licensee shall first consult with the entities listed above to develop recommended measures, and then file its proposal with the Commission, for approval. The Commission reserves its authority to require the licensee to modify project structures or operations to protect and enhance aquatic resources.

(H) Article 409 is deleted in its entirety and replaced with the following:

Article 409. *Reservation of Authority*. Authority is reserved by the Commission to require the licensee to construct, operate, and maintain, or to provide for the construction, operation, and maintenance of, such fishways as may be prescribed under Section 18 of the Federal Power Act by the Secretary of the Interior and/or the Secretary of Commerce.

(I) The license shall be subject to the conditions submitted on August 23, 2011, by the Maine Department of Environmental Protection under section 401(a)(1) of the Clean Water Act, 33 U.S.C. §1431(a)(1) (2006), as those conditions are set forth in Appendix A to this order.

(J) The license shall be subject to the incidental take terms and conditions of the Biological Opinion, filed August 31, 2012, as they pertain to the Stillwater Project,

submitted by the National Marine Fisheries Service under section 7 of the Endangered Species Act, as those conditions are set forth in Appendix B to this order.

(K) The Exhibit A filed with the amendment application on May 18, 2011, superseding the previous Exhibit A, is approved and made part of the license.

(L) The licensee's Mussel Relocation Plan, filed with the amendment application on May 18, 2011, is approved and shall be implemented upon commencement of construction.

(M) The following exhibit drawings filed on May 18, 2011, for the Stillwater Project conform to the Commission's rules and regulations and are approved and made part of the license.

EXHIBIT	FERC DRAWING No.	FERC DRAWING TITLE
F-3	P-2712-1011	B Mill Site Plan
F-4	P-2712-1012	Powerhouse B Location Plan
F-5	P-2712-1013	Powerhouse B Floor Plan
F-6	P-2712-1014	Powerhouse and Intake B Longitudinal Section
F-7	P-2712-1015	Powerhouse B South Exterior Elevation
F-8	P-2712-1016	Forebay B and Spillway Wall Sections

(N) The license is subject to the following additional articles:

Article 204. *Approved Exhibit Drawings.* Within 45 days of the date of issuance of this order, the licensee shall file the approved exhibit drawings in aperture card and electronic file formats.

a) Three sets of the approved exhibit drawings shall be reproduced on silver or gelatin 35mm microfilm. All microfilm shall be mounted on type D (3-1/4" x 7-3/8") aperture cards. Prior to microfilming, the FERC Project-Drawing Number (i.e., P-2712-1011, etc) shall be shown in the margin below the title block of the approved drawings. After mounting, the FERC Drawing Number shall be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (i.e., F-3 etc.), Drawing Title, and date of this order shall be typed on the upper left corner of each aperture card (See Figure 1).

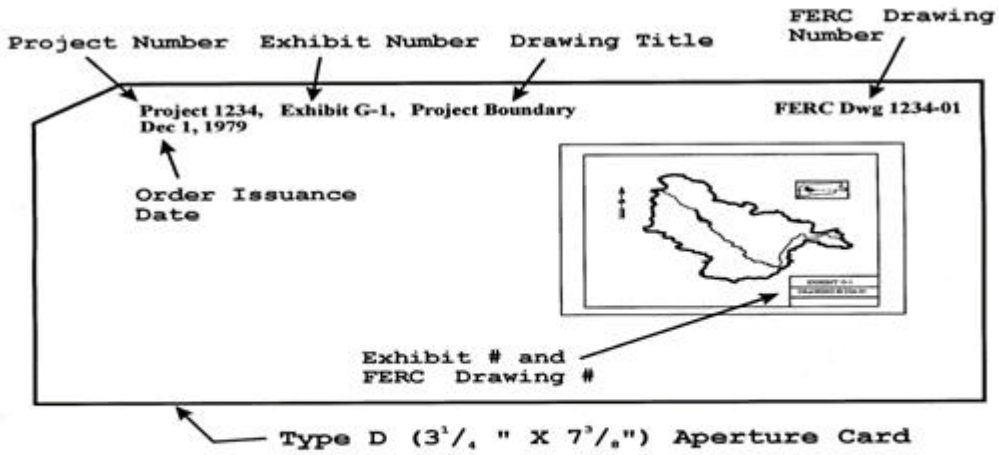

Figure 1 Sample Aperture Card Format

Two of the sets of aperture cards shall be filed with the Secretary of the Commission, ATTN: OEP/DHAC. The third set shall be filed with the Commission's Division of Dam Safety and Inspections New York Regional Office.

b) The licensee shall file two separate sets of exhibit drawings in electronic raster format with the Secretary of the Commission, ATTN: OEP/DHAC. A third set shall be filed with the Commission's Division of Dam Safety and Inspections New York Regional Office. Exhibit F drawings must be identified as Critical Energy Infrastructure Information material under 18 C.F.R. § 388.113(c)(2012). Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this order, and file extension in the following format [2712-1011, F-3, B Mill Site Plan, MM-DD-YYYY.TIF]. Electronic drawings shall meet the following format specification:

IMAGERY - black & white raster file
FILE TYPE – Tagged Image File Format, (TIFF) CCITT Group 4
RESOLUTION – 300 dpi desired, (200 dpi min)
DRAWING SIZE FORMAT – 24” x 36” (min), 28” x 40” (max)
FILE SIZE – less than 1 MB desired

Article 205. *Revised Exhibit G Drawings.* Within 60 days of the date of this order, the licensee shall file, for Commission approval, revised Exhibit G drawings showing all principal project works. The drawings must conform to 18 C.F.R. §§ 3.39 and 4.41(h).

Article 301. *Contract Plans and Specifications.* At least 60 days prior to start of construction, the licensee shall submit one copy of its final contract plans and specifications and supporting design report to the Commission's 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 must also include as part of preconstruction requirements: a Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, Soil Erosion and Sediment Control Plan, and Blasting Plan. The Soil Erosion and Sediment Control Plan shall be in compliance with the terms and conditions of the Water Quality Certification and the Biological Opinion. The licensee shall develop the Blasting Plan in consultation and cooperation with the Maine Department of Inland Fisheries and Wildlife, Maine Department of Conservation, and the U.S. Fish and Wildlife Service. The plan shall include measures to avoid or minimize any adverse impacts to fish and wildlife resources, including bald eagles. Following the development of the Blasting Plan in consultation and cooperation with the resource agencies, 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 shall be filed with the Commission and must include documentation of consultation including copies of any comments received. 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.

Article 302. *Cofferdam Construction Drawings and Deep Excavations*. Before starting construction, the licensee shall review and approve the design of contractor-designed cofferdams and deep excavations and shall make sure construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of the cofferdam, the licensee shall 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 shall be a courtesy copy to the Commission's Director, D2SI), of the approved cofferdam construction drawings and specifications and the letters of approval.

Article 303. *As–Built Drawings*. Within 90 days of completion of all construction activities authorized by this license, the licensee shall file for Commission approval, revised exhibits A, F, and G, as applicable, to describe and show those project facilities as built. A courtesy copy shall 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.

Article 304. *Project Modification Resulting From Environmental Requirements.* The planning and design of any permanent or temporary modification which may affect the project works or operations shall be coordinated as early as feasible with the Commission’s Division Dam Safety and Inspections New York Regional Office (D2SI-

NYRO). This includes those modifications resulting from license environmental requirements. The licensee shall notify the D2SI-NYRO of the proposed modification at the beginning of the planning and design phase. This schedule is to allow sufficient review time for the Commission to insure that the proposed work does not adversely affect the project works, dam safety or project operation.

Article 305. *Commencement of Construction of Additional Capacity*. The licensee shall file a report stating the date of commencement of construction of the additional authorized capacity, within 90 days of such date. Such commencement date will be the effective date for the annual charges under license Article 201b.

Article 415. *Dissolved Oxygen Monitoring Plan*. Within 1 year of issuance of this order, the licensee shall file, for Commission approval, a Dissolved Oxygen Monitoring Plan. The licensee shall develop the plan in consultation and cooperation 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. The plan shall include, but is not limited to, the following: (1) a provision to monitor dissolved oxygen concentrations downstream of the Stillwater Project from June 1 through September 30 for at least the first year of operation of the new powerhouse; (2) a description of the monitoring location(s) and equipment to be used; and (3) a schedule for providing the data and a report to the resource agencies and the Commission. If the monitoring results indicate that dissolved oxygen standards are not being met, the report shall include measures for addressing low dissolved oxygen conditions.

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 to protect environmental resources.

Article 416. *Downstream Fish Passage at Powerhouse B.* The licensee shall construct and operate a downstream fishway at Powerhouse B. The licensee shall operate the fishway during the migration seasons defined in Article 406 beginning the first downstream passage season following commencement of operation of Powerhouse B. Within 4 months of the date of this order the licensee shall file, for Commission approval: (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 the

new powerhouse is operational; and (3) procedures for operating and maintaining the facilities. The licensee shall prepare the designs, schedule, and operations and maintenance procedures of the new downstream fishway for Powerhouse B in consultation and cooperation with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, Penobscot Indian Nation, Maine Department of Inland Fisheries and Wildlife, and Maine Department of Marine Resources.

The licensee shall consult with these entities at the 30, 60, and 90 percent design phases. After developing the design, schedule, and operations and maintenance procedures in consultation with the resource agencies and Penobscot Indian Nation, the licensee shall provide a copy of the final design, schedule, and operations and maintenance procedures to these entities and allow a minimum of 30 days to review and comment. The final design drawings, schedule, and operations and maintenance procedures 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 proposed facilities and schedule in order to ensure compliance with license requirements and protect environmental resources.

The licensee shall not commence construction of the fish passage facilities until the design has been approved by the Commission. The licensee shall make any modification to constructed facilities required by the approved design.

Article 417. *Species Protection Plan*. Within 1 year of issuance of this order, the licensee shall file, for Commission approval, a revised Species Protection Plan, including the Atlantic Salmon Passage Study Plan. The revised plan shall incorporate the terms and conditions of the National Marine Fisheries Service's Biological Opinion and include a schedule for providing data and reports to the consulted entities. The plan shall be revised in consultation with the National Marine Fisheries Service, the U.S. Fish and Wildlife Service, the Penobscot Indian Nation, the Maine Department of Inland Fisheries and Wildlife, and the Maine Department of Marine Resources.

Following the revision 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 its authority to require the

licensee to modify the plan, project structures, or operations in order to protect and enhance aquatic resources.

Article 418. *Project Access.* The licensee shall provide access to project lands and project works, including fish passage facilities, to representatives of the National Marine Fisheries Service, U.S. Fish and Wildlife Service, Penobscot Indian Nation, Maine Department of Inland Fisheries and Wildlife, and Maine Department of Marine Resources.

Article 419. *Raptor Electrocution Protection.* The licensee shall construct new transmission lines in accordance with Avian Power Line Interaction Committee guidelines, "*Suggested Practices for Raptor Protection – State of the Art in 2006,"* in order to minimize raptor electrocutions.

Article 420. *Fish Salvage Plan*. Prior to commencing construction of the cofferdams or dewatering of any areas, the licensee shall file, with the Commission, a Fish Salvage Plan to be implemented during construction activities. The plan shall be developed in cooperation and consultation with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, Penobscot Indian Nation, Maine Department of Inland Fisheries and Wildlife, and Maine Department of Marine Resources. Cofferdam construction or dewatering of areas shall not begin until the plan is filed with the Commission.

The plan shall incorporate relevant terms and conditions from the National Marine Fisheries Service's Biological Opinion and include, but is not limited to: (1) procedures for monitoring dewatered areas for stranded fish; (2) procedures for salvaging any stranded fish and transferring them to a safe area for release; and (3) a provision to report any stranded fish and actions taken to the resource agencies and the Penobscot Indian Nation.

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.

Article 421. *Revegetation and Invasive Species Control Plan.* Prior to commencing construction activities, the licensee shall file, with the Commission, a

Revegetation and Invasive Species Control Plan. The plan shall be developed in consultation with Maine Department of Inland Fisheries and Wildlife and Maine Department of Conservation and shall include, but is not limited to, the following: (1) a provision to revegetate disturbed areas using native species; (2) a provision to use weed-free materials for erosion prevention and sediment control measures; (3) measures to prevent the transportation of weeds into the project area on construction vehicles and; (4) conducting post-construction surveys to identify invasive species in areas disturbed by construction activities and implementing measures to control any if found.

Following the development of the plan in consultation with the resource agencies, 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, 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. Construction may not begin until the plan is filed with the Commission.

Article 422. *Sensitive Plant Protection Plan*. Prior to commencing construction activities, the licensee shall file, with the Commission, a Sensitive Species Protection Plan in order to protect the hyssop-leaved fleabane, New England violet, and long-leaved bluet. The plan shall be developed in consultation with Maine Department of Inland Fisheries and Wildlife and Maine Department of Conservation and include measures to: (1) identify and mark areas to be avoided during construction; (2) educate construction contractors and workers to avoid sensitive areas; (3) consult with Maine Department of Inland Fisheries and Wildlife and Maine Department of Conservation to determine if there are low-cost, effective means to recover/transplant affected plants; (4) conduct a post-construction survey for sensitive plants one year following project completion; and (5) determine whether, and at what threshold, additional mitigation would be necessary.

Following the development of the plan in consultation with the resource agencies, 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, 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. Construction may not begin until the plan is filed with the Commission.

(O) The licensee shall serve copies of any Commission filing required by this order on any entity specified in this order to be consulted on matters related to that filing. Proof of service on these entities must accompany the filing with the Commission.

(P) 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.

Steve Hocking
Chief, Environmental Review Branch
Division of Hydropower Administration
and Compliance

APPENDIX A

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

401 WATER QUALITY CERTIFICATION AMENDMENT FOR THE STILLWATER PROJECT (FERC NO. 2712)

Filed August 23, 2011

1. STANDARD CONDITIONS

The Standard Conditions of Approval for projects under the Maine Waterway Development and Conservation Act, a copy attached.

2. EXISTING CERTIFICATION CONDITIONS

All existing conditions in the water quality certification for the continued operation of the Stillwater Hydroelectric Project, as contained in Department Order#L-16773-33-A-N dated December 29, 1992, including any subsequent amendments, modifications and condition compliances, shall remain in effect.

3. EROSION CONTROL

A. The applicant shall prepare, submit, and implement a final erosion and sedimentation control plan for all approved construction activities. This plan shall be reviewed by and must receive approval of the Department prior to the initiation of in-stream activities.

B. In addition to any specific erosion and sedimentation control measures that are included in the plan approved by the Department under Part A of this condition, the applicant and its agents shall take all necessary measures to ensure that their activities do not result in erosion or sedimentation into the river during or following the approved activities.

4. SPOILS DISPOSAL

All spoils removed from the construction area shall be reused or otherwise disposed of in accordance with the Maine Solid Waste Management Regulations.

5. CONCRETE CURING

Concrete shall be precast and cured at least three weeks before placing in the water, or where necessary, shall be placed in forms and shall cure at least one week prior to contact with surface water. No washing of tools, forms, etc. shall occur in or adjacent to the waterway.

6. TEMPORARY FILL SPECIFICATIONS

Temporary fill placed in the waterway or within the 100-year floodway boundaries of the waterway to provide temporary equipment access shall consist of clean granular material free from vegetable matter, lumps or balls of clay and other deleterious substances. That portion passing a 3-inch (No. 200) sieve shall not exceed 10% fines, by weight. Those portions of the fill that come into contact with moving water shall be protected by filter fabric and/or riprap. All temporary fill shall be removed from the waterway following completion of the approved construction activities.

7. MINIMUM FLOW RELEASES

The minimum flow release stipulated in the Department's water quality certification for the Stillwater Hydroelectric Project (Department Order #L-16773-33-A-N dated December 29, 1992, as modified by Department Order #L-16773-33-F-M dated January 13, 2005) shall be maintained whenever possible during and following the proposed construction activities. The required minimum flow releases may be temporarily reduced or suspended as necessary to facilitate construction activities with the approval of the Department of Inland Fisheries and Wildlife and the Department of Marine Resources.

MAINE WATERWAY DEVELOPMENT AND CONSERVATION ACT
STANDARD CONDITIONS OF APPROVAL APPLICABLE TO ALL PERMITS

1. Limits of Approval. This approval is limited to and includes the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. All variances from the plans and proposals contained in said documents are subject to the review and approval of the Department of Environmental Protection prior to implementation.

2. Noncompliance. Should the project be found, at any time, not to be in compliance with any of the conditions of this approval, or should the permittee construct or operate this project in any way other than specified in the application or supporting documents, as modified by the conditions of this approval, then the terms of this approval shall be considered to have been violated.

3. Compliance with all Applicable Laws. The permittee shall secure and appropriately comply with all applicable federal, state and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation.

4. Inspection and Compliance. Authorized representatives of the Department of Environmental Protection or the Attorney General shall be granted access to the premises of the permittee at any reasonable time for the purpose of inspecting the construction or operation of the project and assuring compliance by the permittee with the conditions of this approval.

5. Initiation and Completion of Construction. If construction is not commenced within 3 years and completed within 7 years from the date of issuance of this permit, this approval shall lapse, unless a request for an extension of these deadlines has been approved by the Department of Environmental Protection.

6. Construction Schedule. Prior to construction, the permittee shall submit a final construction schedule for the project to the Department of Environmental Protection.

7. Approval Included in Contract Bids. A copy of this approval must be included in or attached to contract bid specifications for the project.

8. Approval Shown to Contractor. Work done by a contractor pursuant to this approval shall not begin before a copy of this approval has been shown to the contractor by the permittee.

9. Notification of Project Operation. The permittee shall notify the Department of Environmental Protection of the commencement of commercial operation of the project within 10 days prior to such commencement.

10. Assignment or Transfer of Approval. This approval shall expire upon the assignment or transfer of the property covered by this approval unless written consent to transfer this approval is obtained from the Department of Environmental Protection. A "transfer" is defined as the sale or lease of property which is the subject of this approval, or the sale of 50 percent or more of the stock of or interest in a corporation or a change in a general partner of a partnership which owns the property subject to this approval.

APPENDIX B

DEPARTMENT OF COMMERCE
NATIONAL MARINE FISHERIES SERVICE

REASONABLE AND PRUDENT MEASURES
AND TERMS AND CONDITIONS OF THE INCIDENTAL TAKE STATEMENT
AS PART OF THE BIOLOGICAL OPINION FOR THE
STILLWATER PROJECT (FERC NO. 2712)

Filed August 31, 2012

Reasonable and Prudent Measures

1. FERC must ensure, through enforceable conditions of the project licenses, that Black Bear minimize incidental take from all in-water and near-water activities by applying best management practices to the proposed action that avoid or minimize adverse effects to water quality and aquatic resources.

2. To minimize incidental take from project operations, FERC must require that Black Bear measure and monitor the performance standards contained in the June 7, 2012 Species Protection Plan (SPP) in a way that is adequately protective of listed Atlantic salmon.

3. FERC must ensure, through enforceable conditions of the project licenses, that Black Bear complete an annual monitoring and reporting program to confirm that Black Bear is minimizing incidental take and reporting all project-related observations of dead or injured salmon or sturgeon to NMFS.

4. If the new Milford upstream fish lift is not operational prior to the Veazie Dam removal, or if it is proven ineffective during upstream monitoring studies, FERC must require Black Bear to install a broodstock collection device at the existing Denil fishway.

Terms and Conditions

1. To implement reasonable and prudent measure #1, FERC and ACOE must require Black Bear to do the following:

    a. Hold a pre-construction meeting with the contractor(s) to review all procedures and requirements for avoiding and minimizing impacts to Atlantic salmon and to emphasize the importance of these measures for protecting salmon.

b. Black Bear must notify NMFS one week before in-water work begins.

c. Use Best Management Practices that will minimize concrete products (dust, chips, larger chunks) mobilized by construction activities from entering flowing or standing waters. Best practicable efforts shall be made to collect and remove all concrete products prior to rewatering of construction areas.

d. Employ erosion control and sediment containment devices at the Stillwater, Orono and Milford Dams construction sites. During construction, all erosion control and sediment containment devices shall be inspected weekly, at a minimum, to ensure that they are working adequately. Any erosion control or sediment containment inadequacies will be immediately addressed until the disturbance is minimized.

e. Provide erosion control and sediment containment materials (e.g., silt fence, straw bales, aggregate) in excess of those installed, so they are readily available on site for immediate use during emergency erosion control needs.

f. Ensure that vehicles operated within 150 feet (46 m) of the construction site waterways will be free of fluid leaks. Daily examination of vehicles for fluid leaks is required during periods operated within or above the waterway.

g. During construction activities, ensure that BMPs are implemented to prevent pollutants of any kind (sewage, waste spoils, petroleum products, etc.) from contacting water bodies or their substrate.

h. In any areas used for staging, access roads, or storage, be prepared to evacuate all materials, equipment, and fuel if flooding of the area is expected to occur within 24 hours.

i. Perform vehicle maintenance, refueling of vehicles, and storage of fuel at least 150 feet (46 m) from the waterway, provided, however, that cranes and other semi-mobile equipment may be refueled in place.

j. At the end of each work shift, vehicles will not be stored within, or over, the waterway.

k. Prior to operating within the waterway, all equipment will be cleaned of external oil, grease, dirt, or caked mud. Any washing of equipment shall be conducted in a location that shall not contribute untreated wastewater to any flowing stream or drainage area.

l. Use temporary erosion and sediment controls on all exposed slopes during any hiatus in work exceeding seven days.

m. Place material removed during excavation only in locations where it cannot enter sensitive aquatic resources.

n. Minimize alteration or disturbance of the streambanks and existing riparian vegetation to the greatest extent possible.

o. Remove undesired vegetation and root nodes by mechanical means only. No herbicide application shall occur.

p. Mark and identify clearing limits. Construction activity or movement of equipment into existing vegetated areas shall not begin until clearing limits are marked.

q. Retain all existing vegetation within 150 feet (46 m) of the edge of the bank to the greatest extent practicable.

2. To implement reasonable and prudent measure #2, FERC and ACOE must require Black Bear to do the following:

a. Contact NMFS within 24 hours of any interactions with Atlantic salmon, Atlantic sturgeon or shortnose sturgeon, including non-lethal and lethal takes (Jeff Murphy: by email (Jeff.Murphy@noaa.gov) or phone (207) 866-7379 and the Section 7 Coordinator (incidental.take@noaa.gov)

b. In the event of any lethal takes, any dead specimens or body parts must be photographed, measured, and preserved (refrigerate or freeze) until disposal procedures are discussed with NMFS.

c. Notify NMFS of any changes in project and fishway operations (including maintenance activities such as flashboard replacement and draft tube dewatering) at the Orono, Stillwater, Milford, West Enfield, and Medway Projects.

d. Submit a fish evacuation protocol to NMFS at least two weeks prior to the commencement of in-water work. Daily visual surveys will be conducted by qualified personnel to verify that there are no Atlantic salmon within the project area during the installation and removal of any in-water cofferdam or bypass structure. If cofferdams overtop due a high flow event, the cofferdam will be resurveyed for adult Atlantic salmon prior to dewatering.

If any Atlantic salmon are observed within the enclosed cofferdam they should be removed, either by herding or by capture. Handling should be minimized to the extent possible.

3. To implement reasonable and prudent measure #3, the FERC must require that Black Bear do the following:

   a. Require Black Bear to measure the survival performance standard for downstream migrating Atlantic salmon smolts and kelts at the Orono, Stillwater, Milford, and West Enfield Projects of 96% (within the lower and upper 75% confidence limit) using a scientifically acceptable methodology.
      i. That is, 96% of downstream migrating smolts and kelts approaching the dam structure survive passing the project, which would include from 200 meters upstream of the trashracks and continuing downstream to the point where delayed effects of passage can be quantified. Black Bear must coordinate with NMFS in selecting an adequate location for the downstream receivers.
      ii. Passage must occur within 24 hours of a smolt or kelt approaching within 200 meters of the trashracks for it to be considered a successful passage attempt that can be applied towards the performance standard.
      iii. The survival standard is considered achieved if each year of a three year study period achieves at least 96%, based on a 75% confidence interval, at each project. A Cormack-Jolly-Seber (CJS) model must be used to determine if the survival standard has been achieved and present 75% error bounds around survival estimates.
      iv. Black Bear must consult with NMFS concerning the application of appropriate statistical methodology and must provide an electronic copy of the CJS model(s) and data to NMFS.

   b. All tags released in the system should have codes that are not duplicative of tags used by other researchers in the river, including university, state, federal and international tagging programs.

   c. Submit a study plan for a one year adult upstream study at the West Enfield Project to be conducted ten years post implementation of the SPP.

   d. Submit a study plan for a three year downstream kelt study at the Orono, Stillwater, Milford, and West Enfield Projects.

4. To implement reasonable and prudent measure #4, the FERC must require that Black Bear do the following:

a. Require that Black Bear seek comments from NMFS on any fish passage design plans at the 30%, 60%, and 90% design phase. Also, allow NMFS to inspect fishways at the projects at least annually.

b. Submit annual reports at the end of each calendar year summarizing the results of proposed action and any takes of listed sturgeon or Atlantic salmon to NMFS by mail (to the attention of the Section 7 Coordinator, NMFS Protected Resources Division, 55 Great Republic Drive, Gloucester, MA 01930 and to incidental.take@noaa.gov.