

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

PPL Maine, LLC

Project Nos. 2403-048, 2534-068,
2666-023, and 2712-055

Bangor-Pacific Hydro Associates

Project No. 2600-056

NOTICE OF AVAILABILITY OF FINAL ENVIRONMENTAL ASSESSMENT

(April 18, 2005)

In accordance with the National Environmental Policy Act of 1969 and the Federal Energy Regulatory Commission (Commission or FERC) regulations contained in the Code of Federal Regulations (CFR) (18 CFR Part 380 [FERC Order No. 486, 52 F.R. 47897]), the Office of Energy Projects staff (staff) reviewed the applications for amendment of licenses for the Veazie Project, which is located on the Penobscot River in Penobscot County, Maine; the Milford Project, which is located on the Penobscot River and Stillwater Branch in Penobscot County, Maine; the West Enfield Project which is located on the Penobscot River in Penobscot County, Maine; the Stillwater Project, which is located on the Stillwater Branch in Penobscot County, Maine; and the Medway Project, which is located on the West Branch Penobscot River in Penobscot County, Maine, and prepared a final environmental assessment (FEA) for the projects. In this FEA, staff analyzes the potential environmental effects of the proposed license amendments and concludes that the amendments would not constitute a major federal action significantly affecting the quality of the human environment.

A copy of the FEA is available for review at the Commission in the Public Reference Room, or it may be viewed on the Commission's website at <http://www.ferc.gov> using the Ae-Library@ link. Enter the docket number (p-2403) in the docket number field to access the document. For assistance, call (202) 502-8222 or (202) 502-8659 (for TTY).

Magalie R. Salas
Secretary

**FINAL ENVIRONMENTAL ASSESSMENT ON
AMENDMENT OF LICENSES**

**Veazie Hydroelectric Project
FERC No. 2403-048**

**Milford Hydroelectric Project
FERC No. 2534-068**

**West Enfield Hydroelectric Project
FERC No. 2600-056**

**Medway Hydroelectric Project
FERC No. 2666-023**

**Stillwater Hydroelectric Project
FERC No. 2712-055**



**Federal Energy Regulatory Commission
Office of Energy Projects
Division of Hydropower Administration and Compliance
Washington, DC**

April 2005

FINAL ENVIRONMENTAL ASSESSMENT

<u>Project</u>	<u>Licensee</u>	<u>Project Number</u>
Veazie Hydroelectric Project	PPL Maine LLC	FERC No. 2403-048
Milford Hydroelectric Project	PPL Maine LLC	FERC No. 2534-068
West Enfield Project	Bangor-Pacific Hydro	FERC No. 2600-056
Medway Project	PPL Maine LLC	FERC No. 2666-023
Stillwater Project	PPL Maine LLC	FERC No. 2712-055

1.0 BACKGROUND

PPL Maine, LLC and Bangor-Pacific Hydro Associates, the licensees for these five projects, filed on June 25, 2004, requests for Commission approval of an amendment application for each project listed above in accordance with section IV of the Lower Penobscot River Multiparty Settlement Agreement (MPA or Agreement) filed with the Commission on June 25, 2004. The licensees filed corrections to the applications by letter dated July 13, 2004.

The Agreement, which was filed for information purposes only, calls for phased implementation (see Appendix A for a summary), that would allow the licensees and other parties to the Agreement to implement various conditions, including transfer and surrender of some licenses,¹ and increased generating capacity at other projects. The Agreement would ultimately result in restoring access to more than 500 miles of fish habitat in the Penobscot River Basin for Atlantic salmon and other anadromous fish. The State of Maine would retain 90 percent of the hydropower generated on the Penobscot because the licensees would be able to increase generation at other dams.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Project Location and Description

The Veazie Project is located on the Penobscot River in Penobscot County, Maine. The Veazie Project consists of: (1) an existing 25-foot-high, 902-foot-long concrete gravity dam; (2) an existing reservoir with a surface area of 390 acres, a storage capacity

¹ The Veazie and Great Works Projects would be decommissioned and their dams removed; Howland would be decommissioned and studied for potential dam removal. Each of these actions would be separate proceedings to be filed with the Commission in the future.

of 4,800 acre-feet, and a normal water surface elevation of 34.8 feet National Geodetic Vertical Datum (NGVD); (3) existing 4.5-foot-high hinged flashboards; (4) an existing concrete forebay; and (5) two powerhouses on the Veazie (west) side of the river (Plant A with an installed capacity of 5.4 MW and Plant B with an installed capacity of 3 MW).

The Milford Project is located on the Penobscot River and Stillwater Branch in Penobscot County, Maine. Milford dam consists of (1) a powerhouse that is about 226 feet long, 85 feet wide, and 78 feet high; (2) a tailrace; (3) one sluice gate; (4) an upstream fish-passage facility. The concrete gravity dam is about 1,159 feet long and has an average height of approximately 20 feet, excluding the flashboards. The normal headpond elevation is 107.1 feet NGVD.

The West Enfield Project is located on the Penobscot River in Penobscot County, Maine. The West Enfield Project includes: (1) a 39-foot-high concrete dam surmounted by 6-foot-high flashboards composed of a 194-foot-long non-overflow spillway, 107-foot-long gated spillway, and a 363-foot-long overflow spillway surmounted with 6-foot-high flashboards; (2) a reservoir with a storage capacity of 11,250 acre-feet and a normal surface elevation of 155.1 feet mean sea level; (3) a powerhouse at the dam with 2 turbine-generator units with a total installed capacity of 13 megawatts; (4) a vertical slot fish ladder at the powerhouse; and a (5) a 1,100-foot-long tailrace.

The Stillwater Project is situated on the Stillwater Branch, a 10.5-mile-long branch of the Penobscot River, and is located 2.4 miles upstream of the confluence of the Stillwater Branch and the main stem of the Penobscot River in Orono, Maine. The Stillwater Project includes: (1) an existing 22-foot-high, 1,720-foot-long concrete gravity dam consisting of 13 sections; (2) an existing impoundment with a surface area of about 300 acres, a gross storage capacity of 3,040 acre-feet, and a normal water surface elevation of about 93.65 feet NGVD; an existing concrete and wooden powerhouse equipped with four horizontal generating units, three rated at 450 kilowatts (kW) each and one at 600 kW; and (4) an existing tailrace.

The Medway Project is located on the West Branch Penobscot River in Penobscot County, Maine. The Medway Project consists of a 343-foot-long concrete gravity dam surmounted by flashboards, a 64-foot-long concrete gravity forebay wall, a 120-acre impoundment, a powerhouse containing five generating units with a total installed capacity of 3.44 MW, an approximate 144-foot-long underground transmission line, and appurtenant facilities.

2.2 Proposed Action

Appendix B includes the proposed amendments for each project in detail. Below is a summary of the proposed changes for each project. Figure 1 provides a map showing the locations of each project.

For the Veazie Project, the licensee proposes to amend license articles 407, 408, 409, and 410 to be consistent with the fish passage conditions in the Agreement. For the Milford Project, the licensee proposes to amend license articles 301, 305, 402, 407, 408, 409, and 411, and add six new articles to be consistent with the Agreement.

For the West Enfield Project, the licensee proposes to increase the impoundment level at the West Enfield Project by one foot, from 155.1 feet mean sea level (MSL) to 156.1 feet MSL by adding one foot of height to the existing flashboard system. Further, the licensee requests that articles 41 and 46 be amended to reflect provisions of the agreement and 4 new articles be added to the licensee to reflect various provisions of the agreement as they pertain to the West Enfield Project.

For the Medway Project, the licensee proposes to amend article 402 to read “an impoundment surface elevation within six inches of 260.3 feet above mean sea level” which reflects a reservoir level increase of one foot, and add an additional article requiring the licensee to implement the requirements of Attachment B to the Agreement as it pertains to the Medway Project.

For the Stillwater Project, the licensee proposes to: (1) amend article 401 to read “a normal full pond elevation of 94.65 feet” to reflect a one foot increase in reservoir elevation; (2) amend article 402 to change the required minimum flows from “a permanent minimum flow of 40 cubic feet per second (cfs) into the west bypassed channel and a permanent flow of 155 cfs into the east bypassed channel” to “a permanent minimum flow of 20 cubic feet per second (cfs) into the west bypassed channel and a permanent flow of 50 cfs into the east bypassed channel”; (3) amend articles 406, 407, 408, and 409 to be consistent with the fish passage conditions in the Agreement; and (4) add an additional article requiring the licensee to implement the requirements of Attachment B to the Agreement as it pertains to the Stillwater Project.

2.3 No-Action Alternative

Under the no-action alternative, the projects would be required to operate according to each respective license and provide the environmental enhancements as identified in that license.

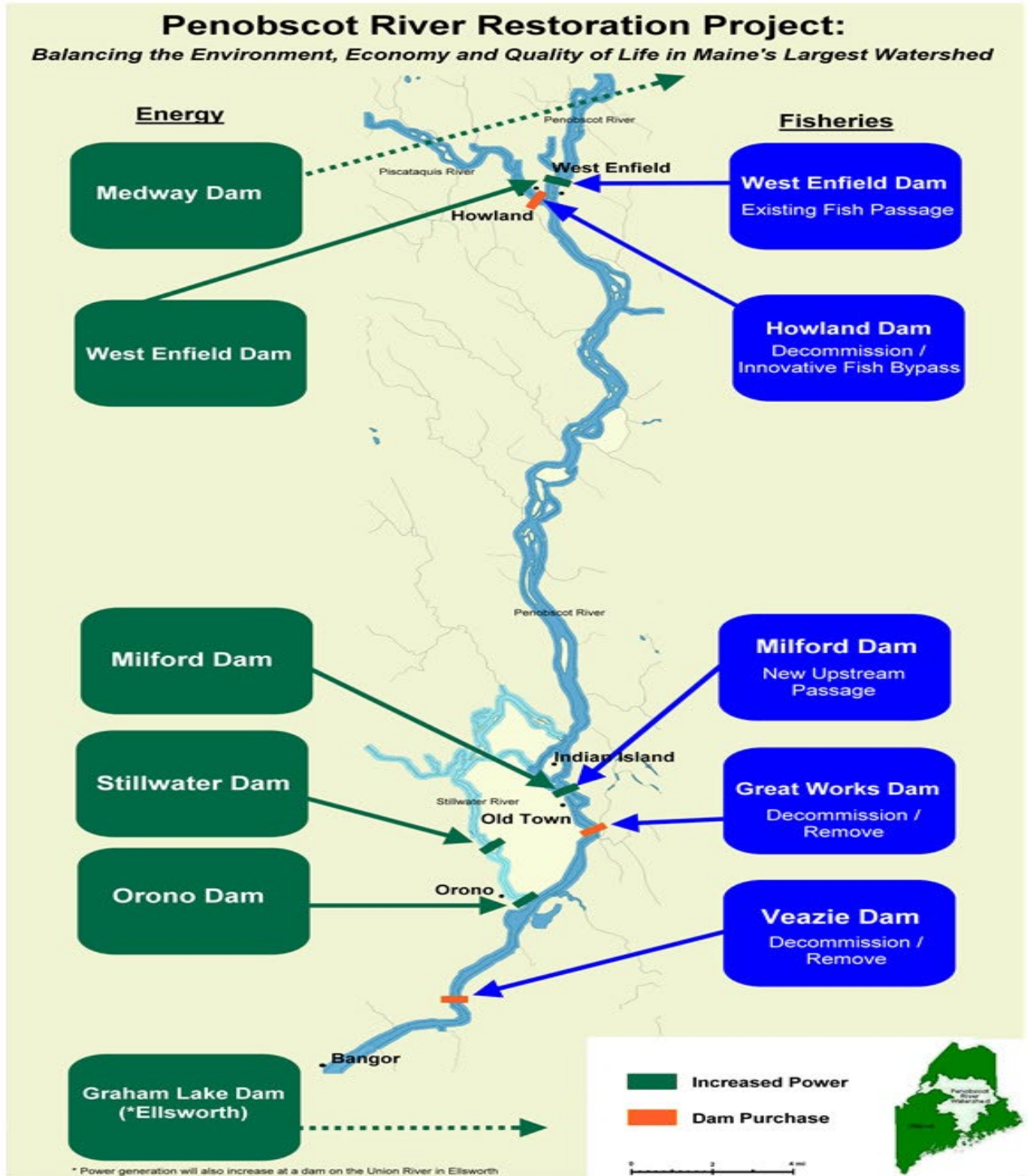


Figure 1. Map of the Projects on the Penobscot River System Associated with the Lower Penobscot River Multiparty Settlement Agreement (source: PPL Maine, LLC).

3.0 CONSULTATION AND COMPLIANCE

3.1 Comments and Interventions

On June 29, 2004, Commission staff issued a public notice of the applications and requested comments, motions to intervene, or protests. The comment closing date was August 9, 2004. Comments filed in response to the public notice are as follows:

<u>Commenting Entities</u>	<u>Date of Filing</u>	<u>Type of Filing</u>
Conservation Interests American Rivers, Inc Atlantic Salmon Federation Maine Audubon Society Natural Resources Council of Maine Trout Unlimited	July 15, 2004	Intervention/comment
Penobscot Indian Nation	July 15, 2004	Intervention/comment
Maine Agencies Maine Dept. of Marine Resources Maine State Planning Office Maine Dept. of Inland Fisheries & Wildlife Atlantic Salmon Commission	July 22, 2004	Comment
Maine State Planning Office	July 23, 2004	Intervention
National Marine Fisheries Service	July 26, 2004	Intervention
U.S. Department of the Interior Office of the Solicitor	August 9, 2004	Intervention
John W. York Jr.	August 9, 2004	Comment
John S. Edwards	August 12, 2004	Comment
National Marine Fisheries Service	August 12, 2004	Comment

John W. York comments (August 9, 2004 filing) that increasing the headpond at the West Enfield Project will result in more of his property being put under water. As a condition of approval, Mr. York recommends rip-rap being placed along his property to prevent further erosion.

John S. Edwards, on behalf of his client Ralph L. Watts, comments (August 12, 2004 filing) that Mr. Watts will suffer an adverse impact by the raising of the West Enfield project reservoir by one foot and submerging a portion of his land.

The National Marine Fisheries Service (NOAA Fisheries) comments (August 12, 2004) that the Commission is obligated to consult on shortnose sturgeon and Atlantic salmon which may be present in the Penobscot River. Additionally, NOAA Fisheries states that the entire Penobscot River and many of its tributaries have been designated as Essential Fish Habitat for Atlantic salmon.

On November 3, 2004, Commission staff issued a draft environmental assessment (DEA) for comment and requested that comments be filed by November 30, 2004. On November 29, 2004, a joint letter was filed on behalf of American Rivers, Atlantic Salmon Federation, Maine Audubon Society, Natural Resources Council of Maine, Penobscot Indian Nation, and Trout Unlimited supporting the conclusion of the DEA. The USFWS, by letter dated November 30, 2004, also concurred with the conclusion in the DEA. NOAA Fisheries, by letter dated November 29, 2004, provided comments and recommendations on the DEA. As appropriate, we modified the text of this final EA in response to NOAA Fisheries comments.

3.2 Statutory Requirements

3.2.1 Endangered Species Act

Section 7 of the Endangered Species Act (ESA) requires federal agencies to ensure their actions are not likely to jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of such species. In its letter filed August 12, 2004, NOAA Fisheries notified the Commission that proposed amendments have the potential to affect endangered shortnose sturgeon and listed populations of Atlantic salmon.

The DEA contained an analysis of the environmental effects of the proposed amendments on listed species. We concluded that the approval of the proposed action would not affect threatened and endangered species. NOAA Fisheries, in its November 29, 2004 comment letter on the DEA concurred that the proposed amendments would not affect threatened or endangered species.

3.2.2 Fishery Conservation and Management Act

In the 1996 reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), the U.S. Congress required the regional fishery management councils to designate essential fish habitat (EFH) for all life stages of all federally managed species. Section 305(b)(2) of the MSFCMA requires federal agencies

to consult with the NOAA Fisheries regarding all activities it funds, permits, or carries out that may adversely affect designated EFH.

In its letter filed August 12, 2004, NOAA Fisheries notified the Commission that the Penobscot River has been designated as EFH for Atlantic salmon. The licensee, in consultation with NOAA Fisheries, USFWS, Maine Atlantic Salmon Commission, and the Penobscot Indian Nation, filed on December 15, 2004, its preliminary assessment on EFH to assist Commission staff. We have incorporated the licensee's assessment into this final EA, as appropriate, and conclude that approval of the amendment applications will not adversely affect EFH. As such, no consultation is required with NOAA Fisheries.

3.2.3 National Historic Preservation Act

The National Historic Preservation Act (NHPA) requires federal agencies to manage cultural resources under their jurisdiction and authorizes the Secretary of the Interior to maintain the National Register of Historic Places (National Register). Section 106 of the NHPA requires federal agencies take into account the effect of the proposed undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register. The agency must afford the Advisory Council on Historic Preservation, established under Title II of NHPA, a reasonable opportunity to comment on such undertaking.

The NHPA also provides for the appointment of State Historic Preservation Officers (SHPOs) to facilitate the implementation of federal cultural resource policy at the state level, and requires the federal agency to consult with Native American tribes who attach religious or cultural importance to cultural resources under their jurisdiction. The Penobscot Indian Nation, by letter filed July 15, 2004, states its full support for the proposed amendment applications

Commission staff has determined that the proposed action, with the provisions of the Penobscot Indian Nation Agreement (PIN Agreement) does not have an adverse effect on historic properties or tribal religious or cultural values.²

² The PIN Agreement resolves the mitigation measures that are to be implemented by the licensees to address certain impacts to PIN lands, resources, and interests from operation of the Milford Project and the West Enfield Project and, together with the June 2004 Lower Penobscot River Multiparty Settlement Agreement, to resolve the issues currently in dispute before the Commission that were raised in the requests for rehearing of the Commission's April 20, 1998 orders for the various projects in the Penobscot Basin.

3.2.4 Clean Water Act

Under Section 401(a)(1) of the Clean Water Act, an applicant for a federal license or permit to conduct an activity that may result in a discharge into waters of the United States must provide the licensing or permitting agency with water quality certification (WQC) that the discharge would not violate water quality standards from the applicable state. The federal agency may not authorize the activity unless certification has been obtained or the state has waived certification through failure to act on the request for certification within 1 year after receipt of that request.

The MDEP, by letter dated January 26, 2004, stated the amendment applications for the Milford Project, West Enfield Project, Medway Project, and Stillwater Project would not adversely affect water quality in each project area. Since each of these four projects was issued WQC at licensing, each WQC would need to be amended to reflect the changes associated with the proposed amendments.

On December 16, 2004, the MDEP filed a revised WQC for the Medway Project which reflects an impoundment level increase of one foot and incorporates all appropriate terms and conditions of the June 25, 2004 Lower Penobscot River Basin Settlement Accord. On January 13, 2005, the MDEP filed a revised WQC for the Stillwater Project which reflects an impoundment level increase of one foot, changes in minimum flows, and incorporates all appropriate terms and conditions of the June 25, 2004 Lower Penobscot River Basin Settlement Accord. On February 7, 2005, the MDEP filed a revised WQC for the West Enfield Project which reflects an impoundment level increase of one foot and incorporates all appropriate terms and conditions of the June 25, 2004 Lower Penobscot River Basin Settlement Accord. On March 11, 2005, the MDEP filed a revised WQC for the Milford Project which incorporates all appropriate terms and conditions of the June 25, 2004 Lower Penobscot River Basin Settlement Accord.

4.0 ENVIRONMENTAL ANALYSIS

4.1 Veazie Project

Since the amendment application for the Veazie Project consists of setting time frames for the licensee to file fish passage plans and there are no new impacts to the environmental resources associated with the amendment, there is no need for an analysis. The environmental impacts associated with fish passage at the Veazie Project were already discussed in the Final Environmental Impact Statement (FEIS) for the Lower Penobscot River Basin (FERC 1997). The licensee is still obligated to complete the necessary agency consultation and submit all plans under various license articles for Commission approval.

4.2 Milford Project

Similarly, the amendment application for the Milford Project consists of setting time frames for the licensee to file fish passage plans, incorporating provisions of the PIN Agreement, and revising the approved 1998 log removal plan. There are no new impacts to the environmental resources associated with the amendment application and, therefore, there is no need for further environmental analysis.

The environmental impacts associated with project operations at the Milford Project were already discussed in the FEIS for the Lower Penobscot River Basin (FERC 1997). The licensee is still obligated to complete the necessary agency consultation and submit all plans under various license articles for Commission approval.

4.3 West Enfield Project

For the West Enfield Project amendment application, the licensee proposes to increase the impoundment level at the West Enfield Project by one foot, from 155.1 feet mean sea level (MSL) to 156.1 feet MSL by adding one foot of height to the existing flashboard system. Further, the licensee requests that two articles be amended and 4 new articles be added to reflect various provisions of the agreement as they pertain to the West Enfield Project. The only environmental impacts associated with the amendment application for the West Enfield Project involve those associated with the proposed impoundment level increase and are discussed below.

4.3.1 Water Quality

The Penobscot River in the vicinity of the West Enfield Project is designated by the State of Maine as Class B water. The MDEP issued a section 401 WQC for the project on February 12, 1986, finding that the project, as proposed to be licensed, would comply with applicable state water quality standards. By letter dated January 26, 2004, the MDEP stated that the amendments proposed in the application would not adversely affect water quality in the West Enfield Project area. The licensee applied for an amendment to its WQC for the project changes proposed in the amendment application. On February 7, 2005, the MDEP filed a revised WQC for the West Enfield Project which reflects an impoundment level increase of one foot and incorporates all appropriate terms and conditions of the June 25, 2004 Lower Penobscot River Basin Settlement Accord.

4.3.2 Aquatic Resources

The West Enfield Project includes a shallow riverine impoundment that extends approximately 6 miles upstream to a point just below Mohawk Rapids. Resident riverine species found in the project waters include landlocked Atlantic salmon, brook trout, smallmouth bass, chain pickerel, white perch, and yellow perch. Anadromous species

include Atlantic salmon and alewife which use the mainstem Penobscot River and project area as a primary migratory route. The catadromous American eel is present throughout the Penobscot Basin. There are no known threatened or endangered fish species in the West Enfield Project area.

Atlantic salmon parr and smolt production habitat and adult spawning habitat are the most vulnerable to changes in reservoir surface elevation at the project. Further, the area in the uppermost reach of the impoundment in the vicinity of the un-impounded Mohawk Rapids is the area most vulnerable to impoundment raising impacts.

Atlantic salmon parr and smolt habitat suitability in the uppermost reach of the West Enfield Project impoundment was assessed by the PIN and USFWS in 2002. This evaluation estimated that a one-foot increase in impoundment elevation and associated 23-acre increase in impoundment area could cause approximately 10.43 acres of potential parr and smolt production habitat to diminish from providing some (but likely less than ideal) physical suitability to providing no suitability, and approximately 10.94 acres to diminish from original/unaltered physical habitat suitability to some undetermined lower level.

Characterized in the context of currently available parr habitat in the mainstem of the Penobscot River, a maximum of approximately 2.1 percent of that habitat and 2.1 percent of mainstem parr habitat could be lost under conditions resulting from a one-foot impoundment increase. An additional 2.2 percent of mainstem parr habitat would be diminished to some degree in physical suitability, from its original/unaltered quality level (NEA 2002).

Characterized in the context of all currently available parr habitat throughout the basin a maximum of approximately 0.6 percent of that habitat, or 0.3 percent of total basin smolt production could be lost. An additional 0.6 percent of basin-wide parr habitat would be diminished to some degree in habitat suitability, from its original/unaltered quality level (NEA 2002).

Impacts of a one-foot impoundment elevation change to six tributaries in the project area were estimated (NEA 2002). Three of these tributaries (Barnes Brook and two unnamed tributaries) were found to be minimally vulnerable to changes in impoundment elevation due to topographic conditions at the point of hydraulic influence. Three other tributaries were further evaluated: Gordon, Chelsey, and Tate Brooks. Impacts at Gordon Brook were found to be limited to moving the impoundment influence up approximately 1/3 of the culvert length at the Route 116 crossing; however, this stream has naturally low gradient and deadwater is prevalent, so salmon habitat is naturally limited. The higher impoundment elevation would improve access and passage conditions at the culvert at the mouth of Chelsey Brook. Due to beaver activity at the mouth of Tate Brook which assimilated higher-water levels, habitat or passage effects

were found to be minimal under those conditions. In summary, estimated effects to habitat and passage for Atlantic salmon in the affected reaches of these tributaries were unaffected or slightly improved under a one-foot increase in comparison to existing conditions. None of the tributaries would be adversely impacted by a one-foot increase in impoundment elevation (NEA 2002).

Smallmouth bass in the Penobscot watershed use impounded and free-flowing reaches equally, with the exception of spawning which occurs primarily in free-flowing stretches. To the extent that bass spawning activity might occur in the impoundment, the bass would be expected to shift shoreward proportional to depth increase. Thus, the increase in impoundment elevation proposed in the amendment would have either no effect, or a net-positive effect, on bass habitat, in the impoundment (Fay 2004). The one-foot increase in impoundment elevation would not affect existing or proposed fish passage facilities.

4.3.3 Wildlife Resources

Wildlife habitats within the surrounding project area are predominantly characterized by mature mixed hardwood/conifer forest habitat, with fringe palustrine forested, scrub-shrub and emergent wetlands.

Eleven wetland areas were identified during a 2002 survey of the West Enfield Project impoundment (NEA 2002). Floodplain wetlands are typical in this area, consisting of palustrine emergent, palustrine scrub/shrub, palustrine forested, palustrine unconsolidated bottom, and lacustrine littoral wetlands. A functional analysis of these wetlands indicated that they provide floodflow alteration, sediment/toxicity retention, shoreline stabilization and protection, fish and wildlife habitat, and recreational functions and values (NEA 2002).

Raising the reservoir impoundment would likely result in some short-term losses in wetland acreage and minimal to no net long-term losses of wetland acreage. Some conversion of wetland types would be expected to occur, and conversion of uplands could result in a net gain in wetlands.

4.3.4 Cultural Resources

The Maine Historic Preservation Commission (MHPC) has determined that there are no properties in the West Enfield Project area of prehistoric, historic, or architectural archaeological significance that would be impacted by the project. The licensee consulted with the State Historic Preservation Officer (SHPO) and the PIN Tribal Historic Preservation Officer (THPO) regarding the amendment application to confirm that there are no additional historic or archaeological issues at this time. By letter dated March 15, 2004, the SHPO stated that the amendment application for the West Enfield

Project would have no effect on archaeological or architectural historic properties.

4.3.5 Recreational Resources

There are no formal recreational facilities at the West Enfield Project owned or operated by the licensee. Recreational access for shore and boat fishing and hunting exists in the project area on privately owned lands, including lands of the PIN and on land owned by the Town of Howland. The proposed one-foot reservoir elevation increase would not affect the recreational resources in the project area.

Angler access and navigational safety would not be affected, or may be positively affected, by the one-foot reservoir elevation increase. The one-foot increase should overall reduce the potential for larger power boats/outboards to hit one of the numerous submerged log and rock cribs that are scattered throughout the lowest river mile of the impoundment, many of which are currently only submerged 0.5 feet to 3 feet below the impoundment surface (Fay 2004).

4.3.6 Land Management and Aesthetics

Most of the West Enfield Project area is wooded and primarily undeveloped. Year-round residences and seasonal camps exist on the shores of the impoundment. The PIN owns all of the islands within the impoundment, including 29 small islands within the area of potential impact for the new impoundment elevation. The impoundment is viewed predominantly as an undeveloped river corridor.

The one-foot increase in impoundment elevation would inundate approximately 23 acres of land along the impoundment shore and islands, of which approximately 12 acres is on the impoundment islands owned by the PIN. These impacts would be mitigated for by the inclusion of license articles incorporating the terms of the PIN Agreement between the licensee and the PIN.

Two residents who live on the impoundment provided comments in response to the public notice issued by Commission staff. The first, Mr. John York Jr., states concern over the proposed one-foot increase in reservoir elevation causing erosion and the loss of his waterfront property. Mr. York states that their house is situated very close to the water's edge and that the additional one-foot elevation increase could put his home in jeopardy. Mr. York requests that, as a condition of approval, the licensee be required to put rip-rap along the bank near his house as mitigation for the impacts to his property. The second resident, Mr. Ralph Watts, indicates that the proposed one-foot reservoir level increase would submerge a portion of his land and interfere with his development of sporting camps and timber production assets on his property. Mr. Watts also indicated that the proposed increase may impact his dwelling and his septic and water systems.

The project boundary for the West Enfield Project is contour elevation 158.0 feet msl. Raising the impoundment level to 156.1 feet msl would inundate a variable amount of additional project land, depending on the slope. If the licensee does not own sufficient interests in this project land, it must obtain the necessary interests pursuant to article 5 of the project license.

Regarding Mr. York's request that the shoreline fronting his home be rip-rapped to protect against future erosion, the licensee should be required, if the amendment application is approved, to file a report with the Commission describing any shoreline protection measures taken, or that will be taken, in response to Mr. York's request. The report should include site-specific information, including maps, drawings, and photographs, providing adequate coverage and detail to show the nature and extent of any existing or potential erosion problems and the appropriateness and effectiveness of any control measures proposed or implemented. If the licensee determines that no measures are warranted, the licensee should provide site-specific reasons for such a determination. The Commission should reserve the right to require changes to the report.

Regarding Mr. Watts' claims, the licensee should be required, if the amendment application is approved, to file a report with the Commission describing any measures taken, or to be taken, to mitigate any adverse effects to Mr. Watts' property and business interests. The report should include site-specific information, including maps, drawings, and photographs, providing adequate coverage and detail to show the nature and extent of any existing or potential erosion problems and the appropriateness and effectiveness of any control measures proposed or implemented. If the licensee determines that no measures are warranted, the licensee should provide site-specific reasons for such a determination. The Commission should reserve the right to require changes to the report.

4.4 Medway Project

For the Medway Project amendment application, the licensee proposes the license be amended to allow a reservoir level increase of one foot and that an additional article be included in the license requiring the licensee to implement the requirements of Attachment B to the Agreement as it pertains to the Medway Project. The only environmental impacts associated with the amendment application for the Medway Project involve those associated with the proposed impoundment level increase and are discussed below.

4.4.1 Water Quality

The Penobscot River in the vicinity of the Medway Project is designated by the State of Maine as Class C water. The MDEP issued a section 401 WQC for the Medway Project in 1998, finding that the project, as proposed to be re-licensed, would comply with applicable state water quality standards. By letter dated January 26, 2004, the

MDEP stated that the amendments proposed in the application would not adversely affect water quality in the Medway Project area. The licensee applied to amend its WQC to incorporate the changes proposed in the application. On December 16, 2004, the MDEP issued a revised WQC for the Medway Project which reflects an impoundment level increase of one foot and incorporates all appropriate terms and conditions of the June 25, 2004 Lower Penobscot River Basin Settlement Accord.

4.4.2 Aquatic Resources

The Medway impoundment, with a total surface area of approximately 98 acres, is approximately 1.7 miles long. Fish habitat in the Medway Project impoundment waters is similar to habitat in other lower velocity areas with moderate depth in the mainstem Penobscot River. The Medway impoundment is narrow with generally steep banks, particularly on the north shore. The area upstream of the Medway impoundment and below the East Millinocket dam (FERC No. 2458) is a shallow, higher velocity habitat, which extends downstream several hundred feet from the dam before reaching the impoundment. The upstream half of the Medway impoundment is generally shallow with several low-velocity backwater areas. In the lower half of the impoundment, the water becomes progressively deeper near the dam with generally lower water velocity.

Although the impoundment is primarily suitable as a smallmouth bass fishery, resident riverine species found in the project waters may include minnow species, lake trout (dropdowns from upstream stocking), and lake whitefish, brook trout, dace, pickerel, perch, and suckers. While areas upstream of the Medway Project are considered historic habitat for Atlantic salmon, anadromous species do not occur in the project area and current management plans for restoration do not include this reach (the MDIFW manages the West Branch of the Penobscot River above Medway for landlocked salmon) and since there is no upstream fish passage facilities (other than for American eels), Atlantic salmon are not present in the Medway Project impoundment (FERC 1997). Landlocked salmon as well as lake trout are potential drop down species. Adult Atlantic salmon appear seasonally in the Medway tailrace. The catadromous American eel is present throughout the Penobscot Basin.

Smallmouth bass in the Penobscot watershed use impounded and free-flowing reaches equally, with the exception of spawning which occurs primarily in free-flowing stretches. To the extent that bass spawning activity might occur in the impoundment, the bass would be expected to shift shoreward proportional to depth increase. Thus, the increased impoundment elevation proposed in the amendment application would have either no effect, or a net-positive effect, on bass habitat (Fay 2004).

The proposed one-foot increase in headpond elevation at the Medway Project will result in minor changes to the area of the project impoundment. The impoundment surface area of approximately 98 acres will be increased minimally to approximately

103.5 acres. There are prominent hydraulic controls at the upstream end of the impoundment, so the length of the 1.7-mile project impoundment is not expected to increase appreciably. Raising the Medway impoundment one foot will only have a minor impact on the impoundment fishery habitat or operations of the upstream and downstream fish passage measures for eels.

4.4.3 Wildlife Resources

The Medway Project area is largely undeveloped. Predominant cover types include hardwood, softwood, and mixed forests, with less amounts of agricultural fields, disturbed areas, and wetlands. Wildlife habitats within the surrounding project area are predominantly characterized by mature mixed hardwood/conifer forest habitat. Riverine emergent wetlands, including both submerged aquatic beds and backwater sloughs, and emergent terraces are also interspersed along the shoreline. Shallow water terraces (i.e., up to approximately 3.0 feet) characterize the majority of the north shoreline. The steep drop-offs typical of the south shoreline provide little shallow water habitat in this portion of the impoundment.

Small isolated wetlands are located along the shores of the Medway Project impoundment. Wetland types include northern white cedar located on both the north and south side of the river; a shrub swamp wetland associated with a beaver flowage is located on the north shore of the project area; and alder swamp community is located on the south shore; a riverine emergent wetland community; a shoals/emergent wetland community located at the upper reaches of the project area; a small, isolated shallow depression surrounded by mixed forest located adjacent to the southern shoreline; and several, small, ephemeral streams with moderate gradients are located throughout the project area.

The proposed amendment would not affect any wildlife resources in the project area. No threatened or endangered species have been documented to occur in the project area. Due to the steep shoreline topography and limited water level change, the increase in reservoir elevation would not impact wetlands within or adjacent to the project impoundment.

4.4.4 Cultural Resources

No historic or archaeological properties that are either listed or eligible for listing on the National Register of Historic Places are located in the project area. The MPHIC has determined that there are no properties in the Medway Project area of prehistoric, historic, or architectural archaeological significance that would be impacted by the project. The licensee consulted with the SHPO and the PIN THPO regarding the amendment application to confirm that there are no additional historic or archaeological issues at this time. By letter dated March 15, 2004, the SHPO stated that the amendment

application for the Medway Project would have no effect on archaeological or architectural historic properties.

4.4.5 Recreational Resources

There is one recreational facility at the Medway Project owned and operated by the licensee. A boat launch designed principally for hand-carry use is located on the north shore. A trail runs along a portion of the gravel access road leading to and from the boat launch to a point downstream of the project fence.

The changes proposed in the amendment application would not affect the recreational resources in the Medway Project area. Access via the existing project boat launch would be maintained and kayaking and canoe use of the impoundment would not be affected by the higher impoundment elevation.

4.4.6 Land Management and Aesthetics

The land bordering the Medway impoundment is predominantly forested and undeveloped. There are no known domestic, irrigation or other consumptive uses of the river water in the project area. The only municipal or industrial use of project waters is the licensed discharge from the East Millinocket treatment plant located near the upstream end of the impoundment on the north shore.

The proposed license amendment would not adversely affect land and water uses in the Medway Project area. Due to the relatively small increase in impoundment water levels and steep topography of the shoreline, any effects on properties along the impoundment would be negligible. In addition, because the flashboard system would be designed to have the same failure point, there would be not incremental flooding impacts.

Since most of the Medway Project area is wooded and undeveloped, the dam and powerhouse can only be seen by the general public from the Route 116 bridge which crosses the West Branch of the Penobscot River approximately 550 feet downstream of the project. To those traveling across the Route 116 bridge, the dam and powerhouse have long been considered a familiar feature of the Medway landscape. There are no other opportunities to view the project area other than by using a canoe or boat in the headpond. Traveling upstream, the impoundment is viewed as an undeveloped river corridor. Impressive views of Mount Katahdin and the surrounding wilderness are enhanced by the impression of remoteness. Since there is no development of any kind along most of the headpond, these scenic and aesthetic values continue to the very upper stretch of the project area. The proposed increase in reservoir elevation in the amendment application would not have any effect on aesthetic resources.

4.5 Stillwater Project

For the Stillwater Project amendment application, the licensee proposes a one foot increase in reservoir elevation; changing the required minimum flows from 40 cubic feet per second (cfs) into the west bypassed channel and 155 cfs into the east bypassed channel to 20 cfs into the west bypassed channel and 50 cfs into the east bypassed channel; amending articles to be consistent with the fish passage conditions in the Agreement; and adding an article requiring the licensee to implement the requirements of the Agreement as it pertains to the Stillwater Project. The only environmental impacts associated with the amendment application for the Stillwater Project involve those associated with the proposed impoundment level increase and reduction in minimum flows. The impacts are discussed below.

4.5.1 Water Quality

The Penobscot River in the vicinity of the Stillwater Project is designated by the State of Maine as Class B water. The MDEP issued a section 401WQC for the Stillwater Project in 1992, finding that the project, as proposed to be re-licensed, would comply with applicable state water quality standards. By letter dated January 26, 2004, the MDEP stated that the amendment proposed in the application would have no measurable effect on water quality in the Stillwater Project area. The licensee applied to amend its WQC to incorporate the changes proposed in the application. On January 13, 2005, the MDEP issued a revised WQC for the Stillwater Project which reflects an impoundment level increase of one foot, changes in minimum flows, and incorporates all appropriate terms and conditions of the June 25, 2004 Lower Penobscot River Basin Settlement Accord.

4.5.2 Aquatic Resources

The Stillwater Project includes a shallow riverine impoundment that extends upstream to a point just below Gilman Falls Dam. A small amount of riverine habitat exists downstream of the Stillwater Project in the multi-channeled reach between the dam and the Orono Project impoundment (FERC No. 2710). Resident riverine species found include minnows, smallmouth bass, white perch, pickerel, and hornpout (bullhead).

The Stillwater Project impoundment is a shallow three-mile riverine segment of the Stillwater Branch with a maximum depth of approximately 31 feet. The majority of the deeper water (15 feet or greater) is in the lower impoundment. There are a variety of substrates, ranging from ledge, through cobble and gravel, to fines and clay. Shoreline slopes are flat to steep. Aquatic plants are not prolific and emergents predominate over submergents; however, there are several pocket weed beds and a wetland around one of the islands. There are a number of timber cribs, ledge outcrops and overhanging and downed trees at various locations, as well as the remains of an old bridge, all of which

provide excellent cover for smallmouth bass. The lower and upper reaches of the impoundment have considerably more ledge, coarser substrates, steeper shoreline slopes, and less aquatic vegetation than the middle reach. However, the middle reach does have an interspersed of coarse substrates, and lower and upper coarser-substrate areas do have considerable fines and some areas of aquatic vegetation.

A fish resource survey conducted in 1992 (BHE 1992) documented minnows, smallmouth bass, sunfish, and white sucker as the dominant species in the Stillwater impoundment. Coldwater species are present seasonally, but the area is not known as a coldwater fishery. The impoundment does not stratify thermally and dissolved oxygen concentrations are in the range of 7.3 to 8.4 parts per million (ppm). Summer water temperatures may approach 80°F during extended warm periods, outside the suitability range for coldwater species such as Atlantic salmon and trout. However, there are no water quality characteristics that interfere with fisheries management or the attainment of MDIFW fishery goals for warmwater species such as smallmouth bass.

The bypass channel below the Stillwater dam is rather complex with several channels and islands. There are two channels below the spillway sections (referred to as the east channel and west channel), which join in a large pool. There is a runaround channel between this pool and the downstream Orono Project impoundment and the main channel below the pool diverges with one channel joining the powerhouse tailrace. The approximately 3,900-foot east channel contains large deep pools, riffles, flat shallow pools, and backwater areas with various substrates. The approximately 100-foot-long west channel contains generally shallow riffle habitats with coarse substrates. It is known that there is recreational fishing in the bypass, primarily for smallmouth bass, which are readily observed. The MDIFW management goals for this reach are primarily for smallmouth bass. Current bypass flows are 40 cfs in the west channel and 155 cfs in the east channel.

Given the characteristics of the impoundment (slow moving with minimal suitable substrate), and the current absence of upstream fish passage facilities at the Stillwater Project, Atlantic salmon are not expected to be resident in the project impoundment area. Relatively minimal potentially suitable habitat may exist in the bypass and tailwater reaches, and anadromous species including Atlantic salmon may occur in the project area as dropdowns during upstream migration and downstream migrants from upstream stocking/natural reproduction on the mainstem of the Penobscot River. Presently, a surface weir bypass adjacent to the intakes affords Atlantic salmon downstream passage opportunity in addition to spillage over the dam in the form of the continuous minimum flows and during times of high river flows (i.e., spring flows during downstream migration season).

The catadromous American eel is present throughout the Penobscot Basin. While, the project license requires both upstream and downstream fish passage at the project, the

only provision for passage currently in place is a downstream bypass.

Smallmouth bass in the Penobscot watershed use impounded and free-flowing reaches equally, with the exception of spawning which occurs primarily in free-flowing stretches. To the extent that bass spawning activity might occur in the impoundment, the bass would be expected to shift shoreward proportional to the depth increase. The increased impoundment elevation proposed in the amendment application would have either no effect, or a net positive effect on bass habitat (Fay 2004). Raising the Stillwater impoundment one foot would not affect the impoundment fishery habitat and would not affect smallmouth bass management goals.

The proposed one-foot increase in headpond elevation at the Stillwater Project will result in minor changes to the area of the project impoundment. The shoreline of the Stillwater impoundment is predominantly steep sided, so the impoundment surface area of approximately 184 acres will be increased minimally to 191 acres. There are prominent hydraulic controls at the upstream end of the impoundment, so the length of the 3.0-mile project impoundment is not expected to increase appreciably. Given that there is no quantifiable Atlantic salmon habitat in the project impoundment and any potential habitat below the upstream Gilman Falls dam will not be influenced by the headpond increase (BHE 1991, FERC 1998), raising the Stillwater impoundment one foot will not negatively affect EFH for Atlantic salmon.

The licensee is proposing to reduce current bypass minimum flows of 40 cfs in the west channel and 155 cfs in the east channel to 20 cfs in the west channel and 50 cfs in the east channel. An instream flow study was conducted in 1991 in association with the project relicensing (BHE 1991). The weighted usable area (WUA) for target species and lifestages was determined for both channels, at various flows. Tables 1 and 2 provide the WUA estimates comparing leakage to the proposed flows in each channel.

TABLE 1: WEST BYPASS CHANNEL WUA AT LEAKAGE AND 20 CFS

Species/Lifestage	Leakage	20 cfs
Atlantic salmon juvenile	0.0	17.6
Smallmouth bass spawning/incubation	3.3	2.1
Smallmouth bass young-of-year	14.1	8.9
Smallmouth bass juvenile	6.9	13.3
Smallmouth bass adult	2.4	2.3
Shad spawning/incubation	0.0	0.7
Shad larval	3.5	4.1
Total available WUA	30.2	49

TABLE 2: EAST BYPASS CHANNEL WUA AT LEAKAGE AND 50 CFS

Species/Lifestage	Leakage	50 cfs
Atlantic salmon juvenile	17.6	66.7
Smallmouth bass spawning/incubation	122.3	133.9
Smallmouth bass young-of-year	212.4	270.6
Smallmouth bass juvenile	317.8	367.6
Smallmouth bass adult	243.3	264.4
Shad spawning/incubation	18	27.7
Shad larval	249.3	277.1
Total available WUA	1180.7	1408.0

The proposed minimum flows will provide 25.6 and 3.8 percent of total maximum WUA in the west and east channels, respectively. This flow equates to 1.3 WUA per cfs in the west channel and 0.9 WUA per cfs in the east channel.

The licensee’s proposed minimum bypass reach flows are consistent with the interim flows approved by the MDEP in the 1992 Water Quality Certification for the Stillwater Project (MDEP 1992). The purpose of these flows is to provide bypass reach habitat for migratory and resident species, but the flows also provide downstream Atlantic salmon smolt passage for migrants from the mainstem of the Penobscot River. The proposed flows will provide habitat for target bypass reach species and lifestages and are consistent with the MPA.

The licensee’s proposal to implement the DOI modified fishway prescription, consistent with the settlement agreement, would support agency fish management plans and objectives. The proposed one-foot increase in impoundment level and decrease in minimum bypass flows would not affect existing or proposed fish passage facilities or their operations.

4.5.3 Wildlife Resources

Wildlife habitats within the surrounding project area are predominantly riverine and hardwood forest, with lesser amounts of mixed and softwood forest, residential and disturbed areas, forested wetlands, and scattered shrub and emergent wetlands. The project area cover types include hardwood (39 percent), softwood (22 percent), and mixed (19 percent) forests, with lesser amounts of agricultural land (14 percent) and wetlands (6 percent).

Thirty-four acres of small, independent, wetlands are found within the project area: 23 acres of palustrine forested wetland, four acres of palustrine scrub-shrub wetland, and seven acres of riverine emergent wetland. These wetlands are concentrated in the mid to upper portion of the impoundment, with a few small forested wetlands in the lower impoundment.

There are no federally-listed threatened or endangered plants known to occur in the vicinity of the project area. The project area does have a unique natural community, a Northern New England Riverside outcrop, located about 2.8 miles upstream of the dam. Riverside outcrops are areas of exposed bedrock with vegetation rooted within crevices in the rock. Riverside outcrops can contain rare plants, but none have been found on the Stillwater Branch outcrop.

The proposed changes associated with the amendment application would not adversely affect wildlife resources in the project area. The increase in headpond elevation would have no material impact on wetlands within or adjacent to the project impoundment, where the increase in water level would be minimal due to the contour of the reservoir.

4.5.4 Cultural Resources

No historic or archaeological properties that are either listed or eligible for listing on the National Register of Historic Places are located in the project area. The MPHIC has determined that there are no properties in the Stillwater Project area of prehistoric, historic, or architectural archaeological significance that would be impacted by the project. The licensee consulted with the SHPO and the PIN THPO regarding the amendment application to confirm that there are no additional historic or archaeological issues at this time. By letter dated March 15, 2004, the SHPO stated that the amendment application for the Stillwater Project would have no effect on archaeological or architectural historic properties.

4.5.5 Recreational Resources

Recreational facilities within the Stillwater Project area include a canoe launch, portage trail, fishing area below the dam, and trails for fishing access, canoe launches, swimming areas and picnicking areas in the University of Maine Forest along the impoundment. The changes proposed in the amendment application would not affect the recreational resources in the project area. White water boating that occurs downstream of the project would not be affected because this activity occurs in the spring when the flashboards are not in place. Neither kayaking and canoe use of the impoundment nor any of the licensee-supported University of Maine recreational facilities along the impoundment shoreline would be affected by the impoundment increase.

4.5.6 Land Management and Aesthetics

The Stillwater Project encompasses the Stillwater dam and powerhouse in Stillwater Village, the area immediately below the dam that encompasses several small islands, and an approximately 184-acre impoundment extending three miles upstream. The area on either side of the river, within a one-half mile radius of the dam, is a relatively heavily developed residential area. The rest of the area surrounding the impoundment is either lightly developed or undeveloped. Much of the western shoreline remains farmland, including a large tract owned by the University of Maine. Along the eastern shore of the impoundment, almost ninety percent of the shoreline remains undeveloped, including the University of Maine Forest, which comprises about fifty percent of the shoreline. Aside from the natural scenery of the area, there are no prominent scenic features. The changes associated with the proposed amendment would not have any impact on the scenic and aesthetic resources in the project area.

There are no known domestic, irrigation, or other consumptive uses of the river water in the project area. There are also no known industrial uses of the water nor any points of industrial wastewater discharge into the impoundment. The proposed changes associated with the amendment application would not have any effect on land and water uses in the project area. Due to the relatively small increase in impoundment water levels and steep topography of the shoreline, any effects along the impoundment would be negligible. In addition, because the flashboard system would be designed to have the same failure point, there would be no changes in upstream flooding impacts.

4.6 Endangered Species in the Penobscot Watershed

On March 11, 1967 shortnose sturgeon (*Acipenser brevirostrum*) was listed as endangered throughout its range. The NOAA Fisheries, in its August 12, 2004 filing, states that according to the 1998 Recovery Plan for shortnose sturgeon, a population of this federally endangered fish is recognized to exist in the Penobscot River. On June 30, 1978, one shortnose sturgeon was captured in Northport, Maine in Penobscot Bay. Archaeological data suggesting that sturgeon from the Penobscot River were used by native peoples also indicates shortnose sturgeon historically occurred in this system.

A directed survey for shortnose sturgeon was conducted during 1994 and 1995 in the Penobscot River at the head of tide. No shortnose sturgeon were captured in 409 hours of gill net effort; however NOAA Fisheries states this is much less effort than the 11,396 net hours expended to capture 25 shortnose sturgeon in the Merrimack River, New Hampshire, and far less than the 21,432 net hours of gill net effort expended to capture three shortnose sturgeon in the Cape Fear River, North Carolina. As a result NOAA Fisheries believes that these surveys provide insufficient evidence to conclude that shortnose sturgeon are not likely present in the Penobscot River.

While these studies to document whether shortnose sturgeon are present in the river system have been unsuccessful, the habitat in the Penobscot River is consistent with the preferred habitat of shortnose sturgeon documented in other river systems. As such, NOAA Fisheries takes the conservative approach and assumes that shortnose sturgeon are present in the river.

NOAA Fisheries states that the extent of this species' range in the Penobscot River is likely from the lower estuary to the area downstream of the Veazie Dam. The northern extent of this species' range in the Penobscot River is most likely the area downstream of the Veazie Dam as this is the first obstacle to upstream passage.

NOAA Fisheries has also identified one population of Atlantic salmon in the Penobscot River as a candidate species and another as endangered under the ESA of 1973. On July 14, 1997, the Penobscot River run of Atlantic salmon was listed as candidates for possible protection under the ESA by NOAA Fisheries. A status review of additional Atlantic salmon populations, including the Penobscot River population, is currently being conducted. On December 17, 2000, the Gulf of Maine Distinct Population Segment (DPS) of Atlantic salmon was jointly listed by NOAA Fisheries and U.S. Fish and Wildlife Service (USFWS) as endangered under the ESA. The Atlantic salmon DPS encompasses all naturally reproducing remnant populations of Atlantic salmon from the Kennebec River downstream of the former Edwards Dam site, northward to the mouth of the St. Croix River. The DPS includes Dennys, East Machias, Machias, Pleasant, Narraguagus, Ducktrap, and Sheepscot Rivers, and Cove Brook. Cove Brook is a tributary of the Penobscot River and is located downstream of the projects involved in this action.

For this proceeding, which only focuses on the amendment applications, Commission staff concludes that approving the amendment applications would have no effect on shortnose sturgeon or the Gulf of Maine DPS of Atlantic salmon. Both of these species are reported by NOAA Fisheries to be found downstream of the Veazie Project. The only changes that would occur if the amendment applications are approved would be a one-foot reservoir elevation increase at the West Enfield Project, Medway Project, and Stillwater Project and minimum flow reductions at the Stillwater Project. These changes in operation would have no effect on downstream flows or aquatic resources, as seen at the Veazie Project and downstream. Therefore, there would be no effect on listed species which occur downstream of the Veazie Project.

There are other activities associated with the Agreement which may have the potential to affect listed species, such as fish passage construction or dam removals, but these activities are not part of the proposed amendment applications and would require separate applications before the Commission. With each new application, the need for ESA consultation would be reviewed and acted on accordingly by Commission staff.

4.7 Essential Fish Habitat

NOAA Fisheries indicates that EFH has been designated for Atlantic salmon in the Penobscot River and its tributaries. The licensee, in consultation with NOAA Fisheries, USFWS, Maine Atlantic Salmon Commission, and the Penobscot Indian Nation, filed on December 15, 2004, its preliminary assessment on whether its proposed amendments could impact EFH. The licensee's report indicates the relicensing of the Orono Project and the requested modifications to the West Enfield, Stillwater, Medway, Milford, and Veazie Projects are part of an overall Penobscot River restoration project that will ultimately result in significant net and cumulative improvements to areas designated as Atlantic salmon EFH, as well as improve access for Atlantic salmon to areas containing EFH not directly involved with these projects.

4.7.1 EFH Designations

The coastal littoral and continental shelf waters were mapped by NOAA and the regional Fishery Management Councils and superimposed with 10-minute-square coordinate grids to delineate EFH. None of the six projects are located within these 10-minute-square coordinate grids. However, all six projects are located within habitat areas of particular concern (HAPC) for Atlantic salmon within the fresh water portion of the Penobscot River, Maine.

The following information is summarized from the New England Fishery Management Council (NEFMC) Essential Fish Habitat Descriptions (NEFMC 1998). A description of the EFH for each life stage of the above-listed species is summarized in this section. Relevant life history information has also been incorporated where available and appropriate for the EFH assessment.

Essential fish habitat for Atlantic salmon is described as all waters currently or historically accessible to Atlantic salmon within the streams, rivers, lakes, ponds, wetlands, and other water bodies of Maine, New Hampshire, Vermont, Rhode Island, and Connecticut.

Eggs: Bottom habitats with a gravel or cobble riffle (redd) above or below a pool of rivers. Generally, the following conditions exist in the egg pits (redds): water temperatures below 10°C, and clean, well-oxygenated fresh water. Atlantic salmon eggs are most frequently observed between October and April.

Larvae: Bottom habitats with a gravel or cobble riffle (redd) above or below a pool of rivers. Generally, the following conditions exist where Atlantic salmon larvae, or alevins/fry, are found: water temperatures below 10°C, and clean, well-oxygenated fresh water. Atlantic salmon alevins/fry are most frequently observed between March and June.

Juveniles: Bottom habitats of shallow gravel/cobble riffles interspersed with deeper riffles and pools in rivers and estuaries. Generally, the following conditions exist where Atlantic salmon parr are found: clean, well-oxygenated fresh water, water temperatures below 25°C, water depths between 10 cm and 61 cm, and water velocities between 30 and 92 cm per second. As they grow, parr transform into smolts. Atlantic salmon smolts require access downstream to make their way to the ocean. Upon entering the sea, “post-smolts” become pelagic and range from Long Island Sound north to the Labrador Sea.

Adults: For adult Atlantic salmon returning to spawn, habitats with resting and holding pools in rivers and estuaries. Returning Atlantic salmon require access to their natal streams and access to the spawning grounds. Generally, the following conditions exist where returning Atlantic salmon adults are found migrating to the spawning grounds: water temperatures below 22.8°C, and dissolved oxygen above 5 ppm. Oceanic adult Atlantic salmon are primarily pelagic and range from the waters of the continental shelf off southern New England north throughout the Gulf of Maine.

Spawning Adults: Bottom habitats with a gravel or cobble riffle (redd) above or below a pool. Generally, the following conditions exist where spawning Atlantic salmon adults are found: water temperatures below 10°C, water depths between 30 cm and 61 cm, water velocities around 61 cm per second, and clean, well-oxygenated fresh water. Spawning Atlantic salmon adults are most frequently observed during October and November. Atlantic salmon EFH includes all aquatic habitats in the watersheds of the identified rivers, including all tributaries, to the extent that they are currently or were historically accessible for salmon migration. Atlantic salmon EFH excludes areas upstream of longstanding naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years).

4.7.2 Proposed Enhancements and Mitigation

As the initial phase of the Agreement, the licensee proposes (as discussed and analyzed above with the exception of the Orono relicensing which is a separate proceeding): (1) to relicense the Orono Project and to provide bypass flows; (2) a one-foot increase in impoundment level and a change to minimum bypass flows at the Stillwater Project; (3) a one-foot increase in impoundment level at the West Enfield Project; (4) a one-foot increase in impoundment level at the Medway Project; and (5) minor amendments for fish passage implementation at the Veazie and Milford Projects. Implementation of the proposals consistent with the MPA and DOI modified fishway prescription will support agency management plans and objectives and, in conjunction with downstream dam removal or the provisions of the Contingent Mitigation Fund (CMF) will support EFH for Atlantic salmon in this Penobscot River Basin.

The benefits of implementing the entire MPA include significantly enhancing the ability of Atlantic salmon and nine other sea-run species to reach vast quantities of productive spawning and rearing habitat. In total, implementation of the MPA will re-establish the Penobscot River's connection to the ocean by providing much improved access to over 500 miles of river habitat. This will allow Atlantic salmon to regain half of their historical habitat with just one dam passage. Reduced predation and migration delays will also benefit Atlantic salmon on their upstream and downstream migration. In addition, nutrients from sea-run fish will reach farther upstream and the natural flushing of nutrients will reach Penobscot Bay, thus improving the natural cycle of the river. Finally, the ecosystem benefits resulting from restoration of sea-run fish include enhancing the supply of food sources for a wide variety of fish and wildlife inhabiting the Penobscot River and Gulf of Maine.

In order to fully mitigate for any potential habitat impacts associated with the requested modifications described herein, parties to the MPA developed the CMF, whereby it was agreed that the impacts will be fully mitigated by removal of the Veazie (FERC No. 2403) and Great Works (FERC No. 2312) dams. If those dams are not removed, then the MPA provides for the establishment of the CMF and requires monetary payments, as specified in Attachment B to the MPA, to the CMF to fully mitigate for the habitat impacts. The PIN, BIA, USFWS, NOAA Fisheries, and state fisheries agencies will by mutual agreement provide for establishment of the CMF and designation of a third party to manage it. Monies in the CMF (approximately \$17,000 per year, as described in Attachment B to the MPA) will be used for replacing fish and wildlife habitat lost or degraded by the headpond increases, compensating for such loss or degradation by means other than replacement, and supporting efforts directed at restoring fisheries and fisheries habitat to the Penobscot River. Removal of Veazie and Great Works, or establishment of the CMF, will support Atlantic salmon restoration efforts in the Penobscot River Basin by enhancing access to EFH throughout the drainage.

Based on available habitat analysis and agency plans regarding recovery efforts for the Atlantic salmon, with the exception of a negligible potential loss of smolt production in the West Enfield impoundment, the proposed modifications will have no adverse effects on EFH or HAPC in the project areas. Fish passage for Atlantic salmon at most projects, and bypass flow modifications associated with two of the five projects, will result in a significant net improvement to Atlantic salmon EFH and HAPC as well as species restoration programs.

5.0 CONCLUSIONS

5.1 Proposed Action

Any adverse environmental effect from the proposed action (i.e., the amendment

of licenses to reflect the provisions of the Agreement) on aquatic, wildlife, threatened or endangered species, cultural, or recreational resources at each respective project is either non-existent or minimal, and in any case is mitigated either by the removal of the dams for by the CMF. There could be a minor potential impact to two residential properties at the West Enfield Project associated with the proposed one-foot reservoir elevation increase, which could be mitigated.

5.2 No-Action Alternative

Under the no-action alternative, the amendment applications would be denied and the current project licenses, and all of their requirements, would remain in effect along with all the pending appeals of the various license orders.

5.3 Staff Recommendations

Since the one-foot reservoir elevation increase at the West Enfield Project could impact both the properties of Mr. York and Mr. Watts, the licensee for the West Enfield Project should be required, if the amendment application is approved, to file a report with the Commission describing any measures taken, or to be taken, to mitigate any adverse effects to Mr. York's property and/or Mr. Watts' property and business interests. The reports should include site-specific information, including maps, drawings, and photographs, providing adequate coverage and detail to show the nature and extent of any existing or potential erosion problems and the appropriateness and effectiveness of any control measures proposed or implemented. If the licensee determines that no measures are warranted, the licensee should provide site-specific reasons for such a determination. The Commission should reserve the right to require measures to be taken to protect these properties.

6.0 FINDING OF NO SIGNIFICANT IMPACT

This environmental assessment, for the amendment applications for the five projects on the Penobscot River, was prepared pursuant to the National Environmental Policy Act of 1969. Approval of the license amendments would not be a major federal action significantly affecting the quality of the human environment.

7.0 REFERENCES

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8.0 LIST OF PREPARERS

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APPENDIX A

SUMMARY OF THE PENOBSCOT RIVER BASIN AGREEMENT (Agreement)

The Agreement would allow for the licensees and the Parties to implement various conditions, including transfer and surrender of some licenses, and increasing generation capacity at other projects. Upon completion of the Agreement, more than 500 miles of fish habitat in the Penobscot River would be restored.

More specifically, the Agreement calls for phased implementation of the following affected projects:

Phase I (June 25, 2004)

- Licensees and Parties file a joint request to: (a) suspend the Howland and Great Works Projects relicensing proceedings; (b) extend PPL's requirement to file a final recreation plan for Veazie; and (c) delay the installation of an additional turbine/generating unit at Milford.
- Licensees file applications to amend the Milford, Stillwater, and West Enfield licenses in order to incorporate certain fish passage and flow requirements.
- Licensees file applications: (a) to amend licenses by increasing the maximum elevations of West Enfield, Stillwater, and Medway Projects reservoirs by one-foot each; and (b) for a new license for the Orono Project.

Phase II (Upon Final Regulatory Approval of Phase I Requests)

- Parties file joint notice withdrawing their pending rehearing requests in Basin Mills, *et al.* proceedings.
- DOI files notice withdrawing § 4(e) and § 10(e) filings on the Milford Project.
- The Trust would continue to solicit funding and eventually pay the licensees about \$25 million to purchase the Howland, Veazie, and Great Works Projects.

Phase III (Upon Notice That Purchase Option is Being Exercised)

- Licensees and Trust file joint applications for transfer of licenses for Veazie, Great Works, and Howland Projects to Coalition.
- After transfer approval, Trust files application to surrender and decommission the licenses for Veazie and Great Works Projects. Also, Trust files application to surrender and decommission the license for Howland to either construct a fish bypass or remove the Howland Dam.

Phase IV (Upon Final Regulatory Approval of Phase 3 Applications)

•Licensees file new capacity amendment applications for those energy enhancements it decides to pursue pursuant to the agreement as follows:

- additional unit at Milford (increase by 1,500 kW);
- second powerhouses at Orono (increase by 5,277 kW);
- second powerhouse at Stillwater (increase by 2,720 kW);
- additional unit at Medway (increase by 700 kW); and
- additional unit at Ellsworth (increase by 500 kW).

•Licensees would use turbine/generator units removed from Veazie, Great Works, and Howland Projects for energy enhancements and pay the Trust for each generating unit, as appropriate.

•If licensees do not pursue energy enhancements at the Orono, Stillwater, and Ellsworth Projects, third parties would be invited and afforded the opportunity to pursue the energy enhancements at these projects.

APPENDIX B

Proposed License Amendment for the Veazie Project (FERC No. 2403)

The licensee requests that the Commission make the following changes to the Project's April 20, 1998 Order Issuing License:

Article 407: Modify the existing Article 407 by replacing the third to last paragraph in its entirety with the following (for fish passage under MPA and DOI modified fishway prescriptions):

Article 407: Within 66 months of the effective date of the Lower Penobscot River Multiparty Settlement Agreement, in the case where the Option to acquire the project as specified in that agreement is not exercised or is terminated, or within 6 months of a final determination by a court or administrative agency preventing acquisition, in the case where the option is exercised but the project is not acquired, the licensee shall file, for Commission Approval, detailed design drawings for permanent downstream fish passage facilities. This filing shall include but not be limited to: (1) the location and design specifications of the passage facilities; (2) a schedule for installing the facilities within 18 months of a Commission order approving the drawings; and (3) procedures for operating and maintaining the facilities.

Article 408: Modify the existing Article 408 by replacing the third to last paragraph in its entirety with the following (for fish passage under MPA and DOI modified fishway prescriptions):

Article 408: Within 66 months of the effective date of the Lower Penobscot River Multiparty Settlement Agreement, in the case where the Option to acquire the project as specified in that agreement is not exercised or is terminated, or within 6 months of a final determination by a court or administrative agency preventing acquisition, in the case where the option is exercised but the project is not acquired, the licensee shall file, for Commission Approval, detailed design drawings for permanent upstream fish passage facilities. This filing shall include but not be limited to: (1) the location and design specifications of the passage facilities; (2) a schedule for installing the facilities within 18 months of a Commission order approving the drawings; and (3) procedures for operating and maintaining the facilities.

Article 409: Replace the first portion of the existing Article 409 ("Within 18 months after license issuance, the licensee shall file") with the following (for fish passage under MPA and DOI modified fishway prescriptions):

Within 12 months of the deadline established by Articles 407 and 408 for filing design drawings for downstream and upstream fish passage facilities, the licensee shall file...

Article 410: Delete the existing Article 410 in its entirety, and add the following new Article 410 in lieu thereof (for fish passage under MPA and DOI modified fishway prescriptions):

Article 410: 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 by the Secretary of the Interior or the Secretary of Commerce under Section 18 of the Federal Power Act consistent with the Lower Penobscot River Multiparty Settlement Agreement.

Proposed License Amendment for the Milford Project (FERC No. 2534)

The licensee requests that the Commission make the following changes to the Project's April 20, 1998 Order Issuing License:

Article 301: Replace with the following, "The licensee shall commence and complete construction of the additional turbine/generator unit authorized herein as ordered by the Commission."

Article 305: Replace the reference in the second sentence to "Within 90 days from the effective date of the license" in the second sentence therein with "as ordered by the Commission".

Article 402: Revise Article to read as follows (for PIN Agreement):

Article 402. The licensee shall operate the Milford Project in a run-of-river mode for the protection of fishery resources and recreational opportunities in the Penobscot River and the Stillwater Branch of the Penobscot River.

The licensee shall at all times act to minimize the fluctuation of the reservoir surface elevation by maintaining a discharge from the project so that, at any point in time, flows, as measured immediately downstream from the project tailrace, approximate the sum of inflows to the project reservoir.

Run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods of time upon mutual agreement between the licensee and the Maine Department of Environmental Protection. If the flow is so modified, the licensee shall notify the Commission and the Penobscot Indian Nation (PIN) as soon as possible, but no later than 10 days after each such incident.

The licensee shall immediately notify the United States Bureau of Indian Affairs (BIA) and the PIN Department of Natural Resources of emergencies at the project beyond the control of the licensee other than those referenced in the preceding paragraph, such as emergency maintenance activities and unusual operating conditions. Upon request, the licensee shall provide BIA and PIN with appropriate records regarding unscheduled outages, drawdowns of the project reservoir, and the powerhouse flows during such emergencies.

The licensee shall maintain a stream-flow gauge at Sunkhaze Rips on the Penobscot River and shall provide to BIA and PIN upon request flow data sufficient to demonstrate compliance with the run-of-river operation requirement of this article.

Add the following Articles (for PIN Agreement):

Article . (a) Within 180 days after the date an order is issued adding this article to the license, the licensee shall file, for Commission approval, a plan for it to stabilize on an ongoing basis the stream banks of the project impoundment with stream bank stabilization measures directed at those areas of the Penobscot Indian Nation (PIN) Reservation within the project impoundment most severely impacted by project operations, including, but not limited to, the area of Indian Island beginning at Sockalexis Arena and extending to the southern tip of Indian Island and the southeastern shore of Orson Island.

(b) The overall goal of the plan is to prevent further erosion. The plan shall be developed in consultation with PIN and the United States Bureau of Indian Affairs (BIA). The plan shall include: (1) a description of the licensee's proposal; (2) a proposed schedule for implementing the plan consistent with the requirements of paragraph (c) hereof; (3) documentation of consultation with PIN and BIA; (4) copies of comments and recommendations of PIN and BIA on the completed plan after it has been prepared and provided to PIN and BIA; and (5) specific descriptions of how the comments and recommendations of PIN and BIA are accommodated by the plan. The licensee shall allow a minimum of 30 days for PIN and BIA to comment and make recommendations on the plan before filing the plan with the Commission. If the licensee is unable to reach agreement with PIN and BIA on the appropriate stream bank stabilization measures to be included in the plan, it will utilize the dispute resolution procedures set forth in Section XIX of the June 2004 Comprehensive Settlement Agreement Between The Penobscot Indian Nation, PPL Maine, LLC, And The Bureau Of Indian Affairs Of The Department Of The Interior.

(c) The Commission reserves the right to require changes to the proposed plan. The licensee shall commence implementation of the stream bank stabilization measures included in the plan as approved by the Commission within 90 days following Commission approval of the plan, or within the first construction season following such approval, subject to any changes to such implementation schedule ordered by the Commission in approving the plan.

(d) Beginning one year after the date the above-referenced plan is filed with the Commission and continuing through the term of this license, the licensee shall annually survey the erosive effects of project operations on PIN Reservation lands within the project impoundment in order to ascertain whether unforeseen or new erosive conditions have occurred. Beginning three years after the date the above-referenced plan is filed with the Commission and continuing every three years thereafter through the term of this license, the licensee shall file

with the Commission and provide copies to PIN and BIA a report on the results of the annual monitoring.

(e) Within 90 days of the filings of the three-year monitoring reports, the licensee shall consult with PIN and BIA to review the results of the annual monitoring and to determine if the approved stream bank stabilization plan should be revised. If the licensee, PIN, and BIA so agree, and subject to the dispute resolution procedures referenced in paragraph (b) hereof, the licensee shall thereafter promptly file, for Commission approval, revisions to the plan in accordance with the procedures set forth in paragraph (b) hereof.

(f) The Commission reserves the right to require changes to the proposed revisions. The licensee shall commence implementation of the stream bank stabilization measures included in the revisions as approved by the Commission within 90 days following Commission approval of the revisions, or within the first construction season following such approval, subject to any changes to such implementation schedule ordered by the Commission in approving the revisions.

Article . Within 60 days of the date the withdrawal of all the requests for rehearing of the Commission's April 20, 1998 orders in Project Nos. 10981, 2403, 2534, 2710, and 2712 becomes effective and final, the licensee shall contribute \$20,000 to the Penobscot Indian Nation (PIN) for use by PIN for monitoring and other activities at the project and thereafter shall annually contribute \$20,000 (adjusted annually based on the Consumer Price Index for that current year) to PIN for use by PIN for such purposes for a nine-year period beginning on the one-year anniversary date of the initial \$20,000 contribution.

Article . The licensee shall promptly notify the Penobscot Indian Nation (PIN) and the United States Bureau of Indian Affairs (BIA) upon receipt of confirmation from the Commission that the Commission expects to perform an inspection of the project. The licensee shall allow representatives of the PIN Department of Natural Resources and BIA to participate in such inspections if they notify the licensee of their intent to participate following their receipt of the above-referenced notice. The licensee shall also afford PIN representatives, upon request, accompanied access to all project areas consistent with applicable safety and liability guidelines and Commission requirements.

Article . (a) The licensee, within five (5) years of the date the withdrawal of all the requests for rehearing of the Commission's April 20, 1998 orders in Project Nos. 10981, 2403, 2534, 2710, and 2712 becomes effective and final, and after consultation with the Penobscot Indian Nation (PIN) and the United States Bureau of Indian Affairs (BIA), shall acquire and convey to PIN clear title to a

parcel or parcels of land consisting of 164 acres, or such other amount of land mutually agreeable to the licensee, PIN, and BIA, that are acceptable to PIN.

(b) The licensee, in lieu of acquiring and conveying to PIN any or all of the acreage referenced in (a) hereof, may, with the agreement of PIN, contribute funds to PIN to acquire land. The amount of such funds will be determined in consultation with the PIN Land Committee and in consideration of the fair market value of comparable parcels of riverfront or river access land along the Penobscot River north of Milford. If the licensee is unable to reach agreement with PIN on the appropriate amount of funding, it will utilize the dispute resolution procedures set forth in Section XIX of the June 2004 Comprehensive Settlement Agreement Between The Penobscot Indian Nation, PPL Maine, LLC, And The Bureau Of Indian Affairs Of The Department Of The Interior.

Article . (a) If the Veazie and Great Works dams are removed from the Penobscot River as contemplated by Section VI of the June 2004 Lower Penobscot River Multiparty Settlement Agreement, the licensee, within two (2) years from the date removal of both dams is completed, shall consult with the Penobscot Indian Nation (PIN), the United States Bureau of Indian Affairs (BIA), the City of Old Town, Maine (City), and other affected landowners regarding whether a canoe portage trail should be constructed by the licensee around the Milford Dam on the west shore of the Penobscot River and file with the Commission a report on such consultation. If it is concluded as a result of such consultation that such a canoe portage trail should be constructed, the licensee shall include in the report, for Commission approval, a plan to construct the trail.

(b) The plan shall be developed in consultation with PIN, BIA, the City, and other affected landowners, and shall include: (1) a description of the licensee's proposal; (2) a proposed schedule for implementing the proposal; (3) documentation of consultation with the above entities; (4) copies of comments and recommendations of such entities on the completed plan after it has been prepared and provided to them; and (5) specific descriptions of how the comments and recommendations of such entities are accommodated by the plan. The licensee shall allow a minimum of 30 days for such entities to comment and make recommendations on the plan before filing the plan with the Commission.

(c) The Commission reserves the right to require changes to the proposed plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article . To the extent not otherwise required in any article of this license, the licensee shall include the Penobscot Indian Nation (PIN) and the United

States Bureau of Indian Affairs (BIA) in all consultations associated with all post-licensing studies, reports or activities related to archaeological, cultural and historic resources, land and water resources, fisheries and wildlife, navigation, and recreation in the project area. The licensee shall provide any related draft reports to the PIN Department of Natural Resources and BIA and provide a minimum of 30 days for their comments and recommendations before filing them with the Commission. The licensee shall further address and incorporate all such comments and recommendations in any final reports filed with the Commission.

PPL Maine also requests in association with implementation of the PIN Agreement that the Commission approve the following changes to the 1998 Log Removal Plan for Milford approved by FERC by order issued June 1, 1998 (87 FERC ¶62,245):

In Section B (Scope of Plan) thereof, delete the last two sentences in the third paragraph and insert in lieu thereof the following sentence: “Additional log removal shall be governed by the provisions of Section E hereof.”

In Section D (Implementation Responsibility) thereof, add the following proviso at the end of the second sentence of the first paragraph: “*provided, however*, that the licensee will consider using a PIN tribal member for necessary log removal activities.”

In Section E (Schedule for Implementation), delete the existing text of this section and insert in lieu thereof the following: “The licensee will work with the PIN Department of Natural Resources on an annual basis through the term of the existing Milford license to relocate semi-buoyant logs that PIN has determined to be navigational hazards within the Milford impoundment. The PIN Department of Natural Resources will contact the licensee on or before June 30 of each year to confirm its interest in either meeting to discuss and plan for removal of logs, or to confirm that no such navigational hazards are present and that log removals are not necessary for that calendar year.”

In Section F (Methods), delete the second sentence of the first paragraph, delete the second paragraph in its entirety, and replace the deleted paragraph with the following: “Identified logs shall be relocated to an area where they do not present a navigation hazard.”

Article 407: Delete the existing Article 407 in its entirety and add the following new Article 407 in lieu thereof (for fish passage under MPA and DOI modified fishway prescriptions):

Article 407. The licensee shall install and operate permanent downstream fish passage facilities at the Milford Project. Fishways shall be maintained and operated to maximize fish passage effectiveness throughout fish migration period(s) as defined below. The downstream migration period shall 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 any spring run that may occur) for American eel. Downstream facilities are to operate whenever generation occurs during the downstream migration period. 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.

Fishway maintenance and operational plans (including schedules) for all fish passage facilities shall be developed by the licensee in consultation and cooperation with the U.S. Fish and Wildlife Service (FWS), the Penobscot Indian Nation (PIN), and other fishery agencies (including the Maine Department of Inland Fisheries and Wildlife, Maine Department of Marine Resources, Maine Atlantic Salmon Commission, and NOAA Fisheries). Functional design and final design plans for all fishways shall be developed in consultation and cooperation with the FWS, PIN, and other fishery agencies.

Downstream fishways shall consist of: (1) a downstream fishway as described in the licensee's filing dated January 12, 1990 (Response to FERC's Additional Information Request, Items 10 through 13); (2) outer trashracks with 1-inch clear bar spacing over the upper 12 feet of the rack (or 4-inch clear bar spacing on outer rack and 1-inch clear bar spacing on the inner trashracks with two additional entrance ports installed on the inner trashrack); (3) twin 4-foot-wide (8 feet total) weirs at the outer trashrack, capable of passing up to 280 cfs; the location of the weirs is to be west of the edge of the new generation unit (No. 2); (4) attraction flows to the downstream fishway of 280 cfs; (5) a gated bottom intake to the downstream migrant facilities for the downstream passage of American eels; and (6) a downstream migrant conduit designed so that the discharge jet does not impact on any vertical walls.

Within 6 months of the effective date of the transfer of the licenses for the Veazie (no. 2710), Great Works (no. 2312), and Howland (no. 2721) Projects pursuant to the terms of the Lower Penobscot River Multiparty Settlement Agreement, the licensee shall file, for Commission approval, detailed design drawings of the licensee's proposed permanent downstream fish passage

facilities. This filing shall include but not be limited to: (1) the location and design specifications of the passage facilities; (2) a schedule for installing the facilities within 18 months of a Commission order approving the design drawings; and (3) procedures for operating and maintaining the facilities.

The licensee shall include with the filing documentation of consultation, copies of agency and PIN comments and recommendations on the drawings, plans, and schedule after they have been prepared and provided to the agencies and PIN, and specific descriptions of how the agencies' and PIN's comments are accommodated by the licensee's plan. The licensee shall allow a minimum of 30 days for the agencies and PIN to comment and to make recommendations before filing the drawings, plans, and schedule with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project specific information.

The Commission reserves the right to require changes to the proposed facilities and schedule. No construction of downstream fish passage facilities shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the proposal, including any changes required by the Commission.

Until the twin 4-foot-wide weirs at the outer trashracks above are installed, the licensee shall continue to operate the existing surface weir bypass facilities at the project.

Article 408: Delete the existing Article 408 in its entirety and add the following new Article 408 in lieu thereof (for fish passage under MPA and DOI modified fishway prescriptions):

Article 408. The licensee shall install and operate permanent upstream fish passage facilities at the Milford Project. 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 15 to November 15 for Atlantic salmon, May 1 to June 30 for American shad and alewife, June 1 to July 31 for blueback herring, and April 1 to November 30 for American eel. 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.

Fishway design, maintenance and operational plans (including schedules) for all fish passage facilities shall be developed by the licensee in consultation and

cooperation with the U.S. Fish and Wildlife Service (FWS), the Penobscot Indian Nation (PIN), and other fishery agencies (including the Maine Department of Inland Fisheries and Wildlife, Maine Department of Marine Resources (MDMR), Maine Atlantic Salmon Commission, and NOAA Fisheries). Functional design and final design plans for all fishways shall be developed in consultation and cooperation with the FWS, PIN, and other fishery agencies.

During the first upstream eel migration season after a Commission order inserting this replacement article into the license, the licensee shall assess the appropriate location for the siting of a new upstream eel fishway at the project in consultation with the FWS, MDMR, and PIN, and, upon approval by those entities of a proposed location, file, for Commission approval, a plan for the fishway. This plan shall include but not be limited to: (1) the location and design specifications of the passage facilities; (2) a schedule for installing the facilities and completing initial testing and have the fishway fully operational prior to the third upstream migration season following the effective date of the Lower Penobscot River Multiparty Settlement Agreement; and (3) procedures for operating and maintaining the facilities.

Within 6 months of the effective date of the transfer of the licenses for the Veazie (no. 2403), Great Works (no. 2312), and Howland (no. 2721) Projects pursuant to the terms of the Lower Penobscot River Multiparty Settlement Agreement, the licensee shall file, for Commission approval, detailed design drawings for the “state of the art” upstream anadromous fish passage facilities specified in Attachment A to that Agreement. This filing shall include but not be limited to: (1) the location and design specifications of the passage facilities; (2) a schedule for installing the facilities within 18 months of a Commission order approving the design drawings; and (3) procedures for operating and maintaining the facilities.

The licensee shall include, with the filings required by the two preceding paragraphs, documentation of consultation, copies of agency and PIN comments and recommendations on the completed plan after it has been prepared and provided to the agencies and PIN, and specific descriptions of how these comments and recommendations are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies and PIN to comment and to make recommendations before filing the drawings, plan, and schedule with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project specific information.

The Commission reserves the right to require changes to the proposed facilities and schedule. No construction of upstream fish passage facilities shall begin until the licensee is notified by the Commission that the plan is approved.

Upon Commission approval, the licensee shall implement the proposal, including any changes required by the Commission.

Article 409: Delete the existing Article 409 in its entirety and add the following new Article 409 in lieu thereof (for fish passage under MPA and DOI modified fishway prescriptions):

Article 409. Within 12 months of the deadline established by Articles 407 and 408 for filing design drawings or a plan for a fish passage device, the licensee shall file with the Commission, for approval, a plan to monitor the effectiveness of all the facilities and flows provided pursuant to Articles 407 and 408 of this license that will enable the efficient and safe passage of diadromous fish migrating upstream and downstream. The results of these monitoring studies shall be submitted to the agencies listed below and shall provide a basis for recommending future structural or operational changes at the project, if necessary.

The monitoring plan shall include a schedule for: (1) implementation of the plan; (2) consultation with the appropriate federal, state, and tribal agencies concerning the results of the monitoring; and (3) filing the results, agency comments, and licensee's response to agency comments with the Commission.

The licensee shall prepare the monitoring plan after consultation with the U.S. Fish and Wildlife Service, Maine Fisheries Agencies (IFW, DMR, MASC), the Maine Department of Environmental Protection, the Penobscot Indian Nation (PIN), and NOAA Fisheries.

The licensee shall include with the plan documentation of agency consultation, copies of agency and PIN comments and recommendations on the plan after it has been prepared and provided to them, and specific descriptions of how the agencies' comments are accommodated by the licensee's plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project specific information.

The Commission reserves the right to require changes to the proposed plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

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 agencies listed above to

develop recommended measures for amelioration 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.

Article 411: Delete the existing Article 411 in its entirety and add the following new Article 411 in lieu thereof (for fish passage under MPA and DOI modified fishway prescriptions):

Article 411. 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 by the Secretary of the Interior or the Secretary of Commerce under Section 18 of the Federal Power Act consistent with the Lower Penobscot River Multiparty Settlement Agreement.

Proposed License Amendment for the West Enfield Project (FERC No. 2600)

The licensee requests that the Commission make the following changes to the Project's June 26, 1984 Order Issuing License, as amended by the July 15, 1986 Order Amending License, the February 23, 1989 Order Approving Revised Exhibit G, and the September 19, 1989 Order Approving As-Built Exhibits:

Paragraph (C)(2): Exhibit F – The following revised Exhibit F drawings should be approved and made part of this license:

Exhibit	FERC No.	Showing	Superceding
F Sheet 4	2600-33	Elevation and Powerhouse Section	2600-30
F Sheet 6	2600-35	Ungated Spillway Section	2600-32

Paragraph (C)(2): Change the statement: “The revised Exhibit A filed on June 30, 1989, is approved and made part of this license, superceding the Exhibit A of the order issuing license of June 26, 1984” to insert after 1989: “as modified by the amended Exhibit A filed June 2004.”

Paragraph (C)(2)(a): Change the reference therein from “surmounted by 6-foot-high flashboards” to “surmounted by 7-foot-high flashboards”.

Paragraph (C)(2)(b): Change the reference therein from “11,250 acre-feet” to “11,480 acre-feet”; and change the reference therein from “normal surface elevation of 155.1 feet mean sea level” to “normal surface elevation of 156.1 feet mean sea level”.

Article 41: Delete the existing Article 41 in its entirety, and add the following new Article 41 in lieu thereof (for PIN Agreement):

Article 41. The licensee, within 30 days of the date the withdrawal of all the requests for rehearing of the Commission's April 20, 1998 orders in Project Nos. 10981, 2403, 2534, 2710, and 2712 becomes effective and final, shall cause the May 16, 1986 Agreement between Bangor Hydro-Electric Company, Pacific Energy Lighting Systems, and the Penobscot Indian Nation (PIN) to be amended by deleting the second sentence of Section 2(a)(i) thereof and by revising the annual fee formula contained in the first sentence thereof from “an annual fee in an amount equal to \$0.00075 for each kilowatt-hour of electric energy production from the West Enfield Project” to “an annual fee in an amount equal to \$0.001 (adjusted annually based on the Consumer Price Index for that current year beginning on the one-year anniversary of the date the \$0.001 amount first goes into effect) for each kilowatt-hour of electric energy production from the West Enfield Project”; *provided, however*, that such revision in the annual fee formula shall not become effective unless and until (a) PIN has revised (or reissued) in a

manner satisfactory to the licensee and appropriately recorded in county land records PIN's March 8, 1988 easement to the licensee so that the licensee is granted the right to flood and flow with water the islands and lands described in such easement in connection with licensee's construction, ownership, and operation of the project dam with flashboards with a normal maximum water surface elevation of 156.1 feet M.S.L. and (b) the United States Department of the Interior has issued all approvals of the revision (or reissuance) of the easement required by law and such approvals are final.

Add the following Articles (for PIN Agreement):

Article [redacted]. To ensure the protection of Penobscot Indian Nation (PIN) properties and resources of traditional, religious and cultural significance, within 60 days of the date the withdrawal of all the requests for rehearing of the Commission's April 20, 1998 orders in Project Nos. 10981, 2403, 2534, 2710, and 2712 becomes effective and final the licensee shall contribute \$75,000 to PIN for use by PIN for curational activities associated with such properties and resources and thereafter shall annually contribute an additional \$60,000 to PIN for use by PIN for such purposes for a four-year period beginning on the one-year anniversary date of the initial \$75,000 contribution.

Article [redacted]. (a) The licensee, within 90 days of the date the withdrawal of all the requests for rehearing of the Commission's April 20, 1998 orders in Project Nos. 10981, 2403, 2534, 2710, and 2712 becomes effective and final, shall affect the transfer to the Penobscot Indian Nation (PIN) clear title to the parcels of land located in the Town of Bradley, Maine, consisting of approximately 46.8 acres that are identified on the Bradley Tax Map as Map 25, Lot 7, Map 26, Lot 20-1, and Map 26, Lot 15.

(b) The licensee, within 90 days of the date the withdrawal of all the requests for rehearing of the Commission's April 20, 1998 orders in Project Nos. 10981, 2403, 2534, 2710, and 2712 becomes effective and final, shall contribute \$25,000 to PIN for use by PIN in acquiring additional parcels of land along the Penobscot River and thereafter shall annually contribute an additional \$25,000 (adjusted annually based on the Consumer Price Index for that current year) for use by PIN for such purpose for a two-year period beginning on the one-year anniversary date of the initial \$25,000 contribution.

Article [redacted]. To the extent not otherwise required in any article of this license, the licensee shall include the Penobscot Indian Nation (PIN) and the United States Bureau of Indian Affairs (BIA) in all consultations associated with all post-licensing studies, reports or activities related to archaeological, cultural and historic resources, land and water resources, fisheries and wildlife, navigation,

and recreation in the project area. The licensee shall provide any related draft reports to the PIN Department of Natural Resources and BIA and provide a minimum of 30 days for their comments and recommendations before filing them with the Commission. The licensee shall further address and incorporate all such comments and recommendations in any final reports filed with the Commission.

Add the following Article (for MPA):

Article . The licensee shall implement the requirements of Attachment B to the Lower Penobscot River Multiparty Settlement Agreement, dated June 2004 (Contingent Mitigation Fund), as it pertains to the West Enfield Hydroelectric Project.

Insert new Article 46 (for fish passage under MPA):

Article 46: The licensee shall install and operate permanent upstream fish passage facilities for American eel at the West Enfield Project. 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 April 1 to November 30 for American eel. 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.

Fishway design, maintenance and operational plans (including schedules) for all fish passage facilities shall be developed by the licensee in consultation and cooperation with the U.S. Fish and Wildlife Service (FWS), the Penobscot Indian Nation (PIN), and other fishery agencies (including the Maine Department of Inland Fisheries and Wildlife, Maine Department of Marine Resources (MDMR), and NOAA Fisheries). Functional design and final design plans for all fishways shall be developed in consultation and cooperation with the FWS, Penobscot Nation, and other fishery agencies.

During the first upstream eel migration season after the date of the Commission Order inserting this replacement article into the license, the licensee shall assess the appropriate location for the siting of a new upstream eel fishway at the project, in consultation with the FWS, MDMR, and PIN, and these entities' approval of a proposed location, file, for Commission approval, a plan for the fishway. This filing shall include but not be limited to: (1) the location and design specifications of the passage facilities; (2) a schedule for installing the facilities and completing initial testing and having the fishway fully operational

prior to the third upstream migration season following the effective date of the Lower Penobscot River Multiparty Settlement Agreement; and (3) procedures for operating and maintaining the facilities.

The licensee shall include with the plan documentation of consultation, copies of agency and PIN comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' and PIN's comments and recommendations are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies and PIN to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the proposed facilities and schedule. No construction of upstream fish passage facilities shall begin until the Licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the proposal, including any changes required by the Commission.

Proposed License Amendment for the Medway Project (FERC No. 2666)

The licensee requests that the Commission make the following changes to the Project’s March 29, 1999 Order Issuing License, as amended by the October 4, 1999 Order Approving Revised Exhibit G-3, and the December 7, 2000 Order Approving revised Exhibit F-1:

Paragraph (B)(1): Exhibit G – The following revised Exhibit G maps should be approved and made part of this license:

Exhibit	FERC No.	Showing	Superceding
G Sheet 1	2666-1010	Detail Map Reservoir	2666-1005
G Sheet 2	2666-1011	Detail Map Reservoir	2666-1006
G Sheet 3	2666-1012	Detail Map Reservoir	2666-1008

Paragraph (B)(2): Change the reference therein from “impoundment elevation of 259.3 feet mean sea level” to “impoundment elevation of 260.3 feet mean sea level”; and change the reference from “impoundment at elevation 259.3 feet (normal impoundment level)” to “impoundment at elevation 260.3 feet (normal impoundment level)”.

Paragraph B(2)(a): Exhibit F – The following revised Exhibit F drawings should be approved and made part of this license:

Exhibit	FERC No.	Showing	Superceding
F Sheet 1	2666-1013	General Site Plan and Dam Sections	2666-1009
F sheet 4	2666-1014	Dam and Powerhouse Downstream Elevation	2666-1004

Paragraph C: Exhibit A reference - Change the reference to the existing Exhibit A to a reference to the modified Exhibit A, as submitted herein.

Article 402: Change the reference from “an impoundment surface elevation within six inches (in) of 259.3 feet above mean sea level” to “an impoundment surface elevation within six inches (in) of 260.3 feet above mean sea level”.

Add the following Article (for MPA):

Article [redacted]: The licensee shall implement the requirements of Attachment B to the Lower Penobscot River Multiparty Settlement Agreement, dated June 2004 (Contingent Mitigation Fund), as it pertains to the Medway Hydroelectric Project.

Proposed License Amendment for the Stillwater Project (FERC No. 2712)

The licensee requests that the Commission make the following changes to the Project's April 20, 1998 Order Issuing License for the Stillwater Hydroelectric Project as amended by the June 29, 2001 Order Amending License and November 6, 2003 Order Approving Revised Exhibit F:

Paragraph (B)(1): Exhibit G – The following revised Exhibit G maps should be approved and made part of this license:

Exhibit	FERC No.	Showing	Superceding
G Sheet 1	2712-1008	General Map of Project Area	2712-1001
G Sheet 2	2712-1009	Detail Map Reservoir	2712-1002
G Sheet 3	2712-1010	Detail Map Reservoir	2712-1003
G Sheet 4	2712-1011	Detail Map Reservoir	2712-1004

Paragraph B(2)(a): Revised project descriptions as follows:

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 long, which serves as an abutment and wingwall, containing a 6-foot-wide unused stoplog sluice gate; a 381-foot-long primary spillway section, with a maximum height of 22 feet at a crest elevation of 91.65 feet NGVD, topped with 3-foot-high pin-supported flashboards; an 85-foot-long by 2-foot-wide by 2.5-foot-high leveling concrete course topped with 1.67 foot-high pin-supported flashboards; a 43-foot-long concrete sill section on top of a ledge island topped with 0.65-foot-high pin-supported flashboards; a 174-foot-long ogee section, with varying heights from 4 to 20 feet, topped with 3-foot-high pin-supported flashboards; a 52-foot-long ogee section, with a maximum height of 9 feet, topped with a concrete curb, 15 inches wide by 25 inches high, topped with 1.80-foot-high pin-supported flashboards; an 89-foot-long spillway section, with an average height of 6 feet topped with 1.05-foot-high pin-supported flashboards; a 42-foot-long spillway section, with a maximum height of 8 feet, topped with 0.85- to 3.8-foot-high pin-supported flashboards; an 89.5-foot-long abutment section, with an average height of 4 feet topped with 0.85-foot-high pin-supported flashboards; a 187-foot-long non-overflow section, with varying heights from 3 to 12 feet, which abuts an abandoned powerhouse; a 63-foot-long non-overflow section, which is part of the abandoned powerhouse's foundation; a 255.5-foot-long section, with varying heights from 2 to 4 feet, abutting the old and existing powerhouses; and a 162.5-foot-long non-overflow section, with a downstream-facing earth backfill, having a maximum height of 12 feet, topped with a 2-foot-

high concrete curb and a driveway on top of the earth backfill.

Paragraph B (2)(c): Change to reflect current data and new elevations as follows:

c) An impoundment, about three miles long, having a surface area of about 191 acres (AC); a gross storage capacity of approximately 1,910 acre-feet (AF); a negligible useable storage capacity; a normal headwater surface elevation of about 94.65 feet NGVD; and a normal tailwater surface elevation of about 73.65 feet NGVD.

Paragraph (B)(2)(d): Exhibit A reference - Change the reference from the existing Table A-1 to incorporate the changes and additions in the modified Table A-1, as submitted herein.

Paragraph (B)(2)(d): Exhibit F – The following revised Exhibit F drawings should be approved and made part of this license:

Exhibit	FERC No.	Showing	Superceding
F Sheet 1	2712-1012	General Site Plan	2712-0005
F Sheet 2	2712-1013	Powerhouse Plan	2712-0007

Article 401: Change the reference in the first paragraph thereof to “normal full pond elevation of 93.65 feet NGVD” to “normal full pond elevation of 94.65 feet NGVD”.

Article 402: Change the reference to minimum flows required by the article (as modified by the Commission’s Order dated June 29, 2001 (95 FERC 62,292)) from “a permanent minimum flow of 40 cubic feet per second (cfs) into the west bypassed channel and a permanent flow of 155 cfs into the east bypassed channel” to “a permanent minimum flow of 20 cubic feet per second (cfs) into the west bypassed channel and a permanent flow of 50 cfs into the east bypassed channel”.

Article 406: Delete the existing Article 406 in its entirety and add the following new Article 406 in lieu thereof (for fish passage under MPA and DOI modified fishway prescriptions):

Article 406: The licensee shall install and operate permanent downstream fish passage facilities at the Stillwater Project. Fishways shall be maintained and operated to maximize fish passage effectiveness throughout fish migration period(s) as defined below. The downstream migration period is 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 any spring run that may occur) for American eel. Downstream facilities are to operate whenever generation occurs during the downstream migration period. 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.

Fishway maintenance and operational plans (including schedules) for all fish passage facilities shall be developed by the Licensee in consultation and cooperation with the U.S. Fish and Wildlife Service (FWS), the Penobscot Indian Nation (PIN), and other fishery agencies (including the Maine Department of Inland Fisheries and Wildlife, Maine Department of Marine Resources, Maine Atlantic Salmon Commission, and NOAA Fisheries). Functional design and final design plans for all fishways shall be developed in consultation and cooperation with the FWS, Penobscot Nation, and other fishery agencies.

Downstream fishways shall consist of installation of trashracks with 1" clear opening at the powerhouse turbine intake and gated surface and bottom bypasses discharging up to 70 cfs during the downstream migration period. If shown to be necessary by studies of the effectiveness of these measures, but in no case before the expiration of the safe harbor period delimited in Attachment A, Section II(c) of the Lower Penobscot River Multiparty Settlement Agreement, the licensee shall institute nightly shut-downs for downstream eel passage for a two week period during downstream eel migration season.

Within 180 days from the date of the Commission order inserting this replacement article into the license, the licensee shall file, for Commission approval, a plan for installing the licensee's trashracks. This filing shall include a schedule for installing the trashracks with 1-inch clear opening within 1 year of the effective date of the Lower Penobscot River Multiparty Settlement Agreement.

Within 6 months of the effective date of the transfer of the licenses for the Veazie (no. 2403), Great Works (no. 2312), and Howland (no. 2721) Projects pursuant to the terms of the Lower Penobscot River Multiparty Settlement Agreement, the licensee shall file, for Commission approval, detailed design drawings for the surface and bottom bypasses. This filing shall include but not be limited to: (1) the location and design specifications of the bypasses; (2) a schedule for installing the facilities

within 18 months of a Commission order approving the design drawings; and (3) procedures for operating and maintaining the facilities.

The Licensee shall include, with the filings required by the two previous paragraphs, documentation of consultation, copies of agency and PIN comments and recommendations on the drawings, plans, and schedules after they have been prepared and provided to the agencies, and specific descriptions of how the agencies' and PIN's comments and recommendations are accommodated by the Licensee's facilities. The Licensee shall allow a minimum of 30 days for the agencies and PIN to comment and to make recommendations before filing the drawings, plans, and schedule with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project specific information.

The Commission reserves the right to require changes to the proposed facilities and schedules. No construction of downstream fish passage facilities shall begin until the Licensee is notified by the Commission that the plan is approved. Upon Commission approval, the Licensee shall implement the proposal, including any changes required by the Commission.

Until the surface and bottom bypasses specified above are installed, the licensee shall continue to operate the existing surface weir bypass facilities at the project.

Article 407: Delete the existing Article 407 in its entirety and add the following new Article 407 in lieu thereof (for fish passage under MPA and DOI modified fishway prescriptions):

Article 407: The licensee shall install and operate permanent upstream fish passage facilities at the Stillwater Project. 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 April 1 to November 30 for American eel. 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.

Fishway design, maintenance and operational plans (including schedules) for all fish passage facilities shall be developed by the licensee

in consultation and cooperation with the U.S. Fish and Wildlife Service (FWS), the Penobscot Indian Nation (PIN), and other fishery agencies (including the Maine Department of Inland Fisheries and Wildlife, Maine Department of Marine Resources (MDMR), Maine Atlantic Salmon Commission, and NOAA Fisheries). Functional design and final design plans for all fishways shall be developed in consultation and cooperation with the FWS, Penobscot Nation, and other fishery agencies.

During the first upstream eel migration season after the date of the Commission Order inserting this replacement article into the license, the licensee shall assess the appropriate location for the siting of a new upstream eel fishway at the project, in consultation with the FWS, MDMR, and PIN, and these entities' approval of a proposed location, file, for Commission approval, a plan for the fishway. This filing shall include but not be limited to: (1) the location and design specifications of the passage facilities; (2) a schedule for installing the facilities and completing initial testing and have the fishway fully operational prior to the third upstream migration season following the effective date of the Lower Penobscot River Multiparty Settlement Agreement; and (3) procedures for operating and maintaining the facilities.

The licensee shall include with the plan documentation of consultation, copies of agency and PIN comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' and PIN's comments and recommendations are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies and PIN to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project specific information.

The Commission reserves the right to require changes to the proposed facilities and schedule. No construction of upstream fish passage facilities shall begin until the Licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the proposal, including any changes required by the Commission.

Article 408: Delete the existing Article 408 in its entirety and add the following new Article 408 in lieu thereof (for fish passage under MPA and DOI modified fishway prescriptions):

Article 408: Within 12 months of the deadline established by Articles 406 and 407 for filing design drawings or a plan for a fish passage device,

the licensee shall file with the Commission, for approval, a plan to monitor the effectiveness of all the facilities and flows provided pursuant to Articles 406 and 407 of this license that will enable the efficient and safe passage of diadromous fish migrating upstream and downstream. The results of these monitoring studies shall be submitted to the agencies listed below and shall provide a basis for recommending future structural or operational changes at the project.

The monitoring plan shall include a schedule for: (1) implementation of the plan; (2) consultation with the appropriate federal, state, and tribal agencies concerning the results of the monitoring; and (3) filing the results, agency comments, and licensee's response to agency comments with the Commission.

The licensee shall prepare the monitoring plan after consultation with the U.S. Fish and Wildlife Service, Maine Fisheries Agencies (IFW, DMR, MASC), the Maine Department of Environmental Protection, the Penobscot Indian Nation (PIN), and NOAA Fisheries.

The licensee shall include with the plan documentation of agency consultation, copies of agency and PIN comments and recommendations on the plan after it has been prepared and provided to them, and specific descriptions of how the agencies' and PIN's comments are accommodated by the licensee's plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project specific information.

The Commission reserves the right to require changes to the proposed plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

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 agencies listed above to develop recommended measures for amelioration 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.

Article 409: Delete the existing Article 409 in its entirety and add the following new Article 409 in lieu thereof (for fish passage under MPA and DOI modified fishway

prescriptions):

Article 409: 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 by the Secretary of the Interior or the Secretary of Commerce under Section 18 of the Federal Power Act consistent with the Lower Penobscot River Multiparty Settlement Agreement.

Add the following Article (for MPA):

Article [REDACTED]. The licensee shall implement the requirements of Attachment B to the Lower Penobscot River Multiparty Settlement Agreement, dated June 2004 (Contingent Mitigation Fund), as it pertains to the Stillwater Hydroelectric Project.