

COVER SHEET

**DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR
AMENDMENT TO LICENSE
HOLTWOOD HYDROELECTRIC PROJECT
Docket No. P-1881-050**

Section 1
Introduction
Pages 1 through 10

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DRAFT ENVIRONMENTAL IMPACT STATEMENT

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

Holtwood Hydroelectric Project FERC Project No. 1881-050-PA

1.0 INTRODUCTION

1.1 APPLICATION

Application Type: Amendment of license to increase installed capacity
Date Filed: December 20, 2007, and supplemented January 4, February 20, and June 19, 2008
Applicant's Name: PPL Holtwood, LLC (PPL or licensee)
Water body: Susquehanna River
County and State: Lancaster and York counties, Pennsylvania
Federal Lands: The project does not occupy any federal lands

1.2 PURPOSE OF ACTION AND NEED FOR POWER

1.2.1 Purpose of Action

The Holtwood Hydroelectric Project (Holtwood Project or project) is one of five hydroelectric projects on the lower Susquehanna River (figure 1). The 107.2-megawatt (MW) project has the lowest hydraulic capacity among the existing hydropower plants and almost half the hydraulic capacity of the upstream Safe Harbor Project. Fish passage facilities constructed in 1997 as a result of a 1993 agreement⁷ among the upstream

⁷ *The 1993 Settlement and Agreement for the Development of Fish Passage Facilities at the Holtwood, Safe Harbor, and York Haven Projects in the Susquehanna River* was executed on June 1, 1993, among the Pennsylvania Power & Light Company, Safe Harbor Water Power Corporation, and York Haven Power Company, and U.S. Fish and Wildlife Service, U.S. Department of the Interior, Pennsylvania Fish and Boat Commission, Pennsylvania Department of Environmental Resources, Maryland Department of Natural Resources, Susquehanna River Basin Commission, Upper Chesapeake Bay Watershed Association, and the Pennsylvania Federation of Sportmen's Clubs.

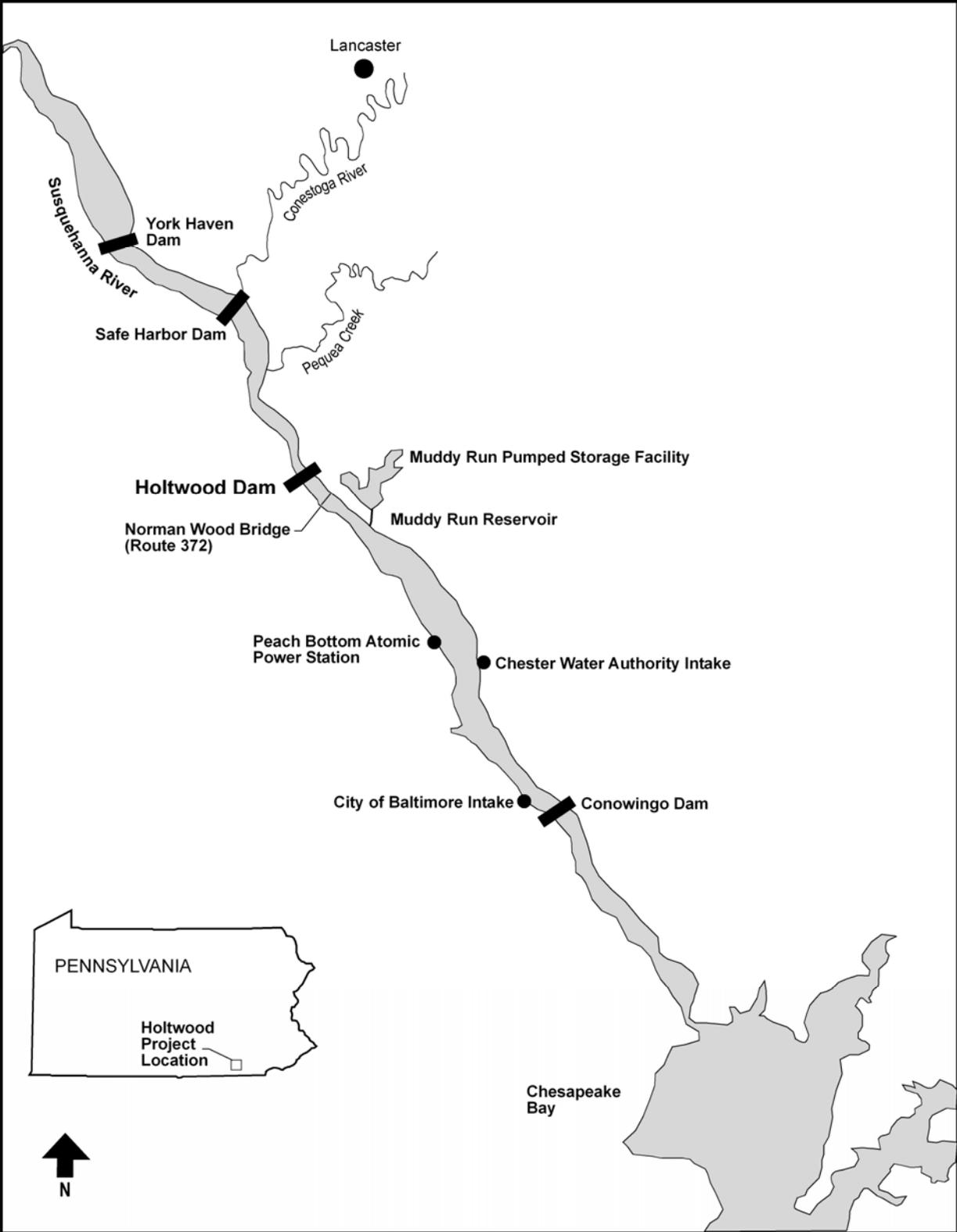


Figure 1. Location of the Holtwood Project and other facilities on the lower Susquehanna River. (Source: Rand McNally, 1999, as modified by staff).

Safe Harbor (FERC Project No. 125) and York Haven (FERC Project No.1888) projects and the Holtwood Project have not been effective in passing American shad upstream, especially during high flow periods, and are inhibiting the ability of other upstream projects from achieving the American shad restoration goals envisioned in the 1993 agreement. PPL has been engaged in discussions with resource agencies during the past 3 years to develop an agreement that would allow redevelopment of the project to increase the installed capacity and hydraulic capacity and reconfigure the project to improve the upstream fish passage. On November 21, 2007, Pennsylvania Department of Environmental Protection (Pennsylvania DEP) issued a Consent Order and Agreement (COA). The COA orders and PPL agrees to the implementation of various fish passage improvements at the project, as well as the provision of minimum flows and certain recreational facilities. The COA includes an appendix with partial preliminary water certification conditions as summarized in appendix A, table A-2, of this document.

The amendment requests that the Federal Energy Regulatory Commission (Commission or FERC): (1) increase the installed capacity of the project from 107.2 MW to 195.5 MW⁸; (2) increase the hydraulic capacity from 31,500 cubic feet per second (cfs) to 62,100 cfs; and (3) extend the license term by 16 years to August 31, 2030. The extension of license term would be set to expire at the same time as with the upstream the Safe Harbor Project. The existing Holtwood Project license will expire on September 1, 2014.

In this draft environmental impact statement (EIS) we assess the environmental effects of continuing to operate the project: (1) as proposed in the licensees' amendment application and (2) as currently licensed, which is the no-action alternative. Although the primary issue that we address is to provide improved upstream fish passage, particularly for American shad, we also consider other issues, such as aquatic and terrestrial habitat, cultural resources, and recreational use, and access.

1.2.2 Need for Power

The Holtwood Project is located within what is now the Reliability*First* Corporation (Reliability*First*) region of the North American Electric Reliability Corporation region. Prior to the consolidation of several North American Electric Reliability Corporation regions into the Reliability*First* region, the Holtwood Project was located within the Mid-Atlantic Area Council region.

⁸ The authorized capacity when the project was originally licensed on August 14, 1980, was 107.2 MW. Since that time, the runners on six units were replaced with newer, more efficient designs, the generators on three units were rewound to higher ratings, and the two water-driven exciters were retired. The net result of these modifications increased the capacity of the project from 107.2 MW to 108.44 MW. The proposed project modifications would further increase the capacity of the project from 108.44 MW to 195.5 MW.

ReliabilityFirst estimates that summer demand in the region will increase at an equivalent compound growth rate of 1.6 percent per year (29,300 MW) from 2007 to 2016 (ReliabilityFirst, 2006). The ReliabilityFirst region is heavily dependent on fossil-fueled generation, with 47 percent fueled by coal, 28 percent fueled by gas, and 7 percent fueled by oil. Nuclear power provides about 14 percent, with only 1 percent attributed to conventional hydroelectric facilities and about 2 percent provided by pumped storage hydroelectric facilities. The remaining 1 percent comes from a variety of other renewable and non-renewable fuel sources. Although some older facilities will be retired during the next 10 years and new facilities are expected to come online, the fuel-source mix percentages for the ReliabilityFirst region are not expected to change.

Pennsylvania’s new Alternative Energy Portfolio Standards (PPUC, 2008) require that increasing amounts of power sold in Pennsylvania come from renewable resources (e.g., solar, hydro, wind). The power from the proposed expansion of the Holtwood Project may qualify as Tier 1 power under those standards. Of the projects currently expected to come online during the period 2007–2010, approximately 14 percent (2,116 MW) of the capacity will be from wind turbines (renewable energy), while the remainder will be from fossil-fuel facilities (non-renewable energy).

The proposed expansion of the Holtwood Project would increase current installed capacity by 87.06 MW and increase average annual generation by about 361,000 megawatt-hours (MWh), which would help the state of Pennsylvania achieve its renewable resource goals and provide needed energy that might otherwise be provided by fossil-fueled generation.

1.3 STATUTORY AND REGULATORY REQUIREMENTS

A capacity amendment for the Holtwood Project is subject to numerous requirements under the Federal Power Act (FPA) and other applicable statutes. We summarize the major regulatory requirements in table 1 and describe them below.

Table 1. Major statutory and regulatory requirements for the Holtwood Project.

Requirement	Agency	Status
Section 18 of the Federal Power Act (fishway prescription)	U.S. Department of the Interior	Interior filed a preliminary fishway prescription under section 18.
Section 10(j) of the Federal Power Act	U.S. Department of the Interior, Pennsylvania Fish and Boat Commission	Interior and Pennsylvania Fish and Boat Commission filed recommendations under section 10(j).

Requirement	Agency	Status
Clean Water Act	Pennsylvania Department of Environmental Protection	Appendix A of the Consent Order includes partial preliminary water quality certification conditions.
Endangered Species Act	U.S. Fish and Wildlife Service	Initiating formal consultation.

1.3.1 Federal Power Act

1.3.1.1 Section 18 Fishway Prescription

Section 18 of the FPA states that the Commission is to require construction, operation, and maintenance by a licensee of such fishways as may be prescribed by the Secretaries of Commerce or the U.S. Department of the Interior (Interior). On April 16, 2008, Interior filed a timely fishway prescription for the project. These conditions are described under section 2.2.6, *Modifications to Applicant’s Proposal—Mandatory Conditions*.

1.3.1.2 Section 10(j) Conditions

Under section 10(j) of the FPA, each hydroelectric license issued by the Commission must include conditions based on recommendations provided by federal and state fish and wildlife agencies for the protection, mitigation, or enhancement of fish and wildlife resources affected by the proposed project. On April 16, 2008, and May 2, 2008, respectively, Interior and the Pennsylvania Fish and Boat Commission (Pennsylvania FBC) filed recommendations under section 10(j), as summarized in table 25 in section 5.2, *Recommendations of Fish and Wildlife Agencies*. In section 5.2, we also discuss how we address the agency recommendations and comply with section 10(j).

1.3.2 Clean Water Act

Under section 401 of the Clean Water Act, a licensee applying for a capacity-related license amendment must obtain certification from the appropriate state pollution control agency verifying compliance with the Clean Water Act. Appendix A of the COA between Pennsylvania DEP and PPL includes partial preliminary water quality certification (WQC) conditions for the Holtwood Project. The COA specifies that if the final WQC contains conditions that are substantially the same as the proposed conditions in Appendix A, PPL would not challenge any of those conditions in any appeal of the final WQC. These proposed conditions include three standard conditions applicable to all WQC conditions and specific conditions for fish passage operating procedures for upstream and downstream passage of diadromous and resident fish species, and minimum streamflows operating procedures for minimum flow releases in the spillway, Piney Channel, tailrace, and from Lake Aldred. The preliminary water quality conditions are

described in section 2.2.6, *Modifications to Applicant's Proposal—Mandatory Conditions*. PPL jointly applied to Pennsylvania DEP for a WQC and the U.S. Army Corps of Engineers (Corps) for a section 404 fill and dredge permit on January 30, 2008.

1.3.3 Section 404 Permit

Section 404 of the Clean Water Act requires that anyone interested in depositing or discharging dredged or fill material into waters of the United States, including wetlands, must receive authorization for such activities. These discharges include return water from dredged material disposed on upland property and generally any fill material like rock, sand, or dirt. Activities in wetlands for which permits may be required include, but are not limited to:

- placement of fill material;
- ditching activities when the excavated material is sidecast;
- levee and dike construction;
- mechanized land clearing;
- land leveling;
- most road construction; and
- dam construction.

Since the proposed construction of the new powerhouse and reconfiguration of the fish passage facilities are to take place within the project floodplain and wetlands, the proposed project may result in fill material being deposited in waters or wetlands of the United States or any activity in waters of the United States. PPL jointly applied to Pennsylvania DEP for a WQC and the Corps for a section 404 fill and dredge permit on January 30, 2008.

1.3.4 Essential Fish Habitat

Pursuant to the amended Magnuson-Stevens Fishery Conservation and Management Act, the U.S. Congress mandated the identification of habitats essential to federally managed commercial fish species and the implementation of measures to conserve and enhance their habitat (Public Law 104-297). In the amended Act, Congress defined essential fish habitat for federally managed fish species as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” Essential Fish Habitat is applicable to federally managed commercial species that live out at least one component of their lifecycle in marine waters (such as anadromous species). The state of Pennsylvania and the Susquehanna River is under the jurisdiction of the Mid-Atlantic Fishery Management Council, related to federally managed commercial fish species. There are, however, no federally managed species that use the freshwater habitat of the Susquehanna River in Pennsylvania, so there is no Essential Fish Habitat in the vicinity of the Holtwood Project (NMFS, 2008).

1.3.5 Endangered Species Act

Section 7 of the Endangered Species Act (ESA) requires federal agencies to ensure that 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. No federally listed threatened or endangered aquatic, plant, or wildlife species or critical habitat for listed species has been identified in the project area.

1.3.6 Coastal Zone Management Act

Under section 307(c)(3)(A) of the Coastal Zone Management Act, 16 U.S.C. §1456(3)(A), the Commission cannot issue a capacity amendment to a license for a project within or affecting a state's coastal zone unless the state's Coastal Zone Management Act agency concurs with the license applicant's certification of consistency with the state's Coastal Zone Management Act program, or the agency's concurrence is conclusively presumed by its failure to act within 180 days of its receipt of the applicant's certification. On May 2, 2008, Pennsylvania DEP determined that the proposed action is located outside of Pennsylvania's coastal zones and would not affect them. Therefore, the action is consistent with Pennsylvania's Coastal Zone Management Program.⁹

1.3.7 National Historic Preservation Act

Section 106 of the National Historic Preservation Act requires that every federal agency "take into account" how each of its undertakings could affect historic properties. Historic properties are districts, sites, buildings, structures, traditional cultural properties, and objects significant in American history, architecture, engineering, and culture that are eligible for inclusion in the National Register of Historic Places (National Register). By letter dated April 11, 2006, the Commission designated PPL as the Commission's non-federal representative to consult with the Pennsylvania State Historic Preservation Officer (SHPO) under section 106. The SHPO reviewed the results of archaeological studies and concluded by letter dated January 22, 2007, that the proposed action would not require further archaeological survey. PPL submitted documentation of the historic significance of the Holtwood dam and powerhouse complex to the SHPO on May 22, 2008. PPL and the SHPO are currently developing a historic properties management plan to ensure the protection of archaeological and historic resources in the project area. To meet the requirements of section 106, the Commission will execute a Memorandum of Agreement that would require implementation of the final historic properties management plan.

⁹ Letter from L.J. Toth, Environmental Planner, Coastal Resources Management Program, Pennsylvania DEP, to the Commission, dated May 2, 2008.

1.4 PUBLIC REVIEW AND CONSULTATION

The Commission's regulations (18 CFR, section 4.38) require that applicants consult with appropriate resource agencies, tribes, and other entities before filing an application for a capacity amendment to a license. This consultation is the first step in complying with the Fish and Wildlife Coordination Act, ESA, National Historic Preservation Act, and other federal statutes. Pre-filing consultation for a capacity amendment must be complete and documented according to the Commission's regulations.

1.4.1 Scoping

Before preparing this draft EIS, we conducted scoping to determine what issues and alternatives should be addressed. We distributed a scoping document to interested agencies and others on March 17, 2008, with a request to provide written comments within 30 days. We held two publicly noticed scoping meetings on April 17, 2008, in the towns of Holtwood and Lancaster. The scoping document was noticed in the Federal Register on March 23, 2008. The scoping meetings, which were recorded by a court reporter, allowed individuals an opportunity to submit oral or written comments to the relicensing record. A total of 36 and 48 individuals and representatives of agencies and non-governmental organizations attended the afternoon and evening scoping meetings, respectively. The following entities filed written comments:

Commenting Entity	Date of Filing
American Rivers	May 2, 2008
Pennsylvania Department of Conservation and Natural Resources	May 2, 2008
U.S. Fish and Wildlife Service	May 2, 2008
Susquehanna River Basin Commission	May 2, 2008
Pennsylvania Fish and Boat Commission	May 2, 2008

Staff has carefully considered and addressed the stakeholder comments and questions within the scope of the current proceeding, examining the proposed development of the Holtwood Project, to focus the content of this document. Comments were raised about following issues, within the scope of this proceeding:

- Concern that extending the license term would preclude a cumulative effects analysis of minimum flows, fish passage, and effects on American eels and mussels.
- Concern that sufficient minimum stream flows are released to address low flow into the Chesapeake Bay.

- Requests that the EIS include assessments of the change in pattern of frequency, location, and duration of releases and spills to predict and mitigate negative impacts to wildlife and recreational users.
- Concern that there would be performance measures and triggers to determine the need for additional studies and improvements to allow adaptive management of minimum flows and fish passage.
- Concern that the fish passage improvement could raise the water level in the spillway and inundate state-designated plant species.
- Concern that the new features developed as mitigation for lost whitewater boating opportunities be maintained throughout the remainder of the period of the license.
- Concern that the proposed blasting activities would affect river wildlife and could have long-term effects on the riverbed.
- Concern that the EIS consider the relative costs of operational efficiencies and conservation measures, such as demand efficiencies to meet additional power needs, and also consider alternative power generation sources to need demand.

Staff has carefully considered and addressed stakeholder comments and questions raised during scoping in the development of this draft EIS.

1.4.2 Comments on the License Application and Interventions

On February 21, 2008, the Commission issued a notice that PPL’s application for amendment of license had been accepted for filing and solicited motions to intervene and comments, recommendations, terms, and conditions, and fishway prescription. This notice set April 21, 2008, as the deadline for filing protests and motions to intervene and comments and terms and conditions, and May 5, 2008, as the deadline for reply comments. On April 16, 2008, Exelon Corporation and PPL jointly requested the comment date be extended an additional 2 weeks. On April 18, 2008, the Commission extended the comment deadline date to May 5, 2008, and the reply comment deadline date until June 19, 2008.

Entity	Date of Filing	Type of Filing
U.S. Department of the Interior	February 21, 2008	Intervention
American Whitewater	March 5, 2008	Comment
Elizabeth Lynch	March 7, 2008	Comment
Pennsylvania Fish and Boat Commission	March 21, 2008	Intervention
Exelon Corporation	April 4, 2008	Intervention

Entity	Date of Filing	Type of Filing
Maryland Department of Natural Resources	April 15, 2008	Intervention
U.S. Department of the Interior	April 16, 2008	Comment
Pennsylvania Department of Environmental Protection	April 17, 2008	Intervention
American Whitewater/Greater Baltimore Canoe Club	April 18, 2008	Intervention
Nature Conservancy of Pennsylvania	April 18, 2008	Intervention
York Haven Power Company, LLC	April 21, 2008	Intervention
American Rivers	April 21, 2008	Intervention/Comment
Stewards of the Lower Susquehanna	April 21, 2008	Intervention/Comment
Pennsylvania Department of Conservation and Natural Resources	April 21, 2008	Comment
Pennsylvania Fish and Boat Commission	May 2, 2008	Comment

PPL filed reply comments on June 19, 2008.