

COVER SHEET

**FINAL ENVIRONMENTAL IMPACT STATEMENT FOR
AMENDMENT TO LICENSE**

HOLTWOOD HYDROELECTRIC PROJECT

Docket No. P-1881-050

Executive Summary
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FEIS

EXECUTIVE SUMMARY

PPL Holtwood, LLC (PPL or licensee) proposes to increase the installed capacity, increase the hydraulic capacity, and improve upstream fish passage at the Holtwood Hydroelectric Project (FERC Project No. 1881-050) (Holtwood Project or project), located on the lower Susquehanna River in Lancaster and York counties, Pennsylvania. The project primarily is used to meet the peak power demands within the Pennsylvania-New Jersey-Maryland Interconnection, with limitations on peaking generation set by natural inflows of the Susquehanna River, operations of the upstream Safe Harbor Hydroelectric Project, and available storage, as governed by seasonal recreational demands. The project does not occupy any federal lands.

Proposed Action

The Holtwood Project currently consists of a 3,075-foot-long and 55-foot-high dam that impounds 8 miles of the Susquehanna River and a powerhouse with 10 turbines having a combined installed capacity of 107.2 megawatts (MW). The existing project is described in more detail in section 2.1.1.

PPL proposes to construct a new powerhouse, install new turbines, construct a new skimmer wall and larger forebay, and reconfigure the project facilities to enhance upstream fish passage through modification of existing facilities and excavations in the tailrace channel. The licensed installed capacity at the project would increase from 107.2 MW to a proposed 195.5 MW. To improve migratory fish passage at the project, PPL would (1) modify the existing fish lift; (2) reroute the discharge of Unit 1 in the existing powerhouse; and (3) excavate in the project tailrace and Piney Channel. PPL also proposes to provide minimum flows, perform studies and evaluations of the effectiveness of the fish passage improvements and flow releases, improve existing and construct new recreational facilities, and protect special status plants and wildlife and cultural resources during construction. The proposed action and environmental measures are described in more detail in section 2.2. Because of the substantial costs associated with the proposed modifications, PPL requests a 16-year extension of the current license term through August 31, 2030.

Alternatives Considered

This final environmental impact statement (EIS) analyzes the effects of the proposed reconfiguration of the project and recommends conditions for a license amendment for the project. In addition to PPL's proposal, we consider two alternatives: (1) PPL's proposal with staff modifications, and (2) no action—continued operation of the project with no changes.

Under PPL's proposal with staff modifications, the project would be reconfigured as proposed by PPL, but would include defining the extent of in-water blasting prior to the initiation of construction activities that involve blasting; developing and implementing a recreational use monitoring plan; adding provisions to the land and

shoreline management plan; and requiring the filing of a sediment and erosion control plan, final excavation plan, bald eagle monitoring plan, and the final historic properties management plan with the Federal Energy Regulatory Commission (Commission) for approval prior to the commencement of construction.

Public Involvement and Areas of Concern

Before filing its license amendment, PPL conducted pre-filing consultation with resource agencies. This consultation resulted in a Consent Order and Agreement between Pennsylvania Department of Environmental Protection and PPL, executed on November 21, 2007, that would allow reconfiguring the project to increase the installed and hydraulic capacities and require the implementation of fish passage improvements. After PPL filed the application for amendment, we, the Commission staff, conducted scoping to determine what issues and alternatives should be addressed in the EIS. We issued a scoping document to interested parties on March 17, 2008, and conducted two scoping meetings on April 17, 2008, in Holtwood and Lancaster, Pennsylvania. On February 21, 2008, we requested terms and conditions in response to the notice that the application was ready for environmental analysis. On April 16, 2008, Exelon Corporation and PPL jointly requested the comment date be extended an additional 2 weeks. We extended the deadline for filing comments to May 5, 2008, and the deadline for filing reply comments to June 19, 2008. On June 13, 2008, PPL and Recreational Stakeholders representing local boating organizations reached an agreement on whitewater boating issues.

The primary issues associated with the license amendment are whether the reconfiguration of the project would improve the success rate for upstream fish passage and whether existing whitewater boating opportunities would be preserved or enhanced.

Project Effects

Aquatic Resources

Excavation and blasting would result in a decrease in aquatic habitat and an increase in fish mortality, while some fish would avoid important habitat areas and alter migration patterns in the short term. Over the long term, the improvements in the efficiency of the existing upstream fish passage would allow more American shad and other target species, including resident species, to move upstream of the project during the spring migration period.

Terrestrial Resources

The proposed action would permanently disturb 1.24 acres (54,000 square feet) of wetlands and 6 acres (261,360 square feet) of upland forest and could temporarily disturb bald eagles and osprey. Replacing wetlands at a suitable location, such as along Landis Run, and sequencing construction would minimize these effects. The proposed reconfigured flow release from Unit 1 could affect special status plants in the bypassed

reach. Proposed seasonal flow releases to the bypassed reach would affect some special-status plant species, and proposed monitoring would evaluate the effects of the new flow releases on these aquatic plants.

Recreation

Increasing the installed and hydraulic capacities at the project would reduce existing flows over the spillway and reduce existing whitewater boating opportunities downstream of the dam. The agreement on whitewater boating would provide for whitewater boating flows that would replace comparable days of boating opportunities that would likely be lost under the proposed operations and add two new whitewater features that would replace features where use would be diminished by the reduced flows over the spillway. In addition the proposed whitewater boating agreement includes measures to ensure that potential adverse effects of the proposed action on the whitewater boating feature Storm Hole downstream of the project would be mitigated.

The proposed action would temporarily restrict access to some existing recreational facilities during construction. Water surface levels in Lake Aldred could fall below existing late summer levels during drought conditions under the proposed action. Extending new and existing boat ramps on Lake Aldred would allow continued access to the reservoir during drought conditions. Construction of new recreational facilities and improvement of existing facilities would enhance recreation opportunities and use.

Cultural Resources

The proposed action could disturb archaeological sites and would change physical features of the Holtwood dam and powerhouse complex. A Memorandum of Agreement to implement a historic properties management plan would include procedures to protect archaeological sites in the project's area of potential effects and to ensure that the physical changes to the dam and powerhouse do not affect the characteristics that qualify these structures for listing in the National Register of Historic Places.

Land Use and Visual Resources

The new powerhouse and expanded forebay would occupy land previously used for the production of energy and therefore would not affect current land uses; however, the ash basins proposed for the disposal of excavated materials would take up to 43 acres of land out of current agricultural use. Construction activities would introduce noise, air emissions, and night lighting in the project area, but these effects would be limited to the 3-year construction period. Designing the new and reconfigured features to be compatible with the existing dam and powerhouse would also avoid effects on the project's visual resources following construction.

Under the no-action alternative, the project's installed and hydraulic capacities would not change, the project's environmental conditions would remain the same, the

enhancements of fish passage and recreational facilities would not occur, and the license term would not change.

Conclusions

Based on our analysis, we recommend approving the amendment as proposed by PPL with some staff modifications and additional measures. The recommended staff modifications include, or are based in part on, recommendations made by the federal and state resource agencies that have an interest in the resources that may be affected by the reconfiguration of the project. These modifications and additional measures include (1) defining the extent of in-water blasting prior to construction activities that involve blasting, (2) operating the project fish lifts for upstream passage of resident species from September 1 to October 15 for 5 years following commencement of amended project operations, (3) including specific provisions for mitigation of construction effects on fish passage efficiency of shad in the plan to maintain uninterrupted fish migration during construction, (4) developing and implementing a recreational use monitoring plan, (5) adding provisions to the land and shoreline management plan, and (6) requiring that final plans be filed with the Commission for approval prior to the commencement of construction.

In section 4.0 of the EIS, we estimate the annual net benefits of operating and maintaining the project under the three alternatives identified above. Our analysis shows that the annual net benefit would be about \$9 million for both the proposed action to amend the license and the staff alternative to the proposed action, and about \$35 million for the no-action alternative.

Constructing the new powerhouse and improved fish passage facilities, with our recommended measures, would (1) involve ground disturbance that would result in unavoidable short-term effects on sedimentation and turbidity in the Susquehanna River immediately upstream and downstream of the project during construction; (2) result in unavoidable fish entrainment and mortality; (3) temporarily limit access for fishing immediately upstream and downstream of the project; and (4) disturb 1.24 acres (54,000 square feet) of wetlands. Our recommended measures would ensure that state water quality standards are met. Project operation would improve upstream fish passage.

We chose the staff alternative as the preferred alternative because (1) the project would provide about 361,000 megawatt-hours annually of additional dependable electrical energy for the region; (2) the additional capacity would save the equivalent amount of fossil-fueled generation and capacity, thereby continuing to help conserve non-renewable energy resources and reduce atmospheric pollution, and (3) the recommended environmental measures proposed by PPL, as modified by staff, would enhance upstream fish passage and adequately protect environmental resources affected by the project. The overall benefits of the staff alternative to energy production and fish passage would be worth the cost of the proposed and recommended environmental measures.