

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

**APPLICATION FOR LICENSE AMENDMENT
FOR MAJOR PROJECT - EXISTING DAM**

INITIAL STATEMENT

1. PPL Holtwood, LLC (PPL, or Applicant) applies to the Federal Energy Regulatory Commission (FERC) for an amendment of license for the Holtwood Hydroelectric Project (FERC Project No. 1881, Project) as described in the attached exhibits.

2. The exact name, business address, and telephone number of the Applicant are:
PPL Holtwood, LLC
Two North Ninth Street
Allentown, Pennsylvania 18101
610-774-4316

The exact name and business address of each person authorized to act as agents for the Applicant in this application are:

Dennis J. Murphy
Vice President & Chief Operating Officer
PPL Holtwood, LLC
Two North Ninth Street (GENPL6)
Allentown, Pennsylvania 18101
610-774-4316

David R. Poe, Esq.
Dewey & LeBoeuf, LLP
1101 New York Avenue, NW, Suite 1100
Washington, DC 20005
202-986-8039

Robert G. Grassi
Senior Counsel
PPL Services Corporation
Two North Ninth Street
Allentown, Pennsylvania 18101
610-774-2907

3. The Applicant is a limited liability company under the laws of the State of Delaware. The Applicant is the existing licensee of the Project, designated as Project No. 1881 in the records of the Federal Energy Regulatory Commission, issued on the 14th day of August, 1980.
4. PPL is applying for a capacity-related amendment to perform significant modifications at the Project to increase Project generation, to resolve issues with respect to migratory fish passage, and to extend the term of the current 34 year license which expires on September 1, 2014 to September 1, 2030.

Proposed modifications include:

- Construction of a new powerhouse with two new turbines each with a maximum generating capacity of 65 MW, and a total installed capacity of 80.6 MW at best gate (maximum efficiency point), and at a rated head of 50.75 feet,
- Installation of two additional smaller generating units that would be located in the turbine bays in the existing powerhouse that are currently occupied by two retired water-driven exciter units. These replacement units would have a combined additional installed capacity of 2.5 MW at best gate and 50.75 feet of head,
- River bottom modifications in the Project tailrace and spillway to improve hydraulic conditions for generation and migratory fish passage,

- Construction of a new skimmer wall upstream of the powerhouse, and additional forebay excavation to accommodate flow to the new generating units,
- Rerouting of Unit 1 in the existing powerhouse to discharge to the east spillway channel,
- Installation of dam crest control measures for enhanced migratory fish passage,
- Implementation of certain measures to enhance migratory fish passage and to provide for certain minimum stream flows and to undertake studies and evaluations as set forth in greater detail in a Consent Order and Agreement (“COA”) between the licensee and the Pennsylvania Department of Environmental Protection (“PADEP”) which COA together with its Appendix A is incorporated into this application by reference as if fully set forth. The COA is attached in Appendix A.,
- Modifications to license terms and conditions as contained in Appendix A to the COA, and
- Other protection, mitigation and enhancements measures as further described in this application.

As part of the license amendment, PPL is also proposing to modify the Project’s licensed capacity to reflect the addition of the new units, and completed and planned upgrades to the existing generating units at the Project.

In addition to the modification proposed as part of the Project, PPL will file a separate license amendment application to transfer Project lands to the Lancaster County Conservancy as part of a separate agreement to create a sustainable

endowment fund for future lands maintenance and preservation, in support of state and regional greenways and heritage interests.

Proposed modifications to the license under this amendment are described in greater detail in the accompanying license exhibits and in Appendix A.

5. (i) The statutory or regulatory requirements of the state in which the Project is located that may affect the Project as proposed, with respect to bed and banks and to the appropriation, diversion, and use of water for power purposes, and with respect to the right to engage in the business of developing, transmitting and distributing power and in any other business necessary to accomplish the purposes of the license under the Federal Power Act are:
 - a) A water quality certification pursuant to Section 401 of the Clean Water Act. In Pennsylvania, the certification program is administered by the Pennsylvania Department of Environmental Protection (PADEP).
 - b) The provisions of PA Code, Title 25 § 105.1 et seq. administered by the PADEP under the following statutes: Sections 5, 7, 10, 11, and 17 of the Dam Safety and Encroachments Act (32 P. S. § 693.5, 693.7, 693.10, 693.11, and 693.17); sections 5 and 402 of the Clean Streams Law (35 P. S. §691.5 and §691.402); section 7 of the act of June 14, 1923 (P. L. 704, No 294) (32 P. S. § 597); sections 514, 1901-A, 1908-A, 1917-A and 1920-A of the Administrative Code of 1929 (71 P. S. § 194, 510-1, 510-8, 510-17 and 510-20); sections 302 and 402 of the Flood Plain Management Act (32 P. S. § 679.302 and 679.402).

- c) The provisions of PA Code, Title 25 §§ 92.1 et seq. and 102.1 et seq. administered by PADEP under sections 5 and 402 of the Clean Streams Law (35 P. S. §691.5 and §691.402).
 - d) The provisions of 18 CFR § 801 et seq. administered by the Susquehanna River Basin Commission (SRBC) under the Susquehanna River Basin Compact (P. L. 91-575, 84 Stat., 1509 et seq.).
- (ii) The steps the Applicant has taken or plans to take to comply with each of the laws cited above include:
- a) Through the specific actions detailed in the COA, the Applicant will complete the information requirements needed to apply to the PADEP for a water quality certificate pursuant to Section 401 of the Clean Water Act. This application is expected to be filed by January 31, 2008.
 - b) Before January 31, 2008 the Applicant will apply to the PADEP for an NPDES permit for the discharge of storm water associated with construction activity pursuant to of PA Code, Title 25 §§ 92.1 et seq. and 102.1 et seq.
 - c) Before January 31, 2008 the Applicant will apply to the United States Corps of Engineers for a permit pursuant to Section 404 of the Clean Water Act and jointly apply for a state permit pursuant to PA Code, Title 25 § 105.1 et seq. and the Dam Safety and Encroachments Act (32 P. S. § 693.1, et seq.)
 - d) On May 13, 1942 the Pennsylvania Water & Power Company (a predecessor corporation of the Applicant) obtained a Limited Power Permit for the Project under P. L. 704. This permit is still in effect.

- e) On May 12, 2006 the Applicant filed a letter application with the SRBC. Before January 31, 2008 the Applicant will file a copy of this application with the SRBC for review and approval of a drought operations plan to permit use of water from the Holtwood Project to satisfy SRBC regulations with respect to compensation requirements for consumptive water use at other generating stations in the Susquehanna River basin owned by PPL affiliates, and inclusion of the proposed Project into the SRBC's Comprehensive Plan of the Susquehanna River Basin.

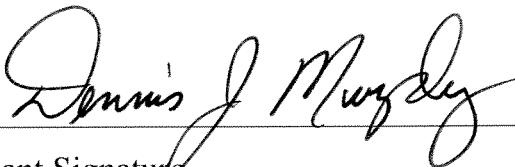
**APPLICATION FOR LICENSE AMENDMENT
FOR MAJOR PROJECT - EXISTING DAM**

SUBSCRIPTION AND VERIFICATION UNDER OATH

This application for a license amendment for the Holtwood Hydroelectric Project is executed in the Commonwealth of Pennsylvania, Lehigh County


By: PPL Holtwood, LLC
Name: Dennis J. Murphy
Vice President, PPL Holtwood, LLC
Address: Two North Ninth Street (GENPL6)
Allentown, Pennsylvania 18101

being duly sworn, deposes and says that the contents of this application are true to the best of his knowledge and belief. The undersigned Applicant has signed the application this 17TH day of DECEMBER, 2007.

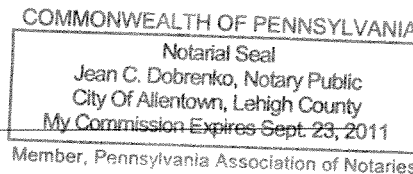


Applicant Signature

Subscribed and sworn to before me, a Notary Public of the Commonwealth of Pennsylvania, this 17th day of December, 2007.



Commission expires: _____



APPENDIX A

Consent Order and Agreement



RECEIVED

DEC 04 2007

OFFICE OF
GENERAL COUNSEL

17 North Second Street
12th Floor
Harrisburg, PA 17101-1601
717-731-1970 Main
717-731-1985 Fax
www.postschell.com

Terry R. Bossert

tbossert@postschell.com
717-612-6018 Direct
717-731-1985 Fax

December 3, 2007

Arundhati Khanwalkar, Senior Counsel
PPL Corporation
Two North Ninth Street
Allentown, PA 18101-1179

RE: PPL/Holtwood LLC

Dear Tinku:

Enclosed please find an original copy of the fully executed Consent Order and Agreement with DEP. I have retained a photocopy for our files, but the enclosed is the only original we received back from DEP. Obviously, you will want to distribute copies to the "team."

Sincerely yours,

Terry R. Bossert

TRB/cln
Enclosure



NOV 30 2007

Pennsylvania Department of Environmental Protection

Office of Chief Counsel
909 Elmerton Avenue
Third Floor
Harrisburg, Pennsylvania 17110-8200
November 27, 2007

Southcentral Regional Counsel

Telephone: (717) 787-8790
Telecopier: (717) 772-2400

Terry Bossert
Post and Schell
17 North Second Street, 12th Floor
Harrisburg, PA 17101-1601

Andrew Tittler
U.S. Department of the Interior
Northeast Regional Solicitor's Office
One Gateway Center, Suite 612
Newton, MA 02458

Jason Oyler
Assistant Counsel
PA Fish and Boat Commission
P.O. Box 67000
Harrisburg, PA 17106-7000

Richard McLean
MD Dept. of Natural Resources
Tawes State Office Building
580 Taylor Avenue
Annapolis, MD 21401

Tom Beauduy
Deputy Director
Susquehanna River Basin Commission
1721 North Front Street
Harrisburg, PA 17102

Patricia Strong
U.S. Army Corps of Engineers
ATTN: CENAB-OP-RR
10 South Howard Street
Baltimore, MD 21203

Dear Terry, Jason, Tom, Andrew, Rich and Pat:

Attached is a signed original of the Holtwood Consent Order and Agreement between PPL Holtwood and the Department of Environmental Protection.

Thanks to everyone for the hard work that resulted in this agreement.

Sincerely,

M. Dukes Pepper, Jr.
Assistant Counsel

MDP/lmt

cc: Jim Spontak



**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

In the matter of:

PPL Holtwood, LLC	:	Water Quality Certification
Two North Ninth Street,	:	Lancaster and York Counties
Allentown, PA 18101-1179	:	
	:	
	:	

CONSENT ORDER AND AGREEMENT

This Consent Order and Agreement (“COA”) is entered into this 21st day of *November*, 2007 by and between the Commonwealth of Pennsylvania, Department of Environmental Protection (“Department”), and PPL Holtwood, LLC (“PPL”).

FINDINGS

The Department has found and determined the following:

A. The Department is the agency with the duty and authority to administer and enforce The Clean Streams Law, the Act of June 22, 1937, P.L. 1987, as amended, 35 P.S. §§ 691.1 et seq. (“The Clean Streams Law”); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, as amended, 71 P.S. § 510-17 (“Administrative Code”); and the rules and regulations promulgated thereunder. The Department is the state agency charged with the responsibility of making certification decisions under Section 401 of the Federal Water Pollution Control Act, 33 U.S.C. § 1341 (“401 Certification”).

B. PPL Holtwood, LLC is a Delaware Limited Liability Company registered to conduct business in the Commonwealth of Pennsylvania, with a registered business address of Two North Ninth Street, Allentown, PA 18101-1179.

C. PPL owns and operates a 107.2 megawatt (“MW”) hydroelectric facility (“Holtwood”) containing 10 similarly sized hydroelectric generating units. The units are housed within a concrete powerhouse that abuts a 2392-foot long, 55-foot high dam across the lower Susquehanna River in Lancaster and York Counties.

D. Holtwood is located approximately 25 miles upstream of the Chesapeake Bay, just downstream of the 418 MW Safe Harbor Hydroelectric Station (“Safe Harbor”) (river mile 33) and upstream of the 536 MW Conowingo Hydroelectric Station (“Conowingo”) (river mile 10). The

1072 MW Muddy Run pumped-storage hydroelectric station (“Muddy Run”) is located between Holtwood and Conowingo and uses Conowingo pond as its lower reservoir.

E. Holtwood is licensed by the Federal Energy Regulatory Commission (“FERC”) as Project No. 1881 under a license issued on August 14, 1980 and amended from time to time, for a term that now totals 34 years (“FERC License”).

F. Holtwood is seeking an Amendment to its FERC License, proposing to perform significant modifications at Holtwood to increase project generation and resolve issues with respect to migratory fish passage (“Amended Project”). The amendment also requests an extension of the license until August 31, 2030 (“FERC License Amendment”).

G. The FERC License Amendment will require a permit under Section 404 of the Federal Clean Water Act, 33 U.S.C. § 404 to be issued by the United States Army Corp of Engineers (“Corp”) (“404 Permit”).

H. The FERC License Amendment and 404 permit will require 401 Certification issued by the Department.

I. PPL has been working with the Department, the Pennsylvania Fish and Boat Commission (“PFBC”), the Susquehanna River Basis Commission (“SRBC”), the Maryland Department of Natural Resources (“MDNR”), the United States Fish and Wildlife Service (“USF&WS”) and the Corp (collectively referred to as “Resource Agencies” or “resource agencies”) to identify and address water quality standards issues and other appropriate requirements of state law with respect to the 401 Certification.

J. PPL anticipates filing the application for a FERC License Amendment on or about December 1, 2007.

K. PPL anticipates filing an application for a Section 401 Certification with the Department on or about December 1, 2007.

L. PPL and the Resource Agencies have agreed to certain terms for a partial draft 401 Certification, as set forth in Appendix A.

ORDER

After full and complete negotiation of all matters set forth in this COA and upon mutual exchange of covenants contained herein, the parties desiring to avoid litigation and intending to be legally bound, it is hereby ORDERED by the Department and AGREED to by PPL as follows:

1. **Authority.** This COA is an Order of the Department authorized and issued pursuant to Sections 5 and 610 of The Clean Streams Law, 35 P.S. § 691.5 and § 691.610; and Section 1917-A of the Administrative Code, supra.

2. **Findings.**

- a. PPL agrees that the findings in paragraphs A through L are true and correct and, in any matter or proceeding involving PPL and the Department, PPL shall not challenge the accuracy or validity of these findings.
- b. The parties do not authorize any other persons to use the findings in the COA in any matter or proceeding.

3. **401 Certification Application.**

- a. **Meetings and Plans.** In conjunction with its application for a 401 certification, PPL shall do the following:
 - 1. By November 30, 2007 PPL shall provide to the Resource Agencies a report on spillway crest control alternatives and a recommended plan for review and approval. PPL shall include the alternative approved by DEP as a component of the Amended Project.
 - 2. By November 30, 2007, PPL shall provide a final draft modeling report for near field areas of the proposed fish passage system at Holtwood to evaluate the impact of flow characteristics on fish passage to the Resource Agencies for review and approval. PPL shall use the results of the approved modeling to aid in the design of modifications to the fish passage facilities, tailrace, Piney Run channel and other portions of modifications in the project area at Amended Project.
 - 3. By January 31, 2008, PPL shall provide draft final design plans and a proposed final schedule for all structures, facilities, excavation and fish passage system modifications to the Resource Agencies for review and approval.

4. By January 31, 2008, PPL shall meet with the Resource Agencies to discuss the operation of the fish passage system from September 1 through October 15 to allow passage of resident fish species for a period of five years beginning when the Amended Project becomes operational.
5. By January 31, 2008, PPL shall provide a Minimum Stream Flow Operation Procedures Manual (MSFOP) for the Amended Project to the Resource Agencies for review and approval. The MSFOP shall include, as necessary, schedules for routine maintenance, procedures for routine operation including: seasonal and daily periods of operation, dam and powerhouse operational measures detailing how the plant shall be operated to meet MSF conditions and requirements including sequencing of turbine start-up and operation, flow split between the old and new powerhouses and between the tailrace and Piney Channel, procedures for measuring and reporting minimum stream flows, procedures for determining net inflows to Lake Aldred, flows in the tailrace and Piney Channel and the spillway channel, as well as any other necessary provisions for plant operation, procedures for monitoring and reporting on the operation, procedures for annual start-up and shut-down, and procedures for use in case of emergencies and project outages significantly affecting MSF requirements.
6. By January 31, 2008 PPL shall meet with the Resources Agencies and DCNR to discuss a plan and schedule for achieving minimum stream flows in the spillway area as may be necessary to maintain and protect existing and designated uses and to implement water quality standards and other appropriate requirements of state law.
7. By January 31, 2008, PPL shall meet with the Resource Agencies and the Department of Conservation and Natural Resources (“DCNR”) to discuss a plan and schedule to monitor the implementation of the minimum stream flow requirement in the spillway area.
8. By January 31, 2008, PPL shall meet with the Resource Agencies to discuss a plan and schedule for achieving minimum stream flows in the Piney Channel, and the Tailrace and from Lake Aldred as may be necessary to maintain and protect existing and designated uses and to implement water quality standards and other appropriate requirements of state law.

9. By January 31, 2008, PPL shall meet with the Resource Agencies to discuss a plan and schedule to monitor the implementation of the minimum stream flow requirement in the Piney Channel and the Tailrace and from Lake Aldred.
10. By February 28, 2008, PPL shall submit a plan and schedule to achieve the minimum stream flows in the Piney Channel, Tailrace Spillway and from Lake Aldred to the Resource Agencies and DCNR for review and approval.
11. By February 28, 2008, PPL shall submit a plan and schedule for monitoring the implementation of the minimum stream flows in the spillway area to the Resource Agencies and DCNR for review and approval. Such plan shall provide that upon commencement of operation of the new Amended Project PPL shall maintain an initial MSF to the spillway area below the dam at least equivalent to the present rate of leakage through the dam flashboards plus the present level of flow through the ten inch pipe in the dam.
12. By February 28, 2008 PPL shall submit a plan and schedule for monitoring the implementation of the minimum stream flows in the Piney Channel and the Tailrace and from Lake Aldred to the Resource Agencies for review and approval.
13. By March 31, 2008, PPL shall submit a plan for review and approval by DEP in consultation with the other Resource Agencies, for sequencing construction activities to avoid impacts to migration of anadromous fish and catadromous fish and to include mitigation for any unavoidable impacts. This shall include operation of all fish passage facilities and measures during construction and scheduling of activities, such as blasting or extended shutdowns to prevent interference with fish migration.
14. By March 31, 2008, for the fish passage system enhancements to be constructed contemporaneously with the Amended Project, PPL shall provide a manual of Fishway Operating Procedures (FOP) for the project, and an implementation schedule, to the Resource Agencies for review and approval by DEP. The FOP will include, for each fishway, schedules for routine maintenance, procedures for routine operation (including: seasonal and daily periods of operation, dam and powerhouse operational measures detailing how the plant shall be operated during fish passage season including sequencing of turbine start-up and operation, flow split between the old and new powerhouses and between the tailrace and Piney Channel, procedures for monitoring and reporting flows in the tailrace, Piney Channel and the spillway channel, debris management as well as any other necessary provisions for plant operation related to attraction

flow as a component of the fish passage system to and operation of the fishways, procedures for monitoring and reporting on the operation of each existing fish passage facility or measure, procedures for annual start-up and shut-down, and procedures for use in case of emergencies and project outages significantly affecting fishway operations. PPL shall count all fish passing through the upstream fish passage, including anadromous, catadromous and resident fishes, during the upstream shad passage season as described in the FOP.

15. By March 31, 2008, unless a different date is mutually agreed upon by PPL and the Resource Agencies, PPL shall meet with the Resource Agencies to discuss a plan and schedule to monitor the effectiveness of upstream American shad passage at the facility.
16. By March 31, 2008, unless a different date is mutually agreed upon by PPL and the Resource Agencies, PPL shall meet with the Resource Agencies to discuss a plan and schedule for conducting a discrete survival study to measure the effectiveness of downstream American shad passage at the facility.
17. By June 30, 2008 unless a different date is mutually agreed upon among PPL and the Resource Agencies, PPL shall submit for review and approval a draft plan to monitor the effectiveness of upstream American shad passage at the facility. The plan shall include annual fish counts and passive integrated transponder (PIT) tagging monitoring, or other monitoring techniques approved by the DEP in consultation with the other Resource Agencies, of upstream shad passage to meet the annual monitoring requirements of Paragraph II.1.a. of Appendix A (referred to as "Tier I"). The PIT tagging component of the plan shall include PIT tag readers installed at the Conowingo Dam. In the event that PPL is legally precluded from installing PIT tag readers at the Conowingo Dam to implement the monitoring plan and PIT tag readers are not otherwise installed at the Conowingo Dam, then, unless another monitoring technique is approved by the DEP in consultation with the other Resource Agencies, PPL shall implement the Tier II monitoring plan described in Paragraphs II. A. 3 through 8 below (referred to as "Tier II"). The Resource Agencies will use reasonably diligent measures to have PIT tag readers installed at the Conowingo Dam in the event that PPL is legally precluded from installing the PIT tag readers. Beginning in the first year of operation of the Amended Project PPL shall implement the plan according to the schedule consistent with the approval of the DEP. In the event PPL fails to submit the plan and schedule as required by this paragraph, the DEP, in consultation with the other Resource Agencies,

may establish a plan and schedule and PPL shall implement that plan and schedule consistent with the approval of the DEP.

- 18 Based on this discussion, by June 30, 2008 unless a different date is mutually agreed upon by PPL and the Resource Agencies, PPL shall submit a plan and schedule to measure the survival of shad moving downstream past the project to the Resource Agencies for review and approval. PPL shall implement the plan according to the schedule consistent with the approval of the DEP. In the event PPL fails to submit the plan and schedule as required by this paragraph, the DEP, in consultation with the other Resource Agencies, may establish a plan and schedule and PPL shall implement that plan and schedule consistent with the approval of the DEP.
- b. **Pequea Creek.** PPL shall construct and operate an additional boat ramp at the Pequea Creek Access Site to replace the boat ramp being lost due to PennDOT construction at the site. By January 31, 2008 PPL shall meet with the Resource Agencies to discuss plans to provide improved boating access features at the Pequea Boat Access Site. Within 30 days after that meeting (unless a different date is mutually agreed upon by the parties) PPL shall submit a plan and schedule for such improved boating access for review and approval by the Department in consultation with the Resource Agencies. PPL shall implement the plan and schedule consistent with the approval of the DEP. In the event PPL fails to submit the plan and schedule as required by this paragraph, the DEP, in consultation with the other Resource Agencies, may establish a plan and schedule and PPL shall implement that plan and schedule consistent with the approval of the DEP.
- c. Nothing herein shall prevent PPL from withdrawing the application for a 401 certification at any time should PPL withdraw its application for the FERC License Amendment.
- d. By December 1, 2007 PPL shall include the provisions of Appendix A in the FERC License Amendment Application.
- e. If the final 401 Certification contains conditions substantially the same as the conditions listed in Appendix A., PPL will not challenge any of those conditions in any appeal of the 401 Certification filed with the Environmental Hearing Board or in any other administrative or judicial forum.

- f. If the final 401 Certification contains conditions that are not substantially the same as those in Appendix A, or in the context of the schedules of compliance establish a shorter compliance schedule, PPL may challenge the conditions only to the extent that they are different, or in the context of the schedules of compliance establish a shorter compliance schedule.
- g. Nothing herein shall preclude PPL from challenging any provision of the final 401 Certification not set forth in Appendix A. Nothing herein shall preclude either the Department or PPL from asserting any position, authority or defense it may have pursuant to applicable law with respect to any 401 Certification for Holtwood, other than that contained in Appendix A, or any other project.
- h. If any Resource Agency seeks to require Safe Harbor to provide a MSF through the Safe Harbor Facility, PPL Holtwood and any parent or related company of PPL Holtwood shall abstain from participation in Safe Harbor's decision in that regard. In addition, PPL Holtwood and any parent company of PPL Holtwood, shall not oppose the effort to establish a MSF from the Safe Harbor Facility in any forum or proceeding. This shall not preclude PPL from providing information to Safe Harbor, but nothing herein shall be construed to require PPL Holtwood or any parent company or any officer or director of either to violate any fiduciary duty it may owe to Safe Harbor.

4. **Additional Remedies.**

- a. In the event that PPL fails to comply with any provision of this COA, the Department may, in addition to the remedies prescribed herein, pursue any remedy available for a violation of an order of the Department, including any action to enforce this COA.
- b. The remedies provided by this paragraph and paragraph 5 are cumulative and the exercise of one does not preclude the exercise of any other. The failure of the Department to pursue any remedy shall not be deemed to be a waiver of that remedy. The payment of a stipulated civil penalty, however, shall preclude any further assessment of civil penalties for the violation for which the stipulated penalty is paid.

5. **Reservation of Rights.** The Department reserves the right to require additional measures to achieve compliance with applicable law. PPL reserves the right to challenge any action that the Department may take to require those additional measures.

6. **Liability of Operator.** PPL shall be liable for any violations of the COA, including those caused by, contributed to, or allowed by its officers, agents, employees or contractors.

7. **Transfer of Site.**

- a. The duties and obligations under this COA shall not be modified, diminished, terminated or otherwise altered by the transfer of any legal or equitable interest in the site or any part thereof.
- b. If PPL intends to transfer any legal or equitable interest in the site that is affected by this COA, PPL shall serve a copy of this COA upon the prospective transferee of the legal and equitable interest at least 30 days prior to contemplated transfer and shall simultaneously inform the Department of such intent.
- c. The Department in its sole discretion may agree to modify or terminate PPL's duties and obligations under this COA upon transfer of the site. PPL waives any right that it may have to challenge the Department's decision in this regard.

8. **Correspondence with Department.** All correspondence with the Department concerning this COA shall be addressed to:

James S. Spontak
Watershed Management Program Manager
Department of Environmental Protection
909 Elmerton Avenue
Harrisburg, PA 17110-8200

and

M. Dukes Pepper, Jr.
Office of Chief Counsel
Department of Environmental Protection
909 Elmerton Avenue
Harrisburg, PA 17110-8200

9. **Correspondence with PPL.** All correspondence with PPL concerning this COA shall be addressed to:

Gary Petrewski
PPL Services, LLC
Two North Ninth Street
Allentown, PA 18101-1179

PPL shall notify the Department whenever there is a change in the contact person's name, title or address. Service of any notice or any legal process for any purpose under this COA, including its enforcement, may be made by mailing a copy by first class mail to the above address.

10. Force Majeure.

- a. In the event that PPL is prevented from complying in a timely manner with any time limit imposed on this COA solely because of a strike, fire, flood, act of God, or other circumstances entirely beyond PPL's control and which PPL, by the exercise of all reasonable diligence, is unable to prevent, then PPL may petition the Department for an extension of time. An increase in the cost of performing the obligations set forth in this COA shall not constitute circumstances beyond PPL's control. PPL's economic inability to comply with any of the obligations of this COA shall not be grounds for any extension of time.
- b. PPL shall only be entitled to the benefits of this paragraph if it notifies the Department within five working days by telephone and within ten working days in writing of the date it becomes aware or reasonably should have become aware of the event impeding performance. The written submission shall include all necessary documentation, as well as a notarized affidavit from an authorized individual specifying the reasons for the delay, the expected duration of the delay, and the efforts which have been made and are being made by PPL to mitigate the effects of the event and to minimize the length of the delay. The initial written submission may be supplemented within ten working days of its submission. PPL's failure to comply with the requirements of this paragraph specifically and in a timely fashion shall render this paragraph null and of no effect as to the particular incident involved.
- c. The Department will decide whether to grant all or part of the extension requested on the basis of all documentation submitted by PPL and other information available to the Department. In any subsequent litigation, the operator shall have the burden of proving that the Department's refusal to

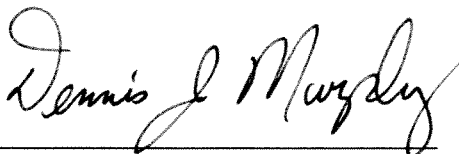
grant the requested extension was an abuse of discretion based upon the information then available to it.

11. **Severability.** The paragraphs of this COA shall be severable and should any part hereof be declared invalid or unenforceable, the remainder shall continue in full force and effect between the parties.
12. **Entire Agreement.** This COA shall constitute the entire integrated agreement of the parties. No prior or contemporaneous communications or prior drafts shall be relevant or admissible for purposes of determining the meaning or extent of any provisions herein in any litigation or any other proceeding.
13. **Attorney Fees.** The parties shall bear their respective attorney fees, expenses, and other costs in the prosecution or defense of this matter or any related matters, arising prior to execution of this COA.
14. **Modifications.** No changes, additions, modifications or amendments of this COA shall be effective unless they are set out in writing and signed by the parties hereto.
15. **Titles.** A title used at the beginning of any paragraph of this COA is provided solely for the purpose of identification and shall not be used to interpret that paragraph.
16. **Decisions Under Consent Order.** Any decision which the Department makes under the provisions of this COA, other than any decision made under paragraphs 3a and 3b, is intended neither as a final action under 25 Pa. Code § 1021.2(2), nor an adjudication under 2 Pa. C.S. § 101. Any objection which PPL may have to the decision will be preserved until the Department enforces the Consent Order and Agreement
17. **Termination.** Paragraphs 3a, 3b, 3d, and 7 of this Consent Order and Agreement shall terminate upon the Department's issuance of the final 401 certification provided for herein. If PPL withdraws and does not resubmit the FERC License Amendment application or should FERC reject or deny the application, this COA shall terminate.

IN WITNESS WHEREOF, the parties hereto have caused this COA to be executed by their duly authorized representatives. The undersigned representatives of PPL certify under penalty of law, as provided by 18 Pa. C.S. § 4904, that they are authorized to execute this COA on behalf of PPL; that PPL consents to the entry of this COA and the foregoing Findings as an ORDER of the Department; and that PPL hereby knowingly waives its rights to appeal this COA and the foregoing Findings, which rights may be available under Section 4 of the Environmental Hearing Board Act, the Act of July 13, 1988, P.L. 530, No. 1988-94, 35 P.S. § 7514; the Administrative Agency Law, 2 Pa. C.S. § 103(a); and Chapters 5A and 7A, or any other provision of law. Signature by PPL's attorney certifies only that the COA has been signed after consulting with counsel.

FOR:

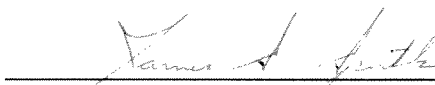
PPL Holtwood, LLC



Dennis J. Murphy
V.P. and Chief Operating Officer for
PPL Holtwood, LLC

FOR:

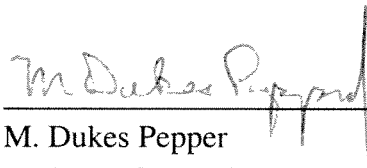
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL
PROTECTION:



James S. Spontak
Program Manager



Terry R. Bossert
Counsel for PPL Holtwood, LLC



M. Dukes Pepper
Assistant Counsel

APPENDIX A

PROPOSED WATER QUALITY CERTIFICATIONS CONDITIONS FOR HOLTWOOD HYDROELECTRIC STATION FERC PROJECT NO. 1881

I. PROVISIONS APPLICABLE TO ALL WATER QUALITY CERTIFICATION CONDITONS

A. Notwithstanding any other provision of the Certification to the contrary, any action taken by DEP in response to any submission required or authorized under this certification or any action taken by DEP to require PPL to undertake any action, that affects PPL's personal or property rights, privileges, immunities, duties, liabilities or obligations including, but not limited to, any action to approve, approve with conditions, disapprove, modify or establish operational or structural changes, plans, schedules, studies or monitoring programs shall constitute a "final agency action" and may be challenged in accordance with applicable law.

B. *Operational modifications* are a component of the adaptive management system to implement the approved plans, including the performance requirements of this certification. Operational modifications include modifications of seasonal and daily periods of operation of the fishway, dam and powerhouse detailing how the plant shall be operated during fish passage season and throughout the year including sequencing of turbine start-up and operation, flow split between the old and new powerhouses and between the tailrace and Piney Channel, procedures for monitoring and reporting flows in the tailrace, Piney Channel and the spillway channel as well as any other necessary provisions for plant operation to ensure attraction to and operation of the fishways or to meet other provisions of this certification, procedures for monitoring and reporting on the operation of each existing fish passage facility or other provisions of this certification or measure, procedures for annual start-up and shut-down, and procedures for use in case of emergencies and project outages significantly affecting fishway operations or other provisions of this certification. No substantial alteration or addition not in conformity with the plans approved by the Federal Energy Regulatory Commission shall be made to any dam or other project works constructed under the Federal Power Act without the prior approval or authorization of the Federal Energy Regulatory Commission.

C. *Structural modifications* are changes to project infrastructure, tailrace, Piney Channel or other areas of the Susquehanna River pursuant to the provisions of this certification. No substantial alteration or addition not in conformity with the plans approved by the Federal Energy Regulatory Commission shall be made to any dam or other project works constructed under the Federal Power Act without the prior approval or authorization of the Federal Energy Regulatory Commission.

II. FISH PASSAGE

A. General Requirements

1. Fishway Operating Procedures (“FOP”)

- a. The FOP will include, for each fishway, schedules for routine maintenance, procedures for routine operation (including: seasonal and daily periods of operation, dam and powerhouse operational measures detailing how the plant shall be operated during fish passage season including sequencing of turbine start-up and operation, flow split between the old and new powerhouses and between the tailrace and Piney Channel, procedures for monitoring and reporting flows in the tailrace, Piney Channel and the spillway channel, debris management as well as any other necessary provisions for plant operation related to attraction flow as a component of the fish passage system to and operation of the fishways, procedures for monitoring and reporting on the operation of each existing fish passage facility or measure, procedures for annual start-up and shut-down, and procedures for use in case of emergencies and project outages significantly affecting fishway operations. PPL shall count all fish passing through the upstream fish passage, including anadromous, catadromous and resident fishes, during the upstream shad passage season as described in the FOP.
- b. PPL shall implement the FOP consistent with the approval of the DEP. PPL shall provide written documentation to the Resource Agencies that all fishway operational personnel have reviewed and understand the FOP signed by the operations manager of the Amended Project.
- c. Copies of the approved FOP and all modifications will be provided to the Resource Agencies.

d. By December 31 of each year, following commencement of the Amended Project, PPL shall provide an annual report detailing; the implementation of the FOP, including any deviations from the FOP and a process to prevent those deviations in the future to the Resource Agencies; any proposed modifications to the FOP, or in the case of emergencies or project outages, the steps taken by PPL to minimize adverse effects on fishway operation or fish passage measures and any proposed modifications to those steps to further enhance their effectiveness in the future. PPL shall meet with the Resource Agencies by January 31 of each year unless a different date is mutually agreed upon by PPL and the Resource Agencies. Any required modifications to the FOP shall be submitted to the Resource Agencies within 30 days of receipt of a request for the modification unless a longer period is approved by the DEP. The modifications to the FOP shall be implemented consistent with the approval of the DEP. Nothing herein shall require PPL to make operational or structural changes related to the fish passage facilities and measures beyond those changes provided for in Sections II B., C. and D. hereof.

e. For fish passage system enhancements and facilities not constructed contemporaneously with the Amended Project, and for fish passage measures that do not begin operation contemporaneously with the entry into operation of the Amended Project, 60 days prior to operation of the enhancements and/or facilities, PPL shall submit FOP provisions for any such new fish passage enhancements, facilities and measures to the Resource Agencies for review and approval and shall implement the FOP as approved by the DEP.

2. Fish Passage Facilities

a. Contemporaneously with the construction of the new hydroelectric generation facilities, PPL shall implement the final design plans approved by the DEP for the fish passage system enhancements to increase the percentage of anadromous and catadromous fishes passing upstream and downstream through the Amended Project and to provide safe, timely and effective passage. At a minimum, these fish passage system enhancements shall include:

1. modifications to the existing fish lift including changes to the attraction water inlet piping, rebuilding the skimmer wall,

reconstruction of the fish lift entrance C and relocation of the tailrace crowder drive;

2. redirection of discharge flows from Unit 1 through the diversion wall and into Piney Channel in a manner consistent with minimum stream flow conditions described in Section III and consistent with the range of operation of Unit 1;

3. excavation within the project boundary to significantly “minimize” velocity barriers to fish passage in the tail race, downstream of the tailrace, and in Piney Channel in a manner consistent with minimum stream flow conditions described in Section III;

4. American eel monitoring ramps and traps in the tailrace and spillway;

5. Passive Integrated Transponder (PIT) tagging monitors at locations approved by DEP in consultation with the resource agencies within the fishway at Holtwood to facilitate monitoring efforts;

6. a spill control system approved by DEP.

b. Enhancements to the fish passage system described in Paragraph I. A. 2. a. 1-6. above shall be included in the final design plans and shall be operational no later than the beginning of operation of the Amended Project.

B. American Shad Passage

1. Upstream Shad Passage

a. PPL shall implement a monitoring plan approved by DEP to monitor the effectiveness of upstream shad passage. The plan shall include annual fish counts and passive integrated transponder (PIT) tagging monitoring, or other monitoring techniques approved by the DEP in consultation with the other Resource Agencies, of upstream shad passage to meet the annual monitoring requirements of Paragraph II. B. 1. c. (referred to as “Tier I”). The PIT tagging component of the plan shall include PIT tag readers installed at the Conowingo Dam. In the event that PPL is legally

precluded from installing PIT tag readers at the Conowingo Dam to implement the monitoring plan and PIT tag readers are not otherwise installed at the Conowingo Dam, then, unless another monitoring technique is approved by the DEP in consultation with the other Resource Agencies, PPL shall implement the Tier II monitoring plan described in Paragraphs II. B. 1. c. through II. B. 1. g. below (referred to as "Tier II"). The Resource Agencies will use reasonably diligent measures to have PIT tag readers installed at the Conowingo Dam in the event that PPL is legally precluded from installing the PIT tag readers. Beginning in the first year of operation of the Amended Project, PPL shall implement the plan according to the schedule consistent with the approval of the DEP. In the event PPL fails to submit the plan and schedule as required by this paragraph, the DEP, in consultation with the other Resource Agencies, may establish a plan and schedule and PPL shall implement that plan and schedule consistent with the approval of the DEP.

b. Following completion of the project amendments and following commencement of operation of the Amended Project, PPL shall annually monitor the effectiveness of upstream American shad passage using the approved monitoring plan. This annual monitoring shall be continued for the term of the FERC license granted to PPL. PPL shall provide daily updates of monitoring results to the Resource Agencies. PPL shall provide an annual report of the monitoring results by December 31st of each year. After 3 years of monitoring, or such longer period approved in writing by the DEP, the results of the monitoring shall be examined to assess the performance of the fish passage system.

c. At the end of the first three years of the monitoring period established by Paragraph II. B.1.b. above and for each year thereafter, unless the results indicate that at least 75% of the American shad that pass the Conowingo Hydroelectric Facility pass through the Amended Project and 50% of the shad pass the Amended Project within 5 days of passage at Conowingo, PPL shall meet with the Resource Agencies to discuss a plan and schedule for a radio telemetry study or equivalent of American shad passage at the Amended Project and shad migration behavior below the facility. This meeting shall occur within one month of the DEP's determination of failure to meet the Tier 1 target for upstream American shad passage or such longer time as established by the DEP. The annual percentages shall be added together and divided by the total number of years in the monitoring period to determine whether the 75 % and 50 %

fish passage percentages are achieved. Days during which river flows at the Marietta gage exceed 100,000 cfs shall not be counted as part of the 5-day passage period.

d. The Tier II study shall continue the annual fish counts and passive integrated transponder (PIT) tagging monitoring, or other Tier 1 monitoring techniques approved by the DEP in consultation with the other Resource Agencies, of upstream American shad passage. PIT tag monitoring, or other approved Tier I monitoring, shall not be required during any period that it is not possible for reasons beyond PPL's control. A radio telemetry study plan and schedule shall be developed to determine the percentage of American shad that enter Holtwood project waters and subsequently pass through the Holtwood fish passage system. The radio telemetry study shall be designed to insert the transmitter at the Conowingo facility or at such other location(s) approved by the DEP and American shad that pass river mile 23.2 (located between the Muddy Run Pump Storage Facility and Cully's Falls) or such other location(s) as determined by the DEP shall be considered to have entered the "project waters".

e. Within two months of the meeting described in Paragraph II. B. 1. c., PPL shall submit the Tier II study plan and schedule to the Resource Agencies for review and approval by DEP. PPL shall implement the plan according to the schedule therein and consistent with the approval of the DEP. PPL shall continue implementation of the Tier II study for a minimum of four years or such longer time period as required by the DEP in consultation with the other Resource Agencies. PIT tagging or other Tier I monitoring techniques, as described in Paragraph II. B. 1. a. shall be continued during the Tier II study. PPL shall provide daily updates of monitoring results to the Resource Agencies. PPL shall provide an annual report of the monitoring results of the Tier II study by December 31st of each year.

f. At the end of each year of the Tier II study period, or such longer time as established by the DEP, if the results indicate that less than 85% of the American shad that enter the Holtwood project waters pass through the Amended Project, PPL shall propose a plan and schedule for operational modifications to enhance fish passage at the Amended Project if operational changes would enhance fish passage and the failure to achieve at least 85% passage is attributable, in whole or in part, to PPL operations

at the Amended Project. This plan and schedule shall be submitted to the Resource Agencies as an amendment to the FOP for the following year. PPL shall implement the plan and schedule consistent with the approval of the DEP. In the event PPL fails to submit the plan and schedule as required by this paragraph, the DEP, in consultation with the other Resource Agencies, may establish a plan and schedule and PPL shall implement that plan and schedule consistent with the approval of the DEP. The annual percentages shall be added together and divided by the total number of years in the monitoring period to determine whether the 85 % fish passage percentage is achieved. If PPL implements operational modifications only those years following the operational modifications shall be considered to determine whether the 85% passage percentage is achieved.

g. If at the end of the Tier II monitoring period, or such longer time as established by the DEP, if the results indicate that less than 85% of the American shad that enter the Holtwood project waters pass through the Amended Project, PPL shall propose a plan and schedule for structural modifications to enhance fish passage at the Amended Project if structural changes will enhance fish passage at the Amended Project and the failure to achieve the 85% fish passage is attributable, in whole or in part, to PPL. This plan and schedule shall be submitted to the Resource Agencies within 6 months from the end of the monitoring period. PPL shall implement the plan and schedule consistent with the approval of the DEP. In the event PPL fails to submit the plan and schedule as required by this paragraph, the DEP, in consultation with the other Resource Agencies may establish a plan and schedule and PPL shall implement that plan and schedule consistent with the approval of the DEP.

2. Downstream Shad Passage

a. PPL shall implement a plan to measure the survival of American shad moving downstream past the Amended Project according to the schedule and consistent with the approval of the DEP (“Discrete Survival Study”). In the event PPL fails to submit the plan and schedule required by this paragraph, the DEP, in consultation with the other Resource Agencies, may establish a plan and schedule and PPL shall implement that plan and schedule consistent with the approval of the DEP.

b. Following completion of the project amendments and upon commencement of operation of the Amended Project, PPL shall, in accordance with the plan established in Paragraph II. B. 2. a., conduct the Discrete Survival Study. PPL shall provide a report of the Discrete Survival Study within 90 days of its completion to the Resource Agencies.

c. If the results of the Discrete Survival Study indicate that PPL can operate the Amended Project so that PPL achieves at least 95% survival of the juvenile American shad and 80 % survival of the adult American shad that pass through the Amended Project, then PPL shall incorporate into the annual FOP any required operational measures or protocols to meet the established percentages. These procedures will be subject to review at the annual meeting per paragraph II.A.1.d..

d. If the results of the Discrete Survival Study do not indicate that the project can be operated to achieve at least 95% passage survival of juvenile American shad and 80% survival of adult American shad, PPL shall, at the annual FOP meeting propose a plan of operation and/or structural modifications of the Amended Project for the following year or such later date approved by the DEP to maximize the downstream American shad passage survival rate. For structural modifications, the plan shall include a plan for measuring and/or quantifying the effectiveness of the structural modification.

e. This plan and schedule shall be submitted to the Resource Agencies within the time frame for submission of amendments to the FOP in accordance with Paragraph II.A.1.d.. PPL shall implement the plan and schedule consistent with the approval of the DEP. In the event PPL fails to submit the plan and schedule as required by this paragraph, the DEP, in consultation with the other Resource Agencies, may establish a plan and schedule and PPL shall implement that plan and schedule.

C. Eel Passage

1. Upstream Eel Passage

a. The trigger date for initiation of upstream eel passage measures shall be the earliest of the following dates:

1. The date on which upstream eel passage becomes operational at Conowingo Dam, or;

2. The date on which eels begin being stocked into the Conowingo reservoir as part of an agency-approved stocking plan, or;

3. The date on which the DEP, in consultation with the other Resource Agencies, determines that newly available data indicates that eels are otherwise present below the Amended Project in numbers appropriate to require upstream eel passage.

b. Within one month after the trigger date, PPL shall meet with the Resource Agencies to discuss a plan and schedule for a study to determine where to site permanent eel passage fishway(s). Based on this discussion, within three months after the meeting, PPL shall submit a plan and schedule for a study to determine where to site permanent eel passage fishway(s) to the Resource Agencies for review and approval. PPL shall implement the plan according to the schedule consistent with the approval of the DEP. In the event PPL fails to submit the plan and schedule as required by this paragraph, the DEP, in consultation with the other Resource Agencies, may establish a plan and schedule and PPL shall implement that plan and schedule consistent with the approval of the DEP. If implementation takes longer than one year, PPL shall provide an annual report of the implementation of the plan by December 31 of each year.

c. If a plan is fully implemented and the DEP, in consultation with the other Resource Agencies, determines the results do not yield adequate information to permit a siting decision for permanent passage, the study shall be repeated annually until adequate information is available and a satisfactory siting decision can be made. PPL may request approval from DEP to delay or terminate any repeat studies.

d. When DEP, in consultation with the other Resource Agencies determines that based on the results of the studies provided for in Paragraph II. C. 1. b. or c. there is adequate information available to permit a siting decision, PPL shall meet with the Resource Agencies to discuss a plan and schedule for siting and construction of permanent eel fishways. Within 6 months from the date of the meeting, PPL shall provide design plans and a schedule for installation of upstream eel passage fishway(s) to the Resource Agencies for review and approval. PPL shall implement the plan and schedule consistent with the approval of the DEP. In the event PPL fails to submit the plan and schedule as required by this paragraph, the DEP, in consultation with the other

Resource Agencies, may establish a plan and schedule and PPL shall implement that plan and schedule consistent with the approval of the DEP.

e. Within one month from approval of the plan for installation of the upstream eel passage fishway(s), PPL shall meet with the Resource Agencies to discuss a plan and schedule to monitor the effectiveness of upstream eel passage and to annually count and report the number of eels passing the Amended Project. Based on this discussion, within three months of the meeting, PPL shall submit a plan and schedule for monitoring the effectiveness of upstream eel passage to the Resource Agencies for review and approval. PPL shall implement the plan according to the schedule consistent with the approval of the DEP. In the event PPL fails to submit the plan and schedule as required by this paragraph, the DEP, in consultation with the PFBC and the USFWS, may establish a plan and schedule and PPL shall implement that plan and schedule consistent with the approval of the DEP.

f. PPL will provide an annual report of monitoring results to Resource Agencies by December 31 of each year.

g. Once the upstream passage system for eels is operational and annual monitoring has been implemented, PPL shall evaluate the effectiveness of upstream passage through PIT tagging in a manner approved by DEP unless a different monitoring method is agreed upon by the parties.

2. Downstream Eel Passage

a. The trigger date for initiation of downstream eel passage measures shall be the earliest of the following dates:

1. Three years following the date on which upstream eel passage becomes operational at Amended Project, or;
2. Three years following the date on which eels begin being stocked into the Lake Aldred as part of an agency-approved stocking plan, or;
3. The date on which the DEP, in consultation with the other resource agencies, determines that newly available data indicates that eels are otherwise present upstream of the Amended Project or other upstream areas in numbers appropriate to require downstream eel passage.

b. Within one month after the trigger date or such longer period established by DEP, PPL shall meet with the Resource Agencies to discuss a plan and schedule for a discrete survival study to measure the effectiveness of downstream passage of eels at the Amended Project. Based on this discussion, within six months, PPL shall submit a plan and schedule for a discrete survival study to measure the effectiveness of downstream eel passage to the Resource Agencies for review and approval. The plan shall include balloon tag studies or such other studies approved by the DEP in consultation with the other Resource Agencies. PPL shall implement the plan according to the schedule consistent with the approval of the DEP. In the event PPL fails to submit the plan and schedule as required by this paragraph, the DEP, in consultation with the other Resource Agencies, may establish a plan and schedule and PPL shall implement that plan and schedule consistent with the approval of the DEP. PPL shall provide a report of the study results within 90 days of the date of completion of the study.

c. If the results of the discrete survival study indicates that PPL can operate the project so that PPL achieves at least 85% survival of the American eel that pass through the Amended Project, then PPL shall incorporate in the annual FOP any operational measures needed to meet this percentage. These procedures will be subject to review at the annual meeting per Paragraph II.A.1.d..

d. If the results of the studies do not indicate that the Amended Project can be operated to achieve at least 85% passage survival of American eel, PPL shall, at the annual FOP meeting, propose a plan of operation or structural modifications of the Amended Project for the following year or such later date approved by the DEP to maximize the downstream American eel passage survival rate. For structural modifications, the plan shall include a plan for measuring and/or quantifying the effectiveness of the structural modification.

e. This plan and schedule under Paragraph II. C. 2. d. shall be submitted to the Resource Agencies within the time frame for submission of amendments to the FOP under Paragraph II.A.1.d. above. PPL shall implement the plan and schedule consistent with the approval of the DEP. In the event PPL fails to submit the plan and schedule as required by this paragraph, the DEP, in consultation with the other Resource Agencies,

may establish a plan and schedule and PPL shall implement that plan and schedule consistent with the approval of the DEP.

D. Resident Fish Passage

1. Resident fish species include all fish species that occur in the Susquehanna River excluding anadromous and catadromous fishes.
2. For a period of five years beginning when the Amended Project commences operation, PPL shall operate the fish passage system from April 1 through June 30 to allow passage of resident fish species.
3. During this five year period of operation of the fish passage system to allow passage of resident fish species, PPL shall count and identify resident fish and provide a daily monitoring report submitted on a daily basis and an annual monitoring report submitted by December 31 of each year to the Resource Agencies.
4. At the FOP meeting preceding the end of this five year period, PPL and the Resource Agencies shall discuss whether modifications to the fish passage system operation for resident fish species is necessary. Absent modification, PPL shall continue to operate the fish passage system as it was operated during the initial five year period.

III. MINIMUM STREAM FLOW

A. MSF Operating Procedures and General Requirements.

1. PPL shall implement a Minimum Stream Flow Operation Procedure Manual (MSFOP) for the Amended Project approved by the DEP. The MSFOP shall include, as necessary, schedules for routine maintenance, procedures for routine operation including: seasonal and daily periods of operation, dam and powerhouse operational measures detailing how the plant shall be operated to meet MSF conditions and requirements including sequencing of turbine start-up and operation, flow split between the old and new powerhouses and between the tailrace and Piney Channel, procedures for measuring and reporting minimum stream flows, procedures for determining net inflows to Lake Aldred, flows in the tailrace and Piney Channel and the spillway channel, as well as any other necessary provisions for plant operation, procedures for monitoring and reporting on the operation,

procedures for annual start-up and shut-down, and procedures for use in case of emergencies and project outages significantly affecting MSF requirements. In the event PPL fails to submit the MSFOP as required by this paragraph, the DEP, in consultation with the other Resource Agencies, may establish a MSFOP and PPL shall implement the MSFOP consistent with the approval of DEP.

2. PPL shall implement the MSFOP according to the schedule upon review and consistent with the approval of the DEP. PPL shall provided written documentation to the Resource Agencies that all operational personnel have reviewed and understand the MSFOP signed by the operations manager of the Amended Project.

3.. Copies of the approved MSFOP and all modifications will be provided to the Resource Agencies.

4. By December 31 of each year, PPL shall provide an annual report (the "MSFOP annual report") detailing the implementation of the MSFOP including any deviations from the MSFOP and a process to prevent those deviations in the future to the Resource Agencies. PPL shall meet with the Resource Agencies by January 31 of each year unless a different date is mutually agreed upon by PPL and the Resource Agencies. Any required modifications to the MSFOP shall be submitted to the Resource Agencies within 30 days of receipt of a request for the modification unless a longer period is approved by the DEP. The modification to the MSFOP shall be implemented consistent with the approval of the DEP.

5. PPL may request a waiver of any of the MSF established herein for a specified period of time if necessary for construction of the new hydroelectric facilities or fish passage system at the Amended Project.

6. In the event of an emergency, where necessary to prevent unavoidable loss of life, personal injury or severe property damage and where there is no feasible alternative, PPL shall not be required to meet the MSF provisions of this certification. PPL shall notify the DEP within 24 hours and provide a report to DEP within 15 days from the date of any emergency.

7. Except for the MSF established under Section III. B. 1 and 2 hereof, DEP may require amendments to the MSFOP as necessary to maintain and protect existing and designated uses and to implement water quality standards and

other appropriate requirements of state law. PPL shall submit all amendments to the Resource Agencies for review and approval on the schedule established by the DEP for submission of the amendment. PPL shall implement any amendments to the MSFOP according to the schedule and consistent with the approval of the DEP.

B. Minimum Stream Flow (“MSF”)

1. Upon issuance by FERC of the amended license authorizing installation of the new hydroelectric turbines and except where a higher flow is otherwise required to meet fish passage or recreational boating requirements and except as provided in Paragraph III. B. 2. below, PPL shall operate the Amended Project to release (including leakage) on a daily volumetric basis 98.7 percent of the minimum flows required by FERC to be released at the Conowingo Hydroelectric Facility.
2. If net inflow to Lake Aldred is less than the MSF requirement established in Paragraph III.B.1. above, the Amended Project shall achieve a MSF release on a daily volumetric basis equal to the net inflow to Lake Aldred.
3. PPL may request a waiver of the MSF established by Paragraphs III.B.1 and 2 above for a specified period of time if necessary for construction of the new hydroelectric facilities or fish passage system at Holtwood.

C. Minimum Stream Flows in the “Spillway Area”

1. PPL shall implement a plan and schedule approval by the DEP for achieving minimum stream flows in the Spillway Area as may be necessary to maintain and protect existing and designated uses and to implement water quality standards and other appropriate requirements of state law. In the event PPL fails to submit the plan and schedule as required by this paragraph, the DEP, in consultation with the other Resource Agencies, may establish a plan and schedule and PPL shall implement that plan and schedule consistent with the approval of the DEP.
2. PPL shall implement a MSF monitoring plan for the spillway area according to the schedule consistent with the approval of the DEP. In the event PPL fails to submit the plan and schedule as required by this paragraph, the DEP, in consultation with the other Resource Agencies, may establish a

plan and schedule and PPL shall implement that plan and schedule consistent with the approval of the DEP. PPL shall annually report the monitoring results by December 31st of each year, which shall be included in the MSFOP annual report.

3. After three years of operation of the Amended Project or such different time established by the DEP, in consultation with the other Resource Agencies and DCNR, if the results indicate that existing and designated uses and water quality standards are not being maintained and protected and other appropriate requirements of state law are not achieved, DEP may require that PPL propose a plan and schedule for modifications to minimum stream flows in the spillway area if operational modifications would help to maintain and protect existing and designated uses and to implement water quality standards and other appropriate requirements of state law. This plan and schedule shall be submitted to the Resource Agencies and DCNR within 6 months from the date that the Resource Agencies notify PPL of the need for the plan and schedule. PPL shall implement the plan and schedule consistent with the approval of the DEP. In the event PPL fails to submit the plan and schedule as required by this paragraph, the DEP, in consultation with the other Resource Agencies, may establish a plan and schedule and PPL shall implement that plan and schedule consistent with the approval of the DEP.

4. After three years from beginning of implementation of the operational modifications described in Paragraph III.C.3, or different time established by the DEP in consultation with the other Resource Agencies and DCNR, if the results indicate that the existing and designated uses and water quality standards are not being maintained and protected and other appropriate requirements of state law are not achieved PPL shall consult with the Resource Agencies and DCNR to determine if additional operational or structural modifications are necessary to maintain and protect existing and designated uses and to implement water quality standards and other appropriate requirements of state law. If DEP in consultation with the Resource Agencies and DCNR determines that such operational or structural modifications are necessary and would help to maintain and protect existing and designated uses and to implement water quality standards and other appropriate requirements of state law. DEP may require that PPL propose a plan and schedule for additional modifications to minimum stream flows in the Spillway Area. This plan and schedule shall be submitted to the Resource Agencies and DCNR within 6 months or such longer time established by DEP in consultation with the Resource Agencies and DCNR. PPL shall implement

the plan and schedule consistent with the approval of the DEP. For structural modifications, the plan shall include a plan for measuring and/or quantifying the effectiveness of the structural modification.

D. Minimum Stream Flows in Piney Channel, and the Tailrace and from Lake Aldred

1. PPL shall implement a plan and schedule approved by the DEP for achieving minimum stream flows in the Piney Channel, and the Tailrace and from Lake Aldred as may be necessary to maintain and protect existing and designated uses and to implement water quality standards and other appropriate requirements of state law. In the event PPL fails to submit the plan and schedule as required by this paragraph, the DEP, in consultation with the other Resources Agencies, may establish a plan and schedule and PPL shall implement that plan and schedule consistent with the approval of the DEP.

2. PPL shall implement the MSF monitoring plan according to the schedule consistent with the approval of the DEP. In the event PPL fails to submit the plan and schedule as required by this paragraph, the DEP, in consultation with the other Resource Agencies, may establish a plan and schedule and PPL shall implement that plan and schedule consistent with the approval of the DEP. PPL shall report the monitoring results by December 31st of each year, which shall be included in the MSFOP annual report.

3. After three years of operation of the Amended Project or such different time established by the DEP in consultation with the other Resource Agencies, if the results indicate that existing and designated uses and water quality standards are not being maintained and protected and other appropriate requirements of state law are not achieved, DEP may require that PPL propose a plan and schedule for modifications to minimum stream flows in the Piney Channel, and/ or the Tailrace and/or from Lake Aldred if operational modifications would help to maintain and protect existing and designated uses and to implement water quality standards and other appropriate requirements of state law. This plan and schedule shall be submitted to the Resource Agencies within 6 months from the date that the Resource Agencies notify PPL of the need for the plan and schedule. PPL shall implement the plan and schedule consistent with the approval of the DEP. In the event PPL fails to submit the plan and schedule as required by this paragraph, the DEP, in consultation with the other Resource Agencies, may establish a plan and

schedule and PPL shall implement that plan and schedule consistent with the approval of the DEP.

4. After three years from beginning of implementation of the modifications described in Paragraph III.D.3., or such different time established by the DEP in consultation with the other Resource Agencies, if the results indicate that the existing and designated uses and water quality standards are not being maintained and protected and other appropriate requirements of state law are not achieved PPL shall consult with the Resource Agencies and DCNR to determine if additional modifications are necessary to maintain and protect existing and designated uses and to implement water quality standards and other appropriate requirements of state law. If DEP in consultation with the Resource Agencies determines that such operational or structural modifications are necessary and would help to maintain and protect existing and designated uses and to implement water quality standards and other appropriate requirements of state law, DEP may require that PPL propose a plan and schedule for additional modifications to minimum stream flows in the Piney Channel, and/or the Tailrace and/or from Lake Aldred. This plan and schedule shall be submitted to the Resource Agencies and DCNR within 6 months or such longer time established by DEP in consultation with the Resource Agencies. PPL shall implement the plan and schedule consistent with the approval of the DEP. For structural modifications, the plan shall include a plan for measuring and/or quantifying the effectiveness of the structural modification.