LOW IMPACT HYDROPOWER INSTITUTE Re-CERTIFICATION APPLICATION FOR THE HOLTWOOD HYDROELECTRIC PROJECT (FERC No. 1881)



DECEMBER 2021

Prepared by:



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1.0 INTRODUCTION

The Holtwood Hydroelectric Project (Project) is an existing, licensed major hydroelectric facility owned and operated by BIF III Holtwood, LLC, (Holtwood), a subsidiary of Brookfield Renewable (Brookfield). The license for the Holtwood Project, issued on August 14, 1980 for a term of 34 years, was to expire on September 1, 2014. Under a license amendment application, PPL Holtwood, LLC, the former owner, requested an extension of its license until September 1, 2030. The Federal Energy Regulatory Commission (FERC) granted PPL a 16-year license extension in October of 2009. Holtwood's Low Impact Hydropower Institute (LIHI) certification was issued on January 20, 2014 and expires on January 20, 2022.

2.0 PROJECT DESCRIPTION AND OPERATIONS

The Project is located in the town of Holtwood in southeastern Pennsylvania and is one of five independently owned and operated hydroelectric projects on the lower Susquehanna River. The most upstream of these projects is the York Haven Hydroelectric Project (FERC No. 1888-PA) at river mile (RM) 55 from the mouth of the river. Proceeding downstream from the York Haven Project are the Safe Harbor Hydroelectric Project (FERC No. 1025-PA) at RM 33, the Holtwood Project at RM 25, and the Conowingo Hydroelectric Project (FERC No. 405-MD) at RM 10. The Muddy Run Pumped Storage Project (FERC No. 2355-PA) is located between the Holtwood and Conowingo Projects and uses the Conowingo Pond as its lower reservoir.



Figure 1 - General location with Project circled in red



Figure 2 - Project Boundary



Figure 3 - Susquehanna River Watershed with Project circled in red



Figure 4 - Susquehanna River with all five hydroelectric projects labeled

Construction of the Project began in 1905 and the Project went into operation in 1910. The new powerhouse went into service in 2013. The purpose of the Project is to produce 252 MW of hydroelectric power and to provide regulated storage for users downstream. Installed capacity includes 122 MW in the original powerhouse and 130 MW in the new powerhouse. The existing facilities at the Holtwood Project consist of a concrete spillway, a skimmer wall for the protection of the powerhouse forebay, a diversion wall between the tailrace and the river

channel downstream of the dam, a fish lift located along the diversion wall between the dam and the original powerhouse for upstream fish passage, two powerhouses, a connecting bulkhead between the spillway and the original powerhouse, and a connecting bulkhead between the two powerhouses.

The existing Holtwood Dam is a run-of-the-river, overflow type structure. The spillway is a 2,368-ft long, 55- ft high, concrete gravity dam with a crest elevation of 165.0 ft and a maximum spillway capacity of 1,000,000 cfs.

The crest of the spillway includes both Obermeyer gates and wooden flashboard sections. The Obermeyer gates and wooden flashboards effectively raise the dam crest height by 4.75 ft to an elevation of 169.75 ft, with the exception of the 40-ft Obermeyer section adjacent to the connecting bulkhead, which is 10 ft high. Closest to the right abutment is the first section, which consists of an Obermeyer gate that is approximately 35 ft long above a recreational "chute" which is used for whitewater boating.

The original powerhouse is located on the east side of the river along the Lancaster County shoreline. The concrete structure contains 10 similarly sized vertical Francis turbine-generator units with a total capacity of 107.2 MW, and a hydraulic capacity of 31,500 cfs. As part of the construction completed in 2013, two 1.2 MW units were installed in the original powerhouse where two retired water-driven exciter units were located. These replacement units have a combined additional installed capacity of 2.4 MW. Discharge from the turbines flows into a one-mile long tailrace that runs along the Lancaster County shore. The new powerhouse was constructed from 2010 - 2013 adjacent to the existing powerhouse on the Lancaster County side of the river. The new forebay floodwalls tie the new powerhouse to the original powerhouse and to the east shore. There are two 65 MW vertical Kaplan hydraulic turbine generators in the new powerhouse.

Piney and Barkley Islands (typically referred to jointly as Piney Island), as well as a concrete deflection wall that extends from the dam to the upper end of Piney Island, separate the Project tailrace from the main river channel area. The deflection wall serves to prevent high water conditions in the tailrace during periods of Project spill. The Project tailrace receives the discharge from all fourteen of the hydroelectric generating units and rejoins the main stem of the Susquehanna River approximately 6,500 ft downstream of the powerhouses.

A fish lift was placed into service at the Project in the spring of 1997 to facilitate the upstream migration of American Shad and River Herring. It is located along the deflection wall between the powerhouse and dam. The fish passage facilities include a tailrace lift with two entrances and a spillway lift for upstream passage. The two upstream lifts have their own fish handling systems that sluice fish into a common flume through which fish swim into Lake Aldred. The lifts or "hoppers" raise the water (and fish) entering the facility about 50 feet to the level of the forebay. Fish swim through the flume and enter the lake outside the plant skimmer wall.



Figure 5 - Site Layout



Figure 6 - Holtwood Project Features



Figure 7 - Holtwood Project Features with Powerhouse and Tailrace on right



Figure 8 - Holtwood Dam and Spillway



Figure 9 - Holtwood Overview



Figure 10 - Holtwood Dam and Obermeyer Gates



Figure 11 - Whitewater facility on west shore of dam



Figure 12 - Fish Lift facility

The Project's impoundment, Lake Aldred, extends approximately eight miles upstream, to the base of the Safe Harbor Hydroelectric Project. The impoundment is currently managed to maintain a maximum normal operating head pond at elevation 169.75 ft. The Project's minimum operating level varies from elevation 167.5 ft from May 15 through September 15 to support lake recreational uses and access, to elevation 163.5 ft during the balance of the year to provide fire protection water to the powerhouses. The lake's current maximum usable storage capacity is 15,224 ac-ft between the top of dam flashboards (elevation 169.75 ft) and elevation 163.5 ft, equivalent to 184,210 cfs-hours of stored water. The usable storage provides approximately six hours of operation for the generating units.

Project lake levels are scheduled seasonally in accordance with the operating license. Under the requirements of the existing FERC operating license, between May 15 and September 15 of each year, the operating level of the lake is restricted to a minimum elevation of 167.5 ft to accommodate summer recreational uses. During the balance of the year, the minimum lake level is elevation 163.5 ft. Lake storage above these minimums is used to permit the Holtwood plant to operate on a peaking basis by concentrating lake inflow into releases during the peak electrical demand hours of the day or week. The Project is generally operated on a daily peaking basis using its limited lake storage to collect inflows from the upstream Safe Harbor Project and smaller tributaries to the Project lake and to release this water during the peak electrical demand periods during the day.

During high water periods, the Project will operate on a 24-hour basis using all available water up to its hydraulic capacity. Based on long-term flow records, the river flow exceeded the original station capacity (31,500 cfs) approximately 38% of the time. Flows in excess of plant capacity were spilled over the dam. With the construction of the new powerhouse, the hydraulic capacity of the Holtwood Project was increased from 31,500 to approximately 62,100 cfs. River flows less than the proposed capacity, except for a small amount of leakage through the existing flashboards and a 10-in diameter pipe in the main dam, would be discharged through the new and existing generating stations consistent with the fish passage and minimum stream flow obligations in the 401 Certificate. Flows in excess of this amount are spilled.

Table B-1.1. Facilit	y Information.
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Item	Information Requested	Response (include references to further		
		details)		
Name of the	Facility name (use FERC project name or	Holtwood Hydroelectric Project		
Facility	other legal name)			

Item	Information Requested	Response (include references to further			
		details)			
Reason for	1. To participate in state RPS program	1. Participating in a state RPS program			
applying for	and specify the state and the total	has been the primary reason for			
LIHI	MW/MWh associated with that	applying for LIHI Certification as LIHI			
Certification	participation (value and % of facility	for the DA Tior L RDS program			
	total Mw/MWh).	Approximately 60% of Holtwood's			
	2. To participate in voluntary REC	generation output gualifies for the PA			
	market (e.g., Green-e)	Tier I RPS program.			
	3. To satisfy a direct energy buyer's				
	purchasing requirement				
	4. To satisfy the facility's own corporate				
	sustainability goals				
	5. For the facility's corporate marketing				
	purposes				
	6. Other (describe)				
	If applicable, amount of annual	The REC volume is about 600 GWh or 60%			
	generation (MWh and % of total	of the facility's generation output			
	generation) for which RECs are currently				
	received or are expected to be received				
	upon LIHI Certification				
Location	River name (USGS proper name)	Susquehanna River			
	Watershed name - Select region, click on	Lower Susquehanna			
	the area of interest until the 8-digit HUC	02050306			
	number appears. Then identify watershed				
	name and HUC-8 number from the map				
	at:				
	https://water.usgs.gov/wsc/map_index.ht				
	Nearest town(s), <u>county(les)</u> , and state(s)	Holtwood and Lancaster, Lancaster and			
	LO Galli River mile of dam above mouth				
	Geographic latitude of dam	Lat: 39.827			
	Geographic longitude of dam	Long: -76.333			
Facility	Application contact names (Complete the	BIF III Holtwood LLC (as of April 1, 2016)			
Owner	Contact Form in <u>Section B-4</u> also):	Kathleen Lester			
	Facility owner company and authorized	BIF III Holtwood LLC (as of April 1, 2016)			
	owner representative name.	Kathleen Lester			
	For recertifications: If ownership has				
	changed since last certification, provide				
	the effective date of the change.				

ltem	Information Requested	Response (include references to further details)		
	FERC licensee company name (if different	N/A		
	from owner)	,		
Regulatory	FERC Project Number (e.g., P-xxxxx),	FERC Project No. P-1881. The current		
Status	issuance and expiration dates, or date of	license was issued August 14, 1980. A		
	exemption	capacity-related license amendment to		
		add generation capacity was approved		
		October 30, 2009. The license expires		
		August 31, 2030.		
	FERC license type (major, minor,	Major		
	exemption) or special classification (e.g.,			
	"qualified conduit", "non-jurisdictional")			
	Water Quality Certificate identifier,	EA36-018, Issued June 15, 2009,		
	issuance date, and issuing agency name.	transferred to BIF III Holtwood LLC in		
	Include information on amendments.	2016 by the PA Department of		
		Environmental Protection. See link in		
		Section 10.0		
	Hyperlinks to key electronic records on	See links in Section 10.0		
	FERC e-library website or other publicly			
	accessible data repositories	The second function of the second		
Powernouse	Date of Initial operation (past or future for	The original facility was placed in		
	pre-operational applications)	five units in operation. Between 1910 with		
		1924 five additional units were installed		
		raising the station output to 108 MW		
		nameplate rating. The Unit 11, 13, 18 and		
		Unit 19 generating units came online in		
		2013.		
	Total installed capacity (MW)	252 MW, no change since last		
	For recertifications: Indicate if installed	certification		
	capacity has changed since last			
	certification			
	Average annual generation (MWh) and	924,436 MWH – January 2013 to		
	period of record used	December 2020. This would be an		
	For recertifications: Indicate if average	increase from the last certification since		
	annual generation has changed since last	the plant expansion went online in 2013.		
	certification			
	Mode of operation (run-of-river, peaking,	Run of River, no change since last		
	pulsing, seasonal storage, diversion, etc.)	certification		
	For recertifications: Indicate if mode of			
	operation has changed since last			
	certification			

Item	Information Requested	Response (include references to further details)
	Number, type, and size of turbine/generators, including maximum and minimum hydraulic capacity and maximum and minimum output of each turbine and generator unit	The original powerhouse contains 10 similarly sized vertical Francis turbine- generator units (1-10) with a total capacity of 107.2 MW. Also included are two 1.2 MW vertical Francis units (11/13). The total hydraulic capacity of the legacy station is 31,500 cfs. In the new powerhouse, there are two 64.6 MW vertical Kaplan hydraulic turbine generator units (18/19), with a hydraulic capacity of 30,000 cfs.
	trashrack	Units 1-7 – 5 13/10 Units 8-10 – 6" Units 11-13 – 2" Units 18-19 – 7"
	Approach water velocity (ft/s) at each intake if known	Unknown without calculations and more definition of location.
	Dates and types of major equipment upgrades For recertifications: Indicate only those since last certification	 Since certification in 2013, the following upgrades were completed: 2016 - Unit 5 lower turbine guide bearing rebuild – water lubricated 2017 - Unit 7 lower turbine guide bearing rebuild – water lubricated 2019 - Unit 4 full rebuild including water lubricated bearing and bushings. Unit 4 had the greased wicket gate bushings replaced with water lubricated bearings.
	Dates, purpose, and type of any recent operational changes For recertifications: Indicate only those since last certification	No operational changes since last certification in 2013.
	Plans, authorization, and regulatory activities for any facility upgrades or license or exemption amendments	See Documentation Section
Dam or Diversion	Date of original dam or diversion construction and description and dates of subsequent dam or diversion structure modifications	1910

Item	Information Requested	Response (include references to further		
		details)		
	Dam or diversion structure length, height	The dam is 2,392 ft long by 55 ft high with		
	including separately the height of any	a spillway crest at El. 165.0. The crest of		
	flashboards, inflatable dams, etc. and	the spillway includes both Obermeyer		
	describe seasonal operation of	gates and wooden flashboard sections.		
	flashboards and the like	The wooden flashboards are supported by		
		steel posts anchored into the crest of the		
		dam. The Obermeyer gates and wooden		
		flashboards effectively raise the dam crest		
		height by 4.75 ft to an elevation of 169.75		
		ft, with the exception of the 40-ft		
		Obermeyer section adjacent to the		
		connecting bulkhead, which is 10 ft high.		
	Spillway maximum hydraulic capacity	1,000,000 cfs		
	Length and type of each penstock and	The intake of the new and original		
	water conveyance structure between the	powerhouses feed directly into the units,		
	impoundment and powerhouse	and flow continues out the draft tubes to		
		the tailrace. Thus, there are no penstock		
		or conveyance systems at the project.		
	Designated facility purposes (e.g., power,	Power		
	navigation, flood control, water supply,			
	etc.)			
Conduit	Date of conduit construction and primary	Not applicable		
Facilities Only	purpose of conduit			
	Source water	Not applicable		
	Receiving water and location of discharge	Not applicable		
Impoundment	Authorized maximum and minimum	The impoundment is currently managed		
and	impoundment water surface elevations	to maintain maximum normal operating		
Watershed	For recertifications: Indicate if these	headpond at elevation 169.75 ft. The		
	values have changed since last	Project's minimum operating level varies		
	certification	from elevation 167.5 ft from May 15		
		through September 15 to support lake		
		recreational uses and access, to elevation		
		163.5 ft during the balance of the year to		
		provide fire protection water to the		
		existing hydroelectric powerhouses.		
		These levels have not changed since last		
		certification.		

Item	Information Requested	Response (include references to further
		details)
	Normal operating elevations and normal	See above response
	fluctuation range	
	For recertifications: Indicate if these	
	values have changed since last	
	certification	
	Gross storage volume and surface area at	Approximately 54,768 acre-ft of water at
	full pool	normal full pond elevation of 167.5 ft.
	For recertifications: Indicate if these	
	values have changed since last	
	certification	
	Usable storage volume and surface area	The lake's current maximum usable
	For recertifications: Indicate if these	storage capacity is 15,224 ac-ft between
	values have changed since last	the top of dam flashboards (elevation
	certification	169.75 ft) and elevation 163.5 ft,
		equivalent to 184,210 cfs-hours of stored
		water. The usable storage provides
		approximately six hours of operation for
		the existing hydroelectric generating
		units.

Item	Information Requested	Response (include references to further
		details)
	Describe requirements related to	Project lake levels are scheduled
	impoundment inflow and outflow,	seasonally in accordance with the
	elevation restrictions (e.g., fluctuation	operating license. Under the
	limits, seasonality) up/down ramping and	requirements of the FERC license,
	refill rate restrictions.	between May 15 and September 15
		of each year, the operating level of the
		lake is restricted to a minimum elevation
		of 167.5 ft to accommodate summer
		recreational uses. During the balance of
		the year, the minimum lake level is
		elevation 163.5 ft. Lake storage above
		these minimums is used to permit the
		Holtwood plant to operate on a peaking
		basis by concentrating lake inflow into
		releases during the peak electrical
		demand hours of the day or week. The
		Project is generally operated on a daily
		peaking basis using its limited lake storage
		to collect inflows from the upstream Safe
		Harbor Project and smaller tributaries to
		the Project lake and to release this
		water during the peak electrical demand
		periods during the day.
		During high water periods, the Project will
		operate on a 24-hour basis using all
		available water up to its hydraulic
		capacity. Flows in excess of plant
		Capacity (62.100 cfs) are spilled over the
		dam. River flows less than the proposed
		capacity, except for a small amount of
		leakage through the existing flashboards
		and a 10-in diameter pipe in the main
		dam, would be discharged through the
		generating stations consistent with the
		fish passage and minimum stream flow
		obligations in the 401 Certificate

Item	Information Requested	Response (include references to further
		actalls)
	river mile. If EEDC licensed or everythe	hu Safe Harbor (FERC No. 1025) – Owned
	river mile. If FERC licensed or exempt,	by Safe Harbor Water Power Corporation
	please provide FERC Project number of	(subsidiary of Brookfield Renewable) –
	these dams. Indicate which upstream	Has downstream fish passage – RM 33
	dams have downstream fish passage.	* York Haven (FERC No. 1888) – Owned by
		York Haven Power Company, LLC – Has
		downstream fish passage – RM 54
	Downstream dams by name, ownership,	* Conowingo (FERC No. 405) – RM 10 –
	river mile and FERC number if FERC	Has upstream fish passage
	licensed or exempt. Indicate which	* Muddy Run Pumped Storage (FERC No.
	downstream dams have upstream fish	2355) – RM 23
	passage	Both are owned by Exelon.
	Operating agreements with upstream or	Holtwood entered into a settlement
	downstream facilities that affect water	agreement with Conowingo in 2009 to
	availability and facility operation	provide a continuous minimum flow of
		800 cfs and a daily volumetric flow
		equivalent to 98.7% of the minimum flow
		requirements of the Conowingo Project.
	Area of land (acres) and area of water	Approximately 420 acres within the 200-
	(acres) inside FERC project boundary or	foot zone extending around the reservoir.
	under facility control. Indicate locations	Lake Aldred is 2,468 acres. Per Land &
	and acres of flowage rights versus fee-	Shoreline Management Plan, many acres
	owned property.	were removed from the project
		boundary.
Hydrologic	Average annual flow at the dam, and	42,346 cfs – January 2013 to December
Setting	period of record used	2020
	Average monthly flows and period of	January – 59,054 cfs
	record used	February – 60,933 cfs
		March – 54,696 cfs
		April – 72,561 cfs
		May – 56,616 cfs
		June – 33,564 cfs
		July – 29,891 cfs
		August – 27,645 cfs
		September – 20,545 cfs
		October – 18,883 cfs
		November – 32,007 cfs
		December – 42,758 cfs
		Period: January 2013 to December 2020

ltem	Information Requested	Response (include references to further details)
	Location and name of closest stream gaging stations above and below the facility	Upstream USGS stream gages on the Susquehanna River at Marietta (01576000) and Harrisburg (01570500) are used to forecast inflow in addition to the releases made at the upstream Safe Harbor Project.
	Watershed area at the dam (in square miles). Identify if this value is prorated from gage locations and provide the basis for proration calculation.	The Susquehanna River watershed is approximately 27,510 square miles. The Susquehanna River above the Holtwood Dam has a drainage area of approximately 26,800 square miles.
	Other facility specific hydrologic information	
Designated Zones of Effect	Number of zones of effect Type of waterbody (river, impoundment, bypassed reach, etc.)	Three Zone 1 - Impoundment Zone 2 - Bypass Reach Zone 3 - Tailrace
	Upstream and downstream locations by river miles	Zone 1 RM 33-25 - Impoundment Zone 2 RM 25-24 - Bypass Reach Zone 3 RM 25-24 - Tailrace
	Delimiting structures or features	Zone 1 - Safe Harbor Dam Zone 2 – 1 mile to where it joins tailrace Zone 3 – 1 mile downstream to Normanwood Bridge
Pre-Operationa	l Facilities Only	
Expected operational date	Date generation is expected to begin	Not applicable
Dam, diversion structure or conduit modification	Description of modifications made to a pre-existing conduit, dam or diversion structure needed to accommodate facility generation. This includes installation of flashboards or raising the flashboard	Not applicable
	Date the modification is expected to be completed	
Change in water flow regime	Description of any change in impoundment levels, water flows or operations required for new generation	Not applicable

3.0 CHANGES SINCE CERTIFICATION

The following changes have taken effect since certification in 2013:

- The new powerhouse was completed and came online in 2013. It has been operating successfully.
- The new whitewater boating facility on the York County side of the dam was completed.
- As required, fall resident fish passage began operating in 2014.
- Three new boat barriers were installed for public safety including the tailrace, Piney Channel and upstream of the dam.
- New Oil Water Separator (OWS) systems were installed and have had a significantly positive impact on water quality at our outfalls.
- Our newly issued NPDES permit (July 1, 2021) now requires a different frequency in stormwater inspections.
- The valve actuators in the fish lift have been upgraded.
- Unit 4 was disassembled and rebuilt with water lubricated bushings and turbine bearing.

All other requirements, obligations and agreements were already in effect.

4.0 LIHI CERTIFICATION CONDITIONS UPDATE

Below is a summary of both conditions and their current status:

CONDITION 1

Licensee shall provide LIHI with a copy of the Fish Passage Technical Advisory Committee Report, developed in accordance with FERC License, Article 55, which describes the status of all fish passage and protection efforts over the prior year. Licensee shall summarize the latest interactions with state and federal fish management agencies concerning this report and confirm via email that the agencies agree that these monitoring efforts show sufficient progress toward the goals specified in the PA DEP Water Quality Certification, Section III, entitled Fish Passage. If established FOP goals are not being achieved, Licensee shall propose solutions and implement those consistent with the PA DEP Water Quality Certification.

Fish passage reports and data were compiled into several presentations and discussed with the Fish Passage Technical Advisory Committee (FPTAC) at the most recent annual meeting held remotely on December 9 and 10, 2020. The FPTAC meeting summary describes the status of fish passage and studies conducted in the 2020 season. The 2020 Annual Fish Passage Report was filed with the FERC on February 1, 2021 and be found <u>here</u>.

Due to COVID-19 mandates, the beginning of fish passage season was delayed in 2020. Migratory fish passage season began on May 14 and ended on May 15 when SRAFRC requested Brookfield to shut down the lifts due to the passage of the invasive northern snakehead fish at the downstream Conowingo dam. Resident passage did not occur in 2020 per the request of agencies. On May 18, 2020, PADEP requested that Brookfield suspend fish passage operations at the Holtwood facility immediately and throughout the remainder of the spring season due to aquatic invasive species. The third year of Tier II fish passage studies were not completed at the project in 2020. Radio tags were purchased, and monitors were installed on March 19, prior to our operations being modified. With migratory fish passage season terminated early and fish not being tagged at the downstream Conowingo dam, we were unable to perform the study.

Brookfield was prepared to operate the lift in 2021. However, in discussions with resource agencies on October 20, 2020, Brookfield was informed that agencies did not want the dams on the lower Susquehanna River to pass fish in 2021 due to the potential spread of invasive species like the northern snakehead. Brookfield submitted a letter to the PADEP dated November 17, 2020 requesting that fish passage at the Holtwood Dam be suspended for spring and fall of 2021. We also requested that year 3 of the Tier II radio telemetry study be deferred to 2022. Both PADEP and US Fish and Wildlife Service submitted letters of support. Brookfield filed a request for temporary variance from its upstream fish passage requirements to the FERC on January 5, 2021, which was approved on February 26, 2021 and can be found <u>here</u>.

Brookfield is prepared to complete the third year of radio telemetry studies in 2022, pending discussions with regulatory agencies at the annual FPTAC meetings, currently scheduled for December 7 and 8, 2021. A meeting summary was not finalized by the time of this submittal, nor was a decision made on 2022 fishway operations or Tier II studies.

CONDITION 2

Licensee will maintain Minimum Stream Flow (MSF) Operating Procedures and Requirements, in accordance with the PA DEP Water Quality Certification (WQC), Section IV. Licensee shall work to establish improved information sharing and understanding of on-going monitoring results for flows, water quality, and fish passage at their facility and others along the lower Susquehanna River, as requested and to the extent possible.

Per the WQC, the FERC Order Modifying and Approving Minimum Stream Flow Operations Procedures Manual, and the Plan, the Holtwood Project provided a daily volumetric flow release equal to the lesser of net inflow or 98.7 percent of the Conowingo project's minimum flow obligation. In addition, the Project routinely maintains a continuous release of 800 cfs or net inflow, if less and a 200 cfs continuous release into Piney Channel.

Per the FERC Order Approving the MSFOP, the licensee is required to report any deviations from the required continuous minimum flows or the daily average minimum flow. Deviations since 2013 are included in Section 5.0.

The 2020 MFSOP annual report was submitted to the FERC and resource agencies on February 1, 2021 and can be found <u>here</u>. The 2021 report was not submitted as of the date of this submittal.

Brookfield continues to ensure that procedures are in place to make required notifications concerning fishway operation or minimum flow deviations, if the need would arise. The Licensee will continue to notify PA DEP, USFWS, and other FPTAC resource agency staff members of any fishway equipment problems or related issues that have the potential to result in minor disruptions of fishway operation. In addition, the Licensee has procedures in place to report flow deviations to the PA DEP, FERC and other resource agency personnel, should they occur.

5.0 REGULATORY DEVIATIONS

Below is a summary of all planned and unplanned deviations from, or violations of the FERC license, exemption, or other permit or authorization requirement (e.g., water quality certification) over the last five years.

Dissolved Oxygen Monitoring Plan Deviations

- <u>2017</u> On July 7, 2017, a low instantaneous reading of 4.7 mg/l was recorded at the tailrace location at 3:30 a.m. This was one out of 48 readings taken that day, with all the others being in compliance. Daily average DO values remained above the standard of 5.5 mg/l 7-day average. Low DO readings can result from a variety of causes such as inaccuracies associated with monitor malfunction, biofouling, and monitor accuracy tolerances especially when combined with relatively low ambient DO conditions. The infrequent occurrence and relatively short duration of time when DO values did not achieve minimum requirements do not allow for extensive analysis. At this time, it appears that discharge DO levels remain a function of inflow DO levels and that project operations do not have a negative effect. As required, FERC and PADEP were notified on July 24, 2017 (found here). FERC's response dated September 5, 2017 concluded that the deviation will not be considered a violation and can be found here.
- <u>2018</u> In 2018, there were three low DO readings in the forebay. In our original DO Report submitted to FERC on <u>December 27, 2018</u>, these four readings were documented but not officially reported since they were in the forebay. FERC responded on <u>April 3, 2019</u> and clarified that they believe all deviations to be reportable, regardless of location or how the DO Monitoring Plan is worded. They requested all deviations be explained, which was filed on <u>April 22, 2019</u> and can be found here. FERC's response dated <u>August 20, 2019</u> concluded that the deviations will not be considered a violation.
- <u>2019</u> In 2019, there were five low DO readings in August and six in September. These were submitted to FERC and PADEP on <u>September 9</u>, <u>September 16</u>, and <u>October 8</u>. The annual DO Monitoring Report was submitted to FERC on <u>December 3</u>, 2019 which outlines all of the details. FERC's response dated <u>January 3</u>, 2020 concluded that the deviations will not be considered a violation. The deviations likely occurred as a result of thermal stratification, which is a natural process in a waterbody like that of a forebay. The warmer water temperatures also encourage biofouling on monitoring equipment.
- <u>2020</u> In 2020, there were multiple low DO readings throughout the summer. These were submitted to FERC and PADEP on July 23, August 14, September 10, and October
 <u>6</u>. The annual DO Monitoring Report was filed with FERC on <u>December 4, 2020</u> which outlines all of the details. FERC's response dated <u>February 23, 2021</u> concluded that the deviations will not be considered a violation. The deviations likely occurred as a result of thermal stratification, which is a natural process in a waterbody like that of a forebay. The warmer water temperatures also encourage biofouling on monitoring equipment.
- <u>2021</u> In 2020, there were multiple low DO readings in June and July. These were submitted to FERC and PADEP on <u>July 8</u> and <u>July 26</u>. We will file our annual DO Monitoring Report later this year.

Integrated Contingency Plan (ICP) Deviations

• <u>2017</u> - On April 19, 2017, an oil sheen was noticed at NPDES Outfall #1 at 8 a.m. A backup oil separator was put into service and an oil boom was deployed in the area. Samples were taken, which were later found to be below the permitted levels of the NPDES permit. The cause was found to be a clogged oil water separator due to recent flows in the river. Agencies were contacted, as required in the ICP. PA DEP (Sheena Ripple) conducted an inspection later that same day. A violation notice was issued shortly after. Brookfield contained and cleaned the oil sheen and increased the frequency of oil water separator cleanouts. PADEP's final report dated April 19, 2017 is enclosed in Section 10.0.

Minimum Stream Flow Operating Plan (MSFOP) Deviations

- <u>2017</u> On December 30, 2017, minimum flow in Piney Channel was not met for a total of 30 minutes due to Unit 1 tripping offline. Unit 1 is the primary contributor to the minimum flow release. The operator followed protocol and immediately began public safety notifications downstream, which are required for 30 minutes to allow members of the public to exit the river channel downstream. The operator took quick actions and ensured that the hourly flow was exceeded to make up for the loss earlier in the hour. No environmental or recreational impacts were anticipated with this event since all other required minimum flows were met during this time and it was not during fish passage, whitewater boating, or dissolved oxygen monitoring season. Details were filed with agencies and FERC by letter dated January 8, 2018 (found here) and supplemental information provided to FERC on April 18, 2018 (found here). FERC's response dated April 30, 2018 concluded that the deviation will not be considered a violation and can be found here.
- <u>2020</u> On July 17, 2020, part of the Holtwood Station tripped offline at 8:40 pm due to wildlife contact with a transformer. This caused Unit 1 to trip offline, which is the primary contributor to the minimum flow release required in Piney Channel. The operator was able to quickly utilize another transformer and brought Unit 1 back online at 8:54 pm. We were unable to meet the required flow for a total of 14 minutes. No environmental or recreational impacts were observed from the event. Dissolved oxygen levels in the Piney Channel remained above the Pennsylvania Water Quality Standards. The event happened outside of fish passage and whitewater boating season. All other required minimum flows were met during this time. Details were filed with agencies and FERC by letter dated July 23, 2020 and can be found <u>here</u>. FERC's response dated October 29, 2020 concluded that the deviation will not be considered a violation and can be found <u>here</u>.

6.0 ZONES OF EFFECT

The Holtwood Project site offers three designated zones of effect for this application.

Zone 1 is defined as the **Impoundment** covering 2,400 acres extending from the Holtwood Dam 8 miles upstream to the Safe Harbor Dam.



Figure 13 – Zone 1 - Impoundment

Zone 2 is defined as the **Bypass Reach** beginning at the dam and extending downstream 1 mile to the confluence with the tailrace. This includes the spillway and Piney Channel as shown below.



Figure 14 – Zone 2 – Bypass Reach



<u>Zone 3</u> is defined as the **<u>Tailrace</u>** beginning at the dam and extending downstream 1 mile to the Normanwood Bridge.

Figure 15 – Zone 3 – Tailrace

Table B-1.2.b. Standards Matrix –Alternate Format Template for Multiple ZoEs.

		CRITERION							
Zone No., Zone	River Mile	A	В	С	D	E	F	G	Н
Name, and Standard Selected (including PLUS if selected)	at upper and lower extent of Zone	Ecological Flows	Water Quality	Upstream Fish Passage	Downstream Fish Passage	Shoreline and Watershed Protection	Threatened and Endangered Species	Cultural and Historic Resources	Recreational Resources
Zone 1, Impoundment	33 - 25	2	3	1	2	2, PLUS	2	2	2
Zone 2, Bypass Reach	25 - 24	2	3	2	2	2, PLUS	2	2	2
Zone 3, Tailrace	25 - 24	2	3	2	1	2, PLUS	2	2	2

7.0 CRITERION

This section contains information that explains and justifies the standards selected to pass LIHI certification criteria.

7.1 Ecological Flow Standard

Criterion	Standard	Instructions
Α	2	Agency Recommendation (see Appendix A for definitions):
		 Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally protective). Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement. Explain how the recommendation relates to formal agency management goals and objectives for fish and wildlife. Explain how the recommendation provides fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and
		peaking rate conditions, and seasonal and episodic instream flow variations).
		 Explain how flows are monitored for compliance.

All three zones of effect are using standard 2 to justify meeting the ecological flow standard.

In December of 2007, as part of the expansion project, a <u>Minimum Flow Analysis</u> (starting at PDF page 646) was conducted for Holtwood and used as the basis for creating the current minimum flow program. Several models were used including OASIS (daily Susquehanna River flow model), HEC-RAS, and MIKE21 for fishery habitat. Article 51 of the FERC License, as well as Condition number IV.A of the Water Quality Certification required Holtwood to develop a <u>Minimum Stream Flow Operations</u> <u>Procedures Manual</u>. The plan sets forth how Holtwood will achieve and monitor minimum stream flows in the spillway, the Piney Channel and the tailrace. The minimum flow regime for the project is complex

due to the size and configuration of the project as well as the varying needs for water below the project. In addition to the FERC license and the 401 certification, minimum flow releases are also authorized by the Susquehanna River Basin Commission (SRBC) and directed as part of a settlement agreement with Exelon Generation, LLC, licensee for the downstream Conowingo project.

Specific flow requirements that the Plan addresses include the following:

 Implementation of the QFERC daily volumetric flow release (including leakage) equal to the lesser of net inflow or 98.7 percent of the Conowingo project's minimum flow obligation.
 A continuous minimum flow from the Project of 800 cfs or net inflow, if less.

3. A continuous 200 cfs continuous conservation release to Piney Channel.

4. Continuation of a continuous minimum stream flow to the spillway area below the dam at least equivalent to the present rate of leakage through the dam flashboards plus the present rate of flow through the 10-inch pipe in the dam.

5. The initiation of a periodic wetting flow to the spillway area during June through September whenever river flow exceeds 31,000 cfs and is less than 61,500 cfs. This is to mimic a natural spill frequency and help provide sufficient root wetting for plant species of concern.

As required, any deviations are reported to agencies, along with an annual compliance report and annual meeting.

Per the Plan, now that Conowingo's minimum flows are modified due to their recently issued FERC License, Holtwood's min flows will now also be adjusted. The MSFOP is currently under review with regulatory agencies and the plan will be revised to reflect the changes. The changes taking place include the increase of required min flow from 1,750 cfs to 3,500 from December 1 to February 28. Because of that change, the continuous 800 cfs will be increased to 1,600 cfs during the same time period. Additional modifications will take place starting in March of 2024.

7.2 Water Quality Standard

- 1. Please specify the state's water quality classification and designated uses for the river at the facility or, for each zone if they differ. For instance, "The impoundment is a Class B water designated as a habitat for fish, other aquatic life, and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation".
- 2. If the facility is located on a <u>Water Quality Limited</u> river reach, provide a link to the state's most recent impaired waters list and indicate the page(s) therein that apply to facility waters. If possible, provide an agency letter stating that the facility is not a cause of such limitation.

Criterion	Standard	Instructions				
В	3	Site-Specific Studies:				
		 Document consultation with appropriate water quality agency to determine what water quality parameters and sampling methods are required. Present recent water quality data from the facility or from other sources in the vicinity of the facility (e.g., data collected from the state, watershed associations, or others who collected data under generally accepted sampling protocols and quality assurance procedures) and explain and demonstrate how it satisfies current applicable water quality standards including designated uses, or provide a letter from the appropriate state or other regulatory agency accepting the data. 				

The Susquehanna River within the project area is designated as a warmwater fishery with migratory fish. All three zones of effect are using standard 3 to justify meeting the water quality standard.

As part of its FERC license, Holtwood has a <u>Dissolved Oxygen Monitoring Plan</u>. Per the approved Plan, dissolved oxygen values are monitored at the Piney Channel, forebay and tailrace from April 1 to September 30. Any deviations that occur are filed with PADEP and FERC and are outlined in Section 5.0. We believe that any instances of low DO readings that occur are due to natural processes occurring in the river and are not a result of our operations. The original requirement was to monitor for five years and then review with PADEP. In 2016 and 2017, PADEP noted that due to lack of transparent QA/QC methods and calibration records submitted by the consultant, they requested that we monitor an extra two years, which was completed in 2021. Once the final 2021 report is submitted to PADEP, all of the data will be reviewed to determine the future of monitoring.

Holtwood also has an NPDES Permit (PA0008435), most recently issued on July 1, 2021. Various outfalls at the project are monitored for flow, pH, total suspended solids and oil/grease. As part of the permit, regular inspections of stormwater outfalls are conducted and filed with the PADEP.

7.3 Upstream Fish Passage Standard

Required regardless of standard selected: Provide a list all <u>migratory fish</u> species (<u>anadromous</u>, <u>catadromous</u>, and <u>potamodromous</u> species) that occur now or have occurred historically at the facility.

Criterion	Standard	Instructions			
С	1	Not Applicable / De Minimis Effect:			
		 Explain why the facility does not impose a barrier to upstream fish passage in the designated zone. Typically, impoundment zones will qualify for this standard since once above a dam and in an impoundment, there is no facility barrier to further upstream movement. Document available fish distribution data and the lack of migratory fish species in the vicinity. If migratory fish species have been extirpated from the area, explain why the facility is not or was not the cause of the extirpation. 			

Criterion	Standard	Instructions				
C	2	Agency Recommendation:				
		 Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally protective). 				
		• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement.				
		 Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented. 				
		 Provide evidence that required passage facilities are being operated and maintained as mandated (e.g. meets season, coordination with agencies) 				

Below is a list of all migratory fish that passed through the Holtwood fish lift in spring of 2019. Inventories of species can be found in our Annual Fish Passage Reports, listed in Section 10.0:

· · ·
AMERICAN SHAD
GIZZARD SHAD
RAINBOW TROUT
MUSKELLUNGE
CARP
BROWN BULLHEAD
NORTHERN HOGSUCKER
QUILLBACK
SHORTHEAD REDHORSE
CHANNEL CATFISH
FLATHEAD CATFISH
WHITE PERCH
STRIPED BASS
ROCK BASS
PUMPKINSEED
BLUEGILL
SMALLMOUTH BASS
LARGEMOUTH BASS
YELLOW PERCH
WALLEYE
STRIPED BASS (HYBRID)
BROOK TROUT

Zone 1 is using standard 1 to justify meeting the upstream fish passage standard since once the fish pass upstream of the dam into the impoundment, they are not restricted in any way. There is no barrier to restrict further upstream movement.

Zones 2 and 3 are using standard 2 to justify meeting the upstream fish passage standard.

In connection with Article 47 of its License, the Prescription for Fishways, and Conditions III.A.1 and III.B.1 of the Water Quality Certificate (WQC), Brookfield is required to operate a fishway for the passage of American Shad. The annual migratory fish passage season begins when Conowingo starts to pass American Shad during migratory season and ends when agencies determine the season is complete (nominally April 15 – June 15, dates change each year). Holtwood is also required to operate fall fish passage from September 1 to October 15 annually.

The tailrace lift has two entrances (Gates A and B) and the spillway lift has one entrance (Gate C). Each lift has its own fish handling system which includes a mechanically operated crowder, picket screen(s), hopper and hopper trough gate. Attraction water, in, through, and from the lifts is supplied through a water piping system and five diffusers that are gravity fed. There is a total of 800 cfs attraction flow. Fish swim upstream through a counting facility and into Lake Aldred through a pre-existing 14 ft wide debris chute.

Holtwood is committed to conduct all required monitoring of upstream migratory fish passage on the Susquehanna River and to measure passage performance against performance goals as established in the Project's License order and 401 WQC. Brookfield continued with Tier I PIT tag studies that PPL began. Tier I goals require at least 75% of the American shad that pass the Conowingo Dam East Fish Lift (EFL) pass through the Holtwood Fishway and that 50% of the shad pass through the fishway within five days of passing the EFL. After three years of PIT tagging studies in 2015, 2016 and 2017, PADEP notified Brookfield on October 11, 2017 that Tier I conditions were not met, and therefore Tier II studies would be required using radio telemetry.

Tier II radio telemetry studies began in 2018. 2020 would have been year 3 of the study but it was deferred due to COVID-19 delaying the season start and invasive species concerns terminating the season early. Brookfield was prepared to conduct year 3 of the study in 2021. On a call with resource agencies, a discussion was had regarding conducting the study without passing the fish through the Holtwood fish lift. Brookfield believed that conducting the study without lifting fish, with only a small sample size, and/or stocking the tagged fish in alternate locations would influence the study, resulting in questionable data. Agencies shared these concerns and a request to suspend the 2021 fish passage season and Tier II studies was approved.

Brookfield continues to maintain and improve the fish lifts, even when not operating. We took the initiative to study the Holtwood fish lift including commissioning a historical review of fish lift data and modifications, and a flow study to determine if the flows and current piping meet the requirements. Based on our findings, we have now begun CFD modeling of the fish lift and upgraded some of the flow critical motor operated valves.

With increasing concerns of the passing of invasive species like the Northern Snakehead, the operations of the lifts and studies are currently on hold until further discussion with agencies. Brookfield regularly communicates with the Fish Passage Technical Advisory Committee (FPTAC), comprised of resource agencies, and meets with them annually to discuss all ongoing studies and operations of the lifts. Our 2021 meeting is scheduled for December 8 and as of the date of this report, no meeting summary had been generated and no decision has been made on 2022 fishway operations.

7.4 Downstream Fish Passage Standard

Required regardless of standard selected: In addition to the migratory species list provided for criterion C above, provide a list of all riverine/resident fish species that occur now or have occurred historically at the facility.

Criterion	Standard	Instructions				
D	1	Not Applicable / De Minimis Effect:				
		 Explain why the facility does not impose a barrier to downstream fish passage in the designated zone, considering both physical obstruction and increased mortality relative to natural downstream movement (e.g., entrainment into hydropower turbines). Typically, tailwater/downstream zones will qualify for this standard since below a dam and powerhouse there is no facility barrier to further downstream movement. Bypassed reach zones must demonstrate that flows in the reach are adequate to support safe, effective and timely downstream migration. For riverine fish populations that are known to move downstream, explain why the facility does not contribute adversely to the species populations or to their access to habitat necessary for successful completion of their life cycles. Document available fish distribution data and the lack of fish species requiring passage in the vicinity. If migratory fish species have been extirpated from the area, explain why the facility is not or was not the cause of the extirpation. 				
D	2	 <u>Agency Recommendation:</u> Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally protective). Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not. Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented. Provide evidence that required passage facilities are being operated and maintained as mandated (e.g. meets season, coordination with agencies) 				

Below is a list of all resident fish that passed through the Holtwood fish lift in fall of 2014 through 2019. Inventories of species can be found in our Annual Fish Passage Reports, listed in Section 10.0:

YEAR	2014	2015	*2016*	**2017	2018	2019
# Days of Operation	34	35	0	32	6	33
ours of Operation (Tailrace)	182	201.2	0	184	34	61.3
# of Tailrace Lifts	224	229	0	200	40	67
ours of Operation (Spillway)	191.5	222	0	0	34.1	186.5
# of Spillway Lifts	220	222	0	0	39	228
SPECIES						
Gizzard Shad	1,448,307*	603,331*		4,786	38	97,361*
American Eel		1				
Rainbow Trout	1					
Minnows (Notropis)	147,920*			12,060*		114,518*
Carp	57	32		7	3	7
Comely Shiner					900*	
Quillback				1		1
Shorthead Redhorse	4	1		1		1
Channel Catfish	550	301		88	201	317
Flathead Catfish	1	3		1		20
Striped Bass	1			1		
Rock Bass	1	1				1
Pumpkinseed	2					
Bluegill	47	34		6	19	349
Smallmouth Bass	31	19		79	198	113
Largemouth Bass	2			4		
White Crappie	2				2	
Black Crappie	1				2	
Walleye	232	87		4		8
Yellow Perch					1	
Hybrid Striped Bass	3					
Atlantic Needlefish		11				
Total # of Fish	1,597,162	603,821	0	17,038	1,364	212,696
Number of Species	16	11	0	12	9	10
Number of Hybrids	1	0	0	0	0	0

2016: No operation in Fall due to repair work stemming from equipment malfunctions in spring.

**2017: No operation of spillway lift due to repair work stemming from equipment malfunctions in spring.

In 2019, there was a decrease in operating hours due to extended periods of very high flows on the river, which shut down the lifts.

Zone 3 is using standard 1 to justify meeting the downstream fish passage standard since once the fish pass downstream of the dam into the tailrace, they are not restricted in any way. There is no barrier to restrict further downstream movement.

Zones 1 and 2 are using standard 2 to justify meeting the downstream fish passage standard.

See upstream fish passage section for details on required seasons and fishway operations. Article 47 of the FERC license, as well as the 401 WQC and Prescription for Fishways requires that a downstream discrete survival study be conducted to understand the effect that downstream passage and turbine survival is expected to have on juvenile and adult American shad as they pass the Holtwood project. A proposed study plan was submitted to USFWS and PADEP for review and approval on June 28, 2018. The study proposed using the HI-Z Tag recapture technique, which involves a release of tagged fish into a turbine with a concurrent release of similarly tagged fish in the tailrace as controls and their subsequent immediate recapture. Due to complications, low fish populations, and small sized fish available, agencies committed to review and respond. This topic has been tabled and is still under review with agencies.

Holtwood's WQC required that fish passage enhancements included excavation within the project boundary to significantly minimize velocity barriers to fish passage. The prior licensee (PPL) took several steps and conducted studies. In October 2015, a new tailwater curve was developed for the new tailrace and additional velocity studies were conducted in April 2015 that were used to validate the tailrace model and obtain results for flow three simulations. The baseline model, run at high flows, identified three potential pinch points in the tailrace along Piney Island and a high velocity area in the fish passage channel that were associated with tailrace excavation. Operations staff confirmed that PPL's contractor completed additional excavation in 2014 and removed loose debris. The objective of varying the point source of the discharge was to determine downstream velocity sensitivities with varying unit operation settings that could potentially meet the "Zone of Passage (ZOP)" requirements identified in the Expansion Project License documents. The year that Brookfield purchased the Project (2016), an update on the tailrace modeling was provided. Preliminary results of the study were then shared with agencies. The study (Alden Report) was sent to agencies in 2018. They acknowledged receipt of the report and stated they would evaluate the report and follow up.

In the 2018 fish passage meetings, agencies agreed to keep ZOP on our annual agenda as a placeholder but focus on the telemetry studies to see if we can improve conditions in the lift itself first. Our telemetry is showing us that a high percentage of fish are making it to the lift but not entering the lift. Brookfield subsequently commissioned a study to determine why the entrances were not attractive to the fish.

In 2021, Brookfield voluntarily agreed to provide a total of \$50,000 of funding over 4 years towards a downstream eel migration study that USFWS is leading in the Susquehanna River Basin.

Brookfield regularly communicates with the Fish Passage Technical Advisory Committee (FPTAC), comprised of resource agencies, and meets with them annually to discuss all ongoing studies and operations of the lifts. Our 2021 meeting is scheduled for December 8 and a meeting summary has not been established yet nor has a decision on 2022 fishway operations.

7.5 Shoreline and Watershed Protection Standard

Required regardless of standard selected: Describe land use and land cover around the facility. Describe any protections afforded the river or lands around the facility (e.g., Wild and Scenic River, conservation lands surrounding the impoundment, critical habitats, etc.)

Criterion	Standard	Instructions				
E	2	Agency Recommendation:				
		 Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans). Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. 				
E	PLUS	 Bonus Activities: Provide documentation that the facility has a formal site-specific conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors. In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an 				
		ecologically effective buffer zone of 50% or more around undeveloped shoreline.				

All three zones of effect are using standard 2 and PLUS to justify meeting the shoreline and watershed protection standard.

The Holtwood project shoreline along the Susquehanna River and principal tributaries have been largely preserved over the past 100 years in their natural state. With the exception of a few areas, mainly around Pequea Creek, there is an approximate 200-foot forested buffer provided along all areas of the Susquehanna River as well as along many of the principal tributaries within the Project Boundary. This provides scenic, water quality, and wildlife habitat benefits to the area. More information about the shoreline buffer can be found in Section 5 of the Land and Shoreline Management Plan discussed below.

Brookfield has a Land and Shoreline Management Plan (LSMP) in place. The LSMP was developed in cooperation with the Pennsylvania Department of Conservation and Natural Resources (DCNR), Lancaster and York Counties, the Susquehanna Gateway Heritage Area, the Lancaster County Conservancy (LCC); and The Conservation Fund, and in consultation with other state and federal resource agencies, including the U.S. Fish & Wildlife Service, U.S. National Park Service, the Pennsylvania Fish & Boat Commission, the Pennsylvania Game Commission, and the PA Department of Environmental Protection, as well as non-governmental organizations. It formalizes a framework for the management of Project lands and river shoreline areas consistent with much broader local, regional, state, and federal initiatives to preserve, protect, and enhance the lower Susquehanna River Corridor and to foster a stewardship ethic in support of broad federal, state, and regional efforts to protect and preserve the Chesapeake Bay.

On May 12, 2009, President Obama issued Executive Order 13508 "Chesapeake Bay Protection and Restoration" designating the Chesapeake Bay a "National Treasure". The executive order specifically calls for key Federal agencies to work on a large landscape scale and provide more support for land conservation, expanded public access to the waterways of the region, and enhanced citizen stewardship. Since the Susquehanna River provides over 50 percent of the freshwater to the bay from its 27,500 square mile watershed, it is critical to connect the Commonwealth of Pennsylvania's citizens
to the story of the bay and to strengthen the stewardship of the Susquehanna River and its cultural and natural values. In the spirit of this executive order, the Commonwealth of Pennsylvania has undertaken the Lower Susquehanna River Conservation Landscape Initiative.

To support these broad initiatives, it is Brookfield's intent to continue to act to preserve the natural, aesthetic, recreational, and historical resources of the lower Susquehanna River in the area of the Holtwood Project. In 2011, the licensee entered into the Lower Susquehanna Fund Agreement with LCC, DCNR, York County, and the Susquehanna Gateway Heritage Area. Almost 2,000 acres of lands were transferred to the LCC for long term preservation and public use. Smaller amounts of land were transferred to York County. The Lower Susquehanna Fund was established to provide revenue to protect, operate, maintain, improve, and promote the property in the Conservation Landscape Initiative. Brookfield makes annual contributions of approximately \$115,000 (3% increase annually) to this account until 2031. The Lower Susquehanna Fund Advisory Council is responsible for the management and distribution of the funds. The funds are used for maintenance of property transferred. A copy of this Agreement is in Section 10.0

Brookfield manages all of its land holdings in the Holtwood Project area in cooperation with others for either power generation, or for conservation purposes and to help to create new opportunities for regional economic growth through heritage and outdoor tourism and recreation. The LSMP also establishes broad policy objectives and standards for acceptable uses of the project lands and waters to maximize public use and enjoyment, minimize public safety concerns, protect environmental and cultural resources and allows for continued operation of the Project.

The lower Susquehanna River Water Trail was designated in 2008 as a National Recreation Trail.

7.6 Threatened and Endangered Species Standard

Required regardless of standard selected: Identify all federal and state <u>listed species</u> (fish, aquatic plants and organisms, and terrestrial plants and wildlife) in the facility area based on current data. Avoid using privileged locational information or provide that information in a separate confidential attachment.

Criterion	Standard	Instructions							
F	2	inding of No Negative Effects:							
		 Identify all federal and state listed species that are or may be in the 							
		immediate facility area based on current data from the appropriate state							
		and federal natural resource management agencies.							
		 Provide documentation that there is no demonstrable negative effect of the facility on any listed species in the area from an appropriate natural 							
		resource management agency or provide documentation that habitat for							
		the species does not exist within the ZoE or is not impacted by facility							
		operations.							

All three zones of effect are using standard 2 to justify meeting the threatened and endangered species standard.

A list of all federally listed species was obtained from the US Fish and Wildlife Service's IPaC website and can be found in Section 10.0. Several species were listed to be potentially present including

the Indiana Bat (endangered), Northern Long-eared Bat (threatened), and Monarch Butterfly (candidate species). The critical habitat for Indiana Bat is not available and no critical habitat has been designated for the Northern Long-eared Bat and Monarch Butterfly. The only tree cutting that occurs on our property is cutting danger trees in our campgrounds that are potentially hazardous to the public. We do not believe that our operation will impact these species.

Many species of birds are protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. A Bald Eagle Management Plan was established for the Holtwood Project in 2008 to address any concerns with the redevelopment project and its construction activities. All precautions were taken. While the redevelopment project was completed, and monitoring is no longer required, Brookfield would still consult with agencies as needed in regard to nesting bald eagles in the area.

A PA Natural Diversity Inventory (PNDI) was run to obtain a list of state listed species and is included in Section 10.0. The PA Game Commission responded with 3 species in the Project area including Great Blue Heron (special concern species), Peregrine Falcon (threatened), and Prothonotary Warbler (special concern species). PA DCNR responded with a list of plant species in the Project area but later followed up with a letter dated October 12, 2021 (see Section 10.0) noting no impact anticipated. PA Fish and Boat Commission responded that only the Chesapeake Logperch (threatened) would be in the area but later followed up with a letter dated November 1, 2021 (see Section 10.0) noting that three species of special concern occur in the project area including the Chesapeake Logperch, Broad-headed Skink, and Northern Red-bellied Cooter. Because no earth-moving activity or changes to hydrology are proposed as part of the LIHI recertification, they note that they do not foresee any adverse impacts to the species. USFWS responded noting that bald eagle nests are in the vicinity.

As part of the redevelopment project, the licensee had to do plant surveys to identify species of special concern. DCNR provided guidelines to ensure that the species would be properly protected during and after construction. DCNR required a post-construction monitoring plan be established, which included that White Doll's Daisy and Sticky Goldenrod be monitored because the species were critically endangered in Pennsylvania at the time and the change in hydrology potentially could affect these populations. Pursuant to Article 51 of the FERC License and number IV A of the 401 Water Quality Certificate, Brookfield submits the plant monitoring results to DCNR. The monitoring frequency was a five-year requirement post construction, which was then assessed with a possibility of an additional ten years. 2019 was the 5th year of monitoring. On March 26, 2020, the frequency of future monitoring was reviewed by Brookfield and DCNR, and an agreement was made that Brookfield will continue to monitor the White Doll's Daisy annually for three additional years and monitor the Sticky Goldenrod every three years with the next survey being in 2022. Brookfield will continue to submit the monitoring data to DCNR after each monitoring season. In Spring of 2023, Brookfield will request a meeting with DCNR to again review the data and discuss the future of monitoring.

7.7 Cultural and Historic Resources Standard

Required regardless of standard selected: Identify the cultural and historic resources present on facilityowned property or that may be affected by facility operations. Avoid using privileged locational information or provide that information in a separate confidential attachment.

Criterion	Standard	Instructions
G	2	Approved Plan:
		• Provide documentation of all approved state, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.
		 Document that the facility is in compliance with all such plans.

All three zones of effect are using standard 2 to justify meeting the cultural and historic resources standard.

To protect cultural resources, Holtwood has a Historic Properties Management Plan and programmatic agreement in place. The HPMP was established in 2009 to ensure that redevelopment construction activities avoided archaeologically sensitive areas and that the designs for the new powerhouse and dam features avoided altering the characteristics that qualify these facilities for listing on the National Register of Historic Places.

There is a list of routine operations and maintenance activities that have already been determined to not have an adverse effect and are therefore not subject to review and consultation with SHPO. Consultation is performed for any non-routine activities or modifications that may adversely affect eligible structures, shoreline activities that require cutting and active ground disturbance within the Project. If previously unidentified historic resources are discovered within the Project during any Project-related ground-disturbing activities, monitoring efforts, or during any authorized actions by others, the Licensee will make reasonable and good faith efforts to halt those activities that may affect the resource. SHPO will then be consulted with.

Archaeological surveys showed that the east shore of the Susquehanna River across from Piney Island, the area of the new powerhouse adjacent to the existing powerhouse, the new Pequea Boat Landing site, and the southern portion of Piney Island, together with much of the eastern bank of the Island, had been previously disturbed and had no potential for artifact-bearing strata. Areas with archaeological potential were specifically avoided during construction.

No archaeological or historic properties within the Project are currently listed in the National Register, but two properties are eligible. Of these, one is an above-ground property with multiple components and one is an archaeological site. To protect historic properties that are eligible or potentially eligible for listing in the NRHP from unauthorized collectors, the identity and location of these sites will be kept confidential. Holtwood monitors activities in these areas and submits <u>annual reports</u> to FERC and the PA State Historic Preservation Office.

The licensee has preserved Lock No. 12 of the Susquehanna and Tidewater Canal system for its historic and cultural significance. The canal system, abandoned since 1894, transported lumber, coal, iron, and grain between Baltimore, Philadelphia, and New York. The licensee installed interpretive displays denoting the operation of the lock and canal system and its contribution to the economic growth of the region. Details on Lock No. 12 can be found in the last FERC environmental inspection report <u>here</u>.

Unit 5 at the project was the first hydroelectric turbine-generator to utilize a Kingsbury thrust bearing which has been operating in perfect condition since its initial installation in 1912. The American Society of Mechanical Engineers has noted this achievement with a commemorative plaque on the unit.

7.8 Recreational Resources Standard

Required regardless of standard selected: Identify and briefly describe all recreational amenities associated with the facility, identify which are owned by the facility, and which not owned or operated by the facility. If there has been a FERC Environmental and Recreation Inspection, please provide a link to or copy of the report and any follow up activities. If there was no inspection, please state that.

Criterion	Standard	Instructions
Н	2	Agency Recommendation:
		 Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations. Document that the facility is in compliance with all such recommendations and plans.

All three zones of effect are using standard 2 to justify meeting the recreational resources standard.

Holtwood has an old Exhibit R as part of the 1970 application for license. It describes Holtwood's public recreation facilities. Later, a Long-Term Recreational Use Monitoring Plan was established which describes specific recreation at the Project and monitoring for its use. Multiple recreation sites associated with the Project provide access to project resources for public enjoyment. During the expansion, recreation areas were enhanced by expanding some boat areas and extending boat ramps to lower elevations.

Lake Aldred provides opportunities for walleye, bass, catfish, panfish and muskellunge angling. Public boat access is provided at multiple public launches and commercially operated marinas, boatyards and campgrounds. Private access from shoreline residences is available from a small amount of residential properties leased by Brookfield to individuals. Recreational uses downstream of the Project include shoreline fishing. The tailrace channel is located between the steep sided ledge of the Lancaster County shore and the eastern shore of Piney Island and remains fully wetted by backwater from Conowingo Pond, regardless of Project operations. Public access to the river downstream from the dam is provided at the Tailrace Fishing Area and Lock 12 Historic Area.

The five recreation sites for public use include Otter Creek Recreation Area (Otter Creek Campground, Picnic Area, and York Furnace Boat Launch), Pequea Creek Recreation Area (Pequea Creek Campground, Picnic Area, and Pequea Creek Boat Launch), Lock 12 Historic Area, Tailrace Fishing Area (handicap accessible fishing pier), and the Whitewater Boating Features found on the York County side of the dam. In accordance with the <u>Whitewater Boating Plan</u>, Brookfield operates the whitewater features for 264 hours per year and coordinates with a whitewater boating group per the Settlement Agreement. See Section 10.0 for the Whitewater facility acceptance letter noting that we met our obligations.

Islands within the Project boundary are available for informal recreational use. Portage services are provided by Brookfield for through-boaters at the Holtwood development.

The last FERC environmental inspections was completed at the Project on May 21, 2008 and is found <u>here</u>. The report outlines details on certain recreation areas but also includes property that was ultimately transferred and is no longer part of the Project.

8.0 SWORN STATEMENT AND WAIVER FORM

Sworn Statement and Waiver Form

All applications for LIHI Certification must include the following sworn statement before they can be reviewed by LIHI:

SWORN STATEMENT

As an Authorized Representative of BIF III Holtwood LLC, the Undersigned attests that the material presented in the application is true and complete.

The Undersigned acknowledges that the primary goal of the Low Impact Hydropower Institute's certification program is public benefit, and that the LIHI Governing Board and its agents are not responsible for financial or other private consequences of its certification decisions.

The Undersigned further acknowledges that if LIHI Certification of the applying facility is granted, the LIHI Certification Mark License Agreement must be executed prior to marketing the electricity product as LIHI Certified[®].

The Undersigned further agrees to hold the Low Impact Hydropower Institute, the Governing Board and its agents harmless for any decision rendered on this or other applications, from any consequences of disclosing or publishing any submitted certification application materials to the public, or on any other action pursuant to the Low Impact Hydropower Institute's certification program.

FOR PRE-OPERATIONAL CERTIFICATIONS:

The Undersigned acknowledges that LIHI may suspend or revoke the LIHI Certification should the impacts of the facility, once operational, fail to comply with the LIHI program requirements.

Company Name: BIF III Holtwood LLC Authorized Representative: Name: Kathleen Lester Title: Compliance Manager Authorized Signature: ______

Date: 12/10/2021

9.0 FACILITY AND STAKEHOLDER CONTACTS

A. Applicant-related contacts

Facility Owner:	
Name and Title	Dustin Droege, Director of Operations
Company	BIF III Holtwood LLC
Phone	717-284-6211
Email Address	Dustin.droege@brookfieldrenewable.com
Mailing Address	482 Old Holtwood Rd, Holtwood PA 17532
Facility Operator	(if different from Owner):
Name and Title	
Company	
Phone	
Email Address	
Mailing Address	
Consulting Firm	/ Agent for LIHI Program (if different from above):
Name and Title	
Company	
Phone	
Email Address	
Mailing Address	
Compliance Cont	tact (responsible for LIHI Program requirements):
Name and Title	Kathleen Lester, Compliance Manager
Company	BIF III Holtwood LLC
Phone	570-226-1371
Email Address	Kathleen.lester@brookfieldrenewable.com
Mailing Address	126 Lamberton Lane, Hawley, PA 18428
Party responsible	e for accounts payable:
Name and Title	
Company	BIF III Holtwood LLC
Phone	
Email Address	AP@brookfieldrenewable.com
Mailing Address	

- Area of **Agency Contact** Responsibility US Fish and Wildlife Service Agency Name □ Flows □ Water Quality X Fish/Wildlife □ Watershed X T&E Species □ Cultural/Historic □ Recreation Name and Title Sheila Eyler Phone 717-387-2117 Email address sheila eyler@fws.gov Mailing Address Mid-Atlantic Fish & Wildlife Conservation Office 177 Admiral Cochrane Dr. Annapolis, MD 21401 PA Department of Environmental Protection Agency Name X Flows X Water Quality X Fish/Wildlife X Watershed T&E Species □ Cultural/Historic □ Recreation Name and Title Scott Williamson, Regional Program Manager Phone 717-705-4799 Email address scwilliams@pa.gov Mailing Address South-central Regional Office 909 Elmerton Ave. Harrisburg, PA 17110 Agency Name Susquehanna River Basin Commission X Flows □ Water Quality □ Fish/Wildlife X Watershed □ T&E Species □ Cultural/Historic □ Recreation Name and Title John Balay, Manager, Planning & Operations Phone 717-238-0423 Email address jbalay@srbc.net Mailing Address 4423 North Front St. Harrisburg, PA 17110 Agency Name Maryland Department of Natural Resources X Flows □ Water Quality X Fish/Wildlife
- B. Current and relevant state, federal, and tribal resource agency contacts with knowledge of the facility (copy and repeat the following table as needed).

		□ Watershed
		T&E Species
Name and Title	Shawn Saaman, Drogram Managor, Dowor Dlant Pocoarch	
	Program	
Phone	410 260-8662	
Email address	shawn.seaman@maryland.gov	
Mailing Address	Power Plant Assessment Division B-3	
5	Tawes State Office Building, B3	
	580 Taylor Avenue	
	Annapolis, MD 21401-2397	
Agency Name	PA Historic Museum Commission	Flows
		Water Quality
		Fish/Wildlife
		□ Watershed
		T&E Species
		X Recreation
Name and Title	Barbara Frederick, Acting Chief, Division of Environmental	X Neereation
	Review	
Phone	717.772.0921	
Email address	bafrederic@pa.gov	
Mailing Address	400 North Street, 2nd Floor	
_	Harrisburg, PA 17120	
Agency Name	PA Fish and Boat Commission	Flows
		X Water Quality
		X Fish/Wildlife
		□ Watershed
		X T&E Species
		Cultural/Historic
		□ Recreation
Name and Title	Joshua D. Tryninewski	
Phone	814-353-2239	
Email address	jtryninews@pa.gov	
Mailing Address	1735 Shiloh Rd.	
	State College, PA 16801	
Agency Name	PA Department of Conservation and Natural Resources	X Flows
		Water Quality
		Fish/Wildlife
		□ Watershed
		X T&E Species
		Cultural/Historic
		X Recreation
Name and Title	Jason Ryndock, Ecological Information Specialist	

Phone	717-705-2822	
Email address	c-jryndock@pa.gov	
Mailing Address	Bureau of Forestry Natural Heritage Section 400 Market Street, PO Box 8552 Harrisburg, PA 17105	
Agency Name	Federal Energy Regulatory Commission	X Flows X Water Quality X Fish/Wildlife Watershed X T&E Species X Cultural/Historic X Recreation
Name and Title		
Phone		
Email address		
Mailing Address	888 First Street, N.E. Washington, DC 20426	

C. Current stakeholder contacts that are actively engaged with the facility (copy and repeat the following table as needed).

	Stakeholder Contact	Area of Responsibility
Organization Name	Holtwood Whitewater Boating Working Group	□ Flows
		Water Quality
		Fish/Wildlife
		□ Watershed
		T&E Species
		Cultural/Historic
		X Recreation
Name/contact	See below	

Name	Represents	Signatory	Email
Topher Smith	himself	х	captainpanic247@yahoo.com
Chris Iverson	himself, Conewago Canoe Club	х	iverson.chris@gmail.com
Brian Dorsey	Susquehanna Surf Society	x	bdharfordmd@gmail.com
	Starrk Moon and SWW Park		
Brad Nelson	Alliance	x	swwparkalliance@aol.com
Shirley Koty	Conewago Canoe Club	х	sweetyaker@gmail.com
Kevin Colburn	American Whitewater	x	kevin@americanwhitewater.org
Arlo Weiskopf			arlokayak@gmail.com
Matt Samms			kayakerbliss@hotmail.com
Brad Tracey			bltracey@gmail.com

Brenton Petrillo		brentonpetrillo@comcast.net
Frank Maguire		fmaguire@pecpa.org

10.0 SUPPORTING DOCUMENTATION

Below is a list of supporting documentation that demonstrate compliance with existing regulatory requirements.

10.1 FERC LICENSE AND AMENDMENT ORDERS

- 08/14/1980 Order Issuing Major License -https://elibrary.ferc.gov/eLibrary/filelist?accession_number=19800814-4000&optimized=false
- 11/14/2008 Final Environmental Impact Statement for Amendment to License https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20081114-4000&optimized=false
- 01/30/2009 Order Amending License and Revising Annual Charges -https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20091030-3039&optimized=false

10.2 WATER QUALITY CERTIFICATION, AMENDMENTS AND REPORTS

 06/15/2009 PADEP Water Quality Certification -https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20090720-5020&optimized=false

10.3 SETTLEMENT AND OTHER AGREEMENTS

- 09/01/2009 USFWS Prescription for Fishways -https://elibrary.ferc.gov/eLibrary/filelist?accession_Number=20090903-5050&optimized=false
- 06/26/2009 Settlement Agreement Between Exelon Generation and PPL Holtwood LLC Regarding the Expansion of the PPL Holtwood Hydroelectric Project -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20090803-</u> <u>5123&optimized=false</u>
- 10/19/2009 Programmatic Agreement with the PA State Historic Preservation Officer - <u>https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20091019-</u> <u>0009&optimized=false</u>
- 03/09/2011 River Flow Coordination Agreement -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20110509-5128&optimized=false</u>

10.4 COMPLIANCE PLANS AND REPORTS

Fish Passage

- 2016 Annual Fish Passage Report -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession_Number=20170203-5089&optimized=false</u>
- 2017 Annual Fish Passage Report -https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20180202-5083&optimized=false
- 2018 Annual Fish Passage Report -https://elibrary.ferc.gov/eLibrary/filelist?accession_Number=20190130-5143&optimized=false
- 02/14/2018 Tier II Ratio Telemetry Study Plan https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20180214-5059&optimized=false
- 2019 Annual Fish Passage Report -https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20200203-5125&optimized=false
- 2020 Annual Fish Passage Report https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20210201-5076&optimized=false
- 02/19/2021 Revised Fishways Operating Plan https://elibrary.ferc.gov/eLibrary/filelist?accession_Number=20210219-5022&optimized=false
- 05/19/2021 Order Approving Revised Fishways Operating Plan -https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20210519-3055&optimized=false

Minimum Flows

- 12/11/2011 MSFOP –
 <u>Minimum Stream Flow Operations Procedures Manual</u>
- 04/19/2012 FERC Order Approving MSFOP https://elibrary.ferc.gov/eLibrary/filelist?accession_Number=20120419-3049&optimized=false
- 2016 MSFOP Report -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession_Number=20170213-</u> <u>5052&optimized=false</u>
- 2017 MSFOP Report -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession_Number=20180202-</u> <u>5043&optimized=false</u>
- 2018 MSFOP Report - <u>https://elibrary.ferc.gov/eLibrary/filelist?accession_Number=20190207-5121&optimized=false</u>
- 2019 MSFOP Report -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession_Number=20200214-</u> <u>5205&optimized=false</u>
- 2020 MSFOP Report -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession_Number=20210201-</u> <u>5090&optimized=false</u>

Dissolved Oxygen Monitoring Plan

- 10/29/2010 Dissolved Oxygen Monitoring Plan -<u>https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20101029-5099&optimized=false</u>
- 01/19/2011 FERC Order Approving DO Monitoring Plan -https://elibrary.ferc.gov/eLibrary/filelist?accession_Number=20110119-3015&optimized=false

Whitewater Boating

- 07/10/2012 FERC Order Modifying and Approving Whitewater Boating Plan - <u>https://elibrary.ferc.gov/eLibrary/filelist?accession_Number=20120710-</u> <u>3035&optimized=false</u>
- 08/22/2016 Whitewater Boating Acceptance Letter - <u>https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20160822-</u> <u>5129&optimized=false</u>

Recreation Plan

- 12/12/2018 Amended Final Recreation Monitoring Plan -https://elibrary.ferc.gov/eLibrary/filelist?accession_Number=20181212-5276&optimized=false
- 12/19/2018 FERC Order Approving Amended Long-Term Recreational Use Monitoring Plan - <u>https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20181219-3088&optimized=false</u>

Land & Shoreline Management Plan

- 05/29/2020 Request to Amend Land & Shoreline Management Plan https://elibrary.ferc.gov/eLibrary/filelist?accession_Number=20200529-5124&optimized=false
- 08/03/2020 Order Approving Land & Shoreline Management Plan -https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20200723-5127&optimized=false

Additional attachments appended, not found electronic:

- USFWS IPaC Listed Species List
- PNDI List and Responses
- 04/19/2017 PADEP's final report regarding ICP violation
- 2011 Lower Susquehanna Fund Agreement

IPaC Information for Planning and Consultation U.S. Fish & Wildlife Service

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Lancaster and York counties, Pennsylvania



Local office

Pennsylvania Ecological Services Field Office

√ (814) 234-4090
→ (814) 234-0748

MAILING ADDRESS 110 Radnor Road Suite 101 State College, PA 16801-7987

PHYSICAL ADDRESS 110 Radnor Road Suite 101} State College, PA 16801-7987

http://www.fws.gov/northeast/pafo/

NOTFORCONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

- 1. Draw the project location and click CONTINUE.
- 2. Click DEFINE PROJECT.
- 3. Log in (if directed to do so).
- 4. Provide a name and description for your project.
- 5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the <u>Ecological Services Program</u> of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact <u>NOAA Fisheries</u> for <u>species under their jurisdiction</u>.

- 1. Species listed under the <u>Endangered Species Act</u> are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the <u>listing status page</u> for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
- 2. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Indiana Bat Myotis sodalis Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. http://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. http://ecos.fws.gov/ecp/species/9045	Threatened
Insects NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. http://ecos.fws.gov/ecp/species/9743	Candidate
Critical habitate	

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act^1 and the Bald and Golden Eagle Protection Act^2 .

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described <u>below</u>.

- 1. The Migratory Birds Treaty Act of 1918.
- 2. The <u>Bald and Golden Eagle Protection Act</u> of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds <u>http://www.fws.gov/birds/management</u> /project-assessment-tools-and-guidance/ conservation-measures.php
- Nationwide conservation measures for birds <u>http://www.fws.gov/migratorybirds</u> /pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the <u>USFWS Birds</u> of <u>Conservation Concern</u> (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ <u>below</u>. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the <u>E-bird data mapping</u> tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found <u>below</u>.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. http://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Black-billed Cuckoo Coccyzus erythropthalmus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>http://ecos.fws.gov/ecp/species/9399</u>	Breeds May 15 to Oct 10
Cerulean Warbler Dendroica cerulea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <u>http://ecos.fws.gov/ecp/species/2974</u>	Breeds Apr 28 to Jul 20
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. http://ecos.fws.gov/ecp/species/1680	Breeds elsewhere
Kentucky Warbler Oporornis formosus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
Prairie Warbler Dendroica discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler Protonotaria citrea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10

Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Breeds elsewhere

Wood ThrushHylocichla mustelinaBreeds May 10 to Aug 31This is a Bird of Conservation Concern (BCC) throughout its range in
the continental USA and Alaska.Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

- 1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
- 2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
- 3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (=)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its

entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (I)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Cerulean Warbler BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)	++++	++++	++++	++ # 1	+111	+++	++++	++++	++++	++++	++++	++++
Golden Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)	++ +	++++	++++	++++	++++	++++	++++	+++++	++++	++++	++++	++++
Kentucky Warbler BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)	++++	++++	++++ SP	++		<u>iń</u>	411+	++++	++++	++++	++++	++++
Prairie Warbler BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)	++++	++++	++++	+++1		11+++	111+	+++	++11	++++	++++	++++

Prothonotary Warbler BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)	++++	++++	++++	++++	++ +=	++++	+ 1++	++++	++++	++++	++++	++++
Red-headed Woodpecker BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)	++++	++++	++++	++++	*†*†	++++	∎+++	++++	++=	L+++	++∎+	++++
Rusty Blackbird BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)	++++	+++++		+#++	; ; ; ;	N	S	2,	++++	+++	++++	
Wood Thrush BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)	++++	++++	++++	+++∎	1111	1111		++++	++∎+	I +++	++++	++++

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern (BCC)</u> and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian Knowledge Network</u> (<u>AKN</u>). The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the <u>AKN Phenology Tool</u>.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the <u>Avian Knowledge Network (AKN)</u>. This data is derived from a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen</u> <u>science datasets</u>.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: <u>The Cornell Lab of Ornithology All About Birds Bird Guide</u>, or (if you are unsuccessful in locating the bird of interest there), the <u>Cornell Lab of Ornithology Neotropical Birds</u> guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

- 1. "BCC Rangewide" birds are <u>Birds of Conservation Concern</u> (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
- 2. "BCC BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
- 3. "Non-BCC Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the <u>Eagle Act</u> requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For

more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the <u>Northeast Ocean Data Portal</u>. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the <u>NOAA NCCOS</u> <u>Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf</u> project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the <u>Diving Bird Study</u> and the <u>nanotag studies</u> or contact <u>Caleb Spiegel</u> or <u>Pam</u> Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to <u>obtain a permit</u> to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is not parteet, it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to <u>NWI wetlands</u> and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local <u>U.S. Army Corps of</u> <u>Engineers District</u>.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the <u>NWI map</u> to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

TEORCONSU



September 29, 2021

To: PA Game Commission PA Department of Conservation & Natural Resources PA Fish and Boat Commission US Fish and Wildlife Service

Subject: Holtwood Hydroelectric Project PNDI Search ID: PNDI-743538

To Whom It May Concern:

BIF III Holtwood LLC (Brookfield) is in the process of applying for LIHI recertification for the Holtwood Hydroelectric Project (LIHI Certificate #116) in Lancaster County, PA. Holtwood's LIHI certification was issued on January 20, 2014 and expires on January 20, 2022.

As part of the application process, we are required to provide LIHI with a list of all state and federal listed species in our project area. We are hereby submitting a PNDI search (PNDI-743538) to obtain that list.

There are no changes to our facility or operations as a result of this certification and we do not believe that our hydroelectric facility has a negative effect on any listed species in the area.



Holtwood Project Features:

BIF III Holtwood LLC 482 Old Holtwood Road Holtwood, PA 17532

www.brookfieldrenewable.com

Tel: 717.284.6260 Fax: 717.284.6234



Map of Location:



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Esri, HERE, Garmin, (c) OpenStreeMap contributors, and the GIS user community Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China

BIF III Holtwood LLC 482 Old Holtwood Road Holtwood, PA 17532 Tr

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Harrisburg

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www.brookfieldrenewable.com



Should any additional information be required, please contact me by phone at 570-226-1371, by e-mail at kathleen.lester@brookfieldrenewable.com, or by mail at Brookfield Renewable, 126 Lamberton Lane, Hawley, PA 18428.

Sincerely,

Karthe Eletter

Kathleen E. Lester Compliance Manager

1. PROJECT INFORMATION

Project Name: Holtwood LIHI Recertification Date of Review: 9/29/2021 03:45:02 PM Project Category: Energy Storage, Production, and Transfer, Energy Production (generation), Other Project Area: 3,756.69 acres County(s): Lancaster; York Township/Municipality(s): CHANCEFORD TOWNSHIP; CONESTOGA TOWNSHIP; LOWER CHANCEFORD TOWNSHIP; MANOR TOWNSHIP; MARTIC TOWNSHIP ZIP Code: Quadrangle Name(s): AIRVILLE; CONESTOGA; HOLTWOOD; SAFE HARBOR Watersheds HUC 8: Lower Susquehanna Watersheds HUC 12: Climbers Run-Pequea Creek; Green Branch-Susquehanna River; Lower Conestoga River; Muddy Run-Susquehanna River; Otter Creek Decimal Degrees: 39.861275, -76.362146 Degrees Minutes Seconds: 39° 51' 40.5891" N, 76° 21' 43.7257" W

2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response
PA Department of Conservation and Natural Resources	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response
PA Fish and Boat Commission	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response
U.S. Fish and Wildlife Service	Potential Impact	MORE INFORMATION REQUIRED, See Agency Response

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.



Holtwood LIHI Recertification

Project Boundary

Buffered Project Boundary

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USCS, AeroGRID, IGN, and the GIS User Community Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China





Holtwood LIHI Recertification

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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RESPONSE TO QUESTION(S) ASKED

Q1: The proposed project is in the range of the Indiana bat. Describe how the project will affect bat habitat (forests, woodlots and trees) and indicate what measures will be taken in consideration of this. Round acreages up to the nearest acre (e.g., 0.2 acres = 1 acre).

Your answer is: No forests, woodlots or trees will be affected by the project.

Q2: Is tree removal, tree cutting or forest clearing of 40 acres or more necessary to implement all aspects of this project?

Your answer is: No

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

PGC Species: (Note: The Pennsylvania Conservation Explorer tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below.)

Scientific Name	Common Name	Current Status	
Ardea herodias	Great Blue Heron	Special Concern Species*	
Falco peregrinus	Peregrine Falcon	Threatened	
Protonotaria citrea	Prothonotary Warbler	Special Concern Species*	

PA Department of Conservation and Natural Resources RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

DCNR Species: (Note: The Pennsylvania Conservation Explorer tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below. After desktop review, if a botanical survey is required by DCNR, we recommend the DCNR Botanical Survey Protocols, available here: https://conservationexplorer.dcnr.pa.gov/content/survey-protocols)

Scientific Name	Common Name	Current Status	Proposed Status	Survey Window
Aristida purpurascens	Arrow-feathered Three Awned	Threatened	Threatened	Flowers August - September

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Scientific Name	Common Name	Current Status	Proposed Status	Survey Window
Asplenium bradleyi	Bradley's Spleenwort	Threatened	Endangered	Year-round (evergreen)
Asplenium pinnatifidum	Lobed Spleenwort	Special Concern Species*	Special Concern Species*	Year-round (evergreen)
Boltonia asteroides	Aster-like Boltonia	Endangered	Endangered	Flowers July - October
Chionanthus virginicus	Fringe-tree	Special Concern Species*	Threatened	Flowers May; purple / black fruit in fall
Cyperus lancastriensis	Many-flowered Umbrella Sedge	Special Concern Species*	Threatened	Fruits July - September
Cyperus refractus	Reflexed Flatsedge	Endangered	Endangered	Fruits July - September
Eleocharis compressa	Flat-stemmed Spike-rush	Endangered	Endangered	Flowers June - August
Erigenia bulbosa	Harbinger-of-spring	Threatened	Special Concern Species*	Flowers March - April
Erosional remnant	Erosional Remnant	Special Concern Resource*	Special Concern Resource*	
Erythronium albidum	White Trout-lily	Special Concern Species*	Special Concern Species*	Flowers April - May
Eupatorium godfreyanum	Godfrey's Thoroughwort	Special Concern Species*	Threatened	Flowers August - October
Helianthemum bicknellii	Bicknell's Hoary Rockrose	Endangered	Endangered	Flowers June - early July
Hypericum stragulum	St Andrew's-cross	Special Concern Species*	Threatened	Flowers July - August
llex opaca	American Holly	Threatened	Threatened	Flowers May - early June, fruits October - winter; evergreen leaves
Leucothoe racemosa	Swamp Dog-hobble	Special Concern Species*	Special Concern Species*	Flowers late May - early June
Lipocarpha micrantha	Common Hemicarpa	Endangered	Endangered	Fruits July - October
Ludwigia decurrens	Upright Primrose-willow	Endangered	Endangered	Flowers July - September
Ludwigia polycarpa	False Loosestrife Seedbox	Endangered	Endangered	Flowers July - September
Magnolia tripetala	Umbrella Magnolia	Threatened	Special Concern Species*	Flowers in May with the leaves; cone-like fruit structure year-round
Matelea obliqua	Oblique Milkvine	Endangered	Endangered	Flowers late April -October
Melica nitens	Three-flowered Melic- grass	Threatened	Threatened	Flowers late May - July
Rosa virginiana	Virginia Rose	Special Concern Species*	Special Concern Species*	Flowers May - early July
Rotala ramosior	Tooth-cup	Special Concern Species*	Special Concern Species*	Flowers July - September
Schoenoplectus fluviatilis	River Bulrush	Special Concern Species*	Special Concern Species*	Fruits June - August
Scutellaria serrata	Showy Skullcap	Special Concern Species*	Endangered	Flowers May - June
Solidago erecta	Slender Golden-rod	Endangered	Endangered	Flowers late August - October
Solidago simplex ssp. randii var. racemosa	Sticky Golden-rod	Endangered	Endangered	Flowers August - September

Scientific Name	Common Name	Current Status	Proposed Status	Survey Window
Sensitive Species**		Special Concern Species*	Threatened	Flowers late April - early May
Vernonia glauca	Tawny Ironweed	Endangered	Endangered	Flowers July - October
Vittaria appalachiana	Appalachian Gametophyte Fern	Threatened	Threatened	Year-round (evergreen)

PA Fish and Boat Commission RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

PFBC Species: (Note: The Pennsylvania Conservation Explorer tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below.)

Scientific Name	Common Name	Current Status
Percina bimaculata	Chesapeake Logperch	Threatened
Sensitive Species**	2	Special Concern Species*
Sensitive Species**	St CTA	Threatened
A CAPITAL PROVIDENCE		

U.S. Fish and Wildlife Service RESPONSE:

Information Request: Due to the proximity of this project to a bald eagle nest, it is possible that project activities may disturb bald eagles, which is a form of "take" under the Bald and Golden Eagle Protection Act and may require a permit. The Service has prepared a project screening form to help you determine which specific measures may be necessary to avoid disturbing bald eagles and their nests, based on the type and scope of your proposed project or activity, and its distance from a bald eagle nest. Complete the "Bald Eagle Project Screening Form" (see https://www.fws.gov/northeast/ecologicalservices/pdf/eagle/NE_Bald-Eagle_Project-Screening-Form_rev20200416.pdf) and implement the measures identified on that form. Submit a copy of the completed Screening Form to the appropriate federal or state permitting agencies (e.g., PA DEP).

* Special Concern Species or Resource - Plant or animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern populations (plants or animals) and unique geologic features.

** Sensitive Species - Species identified by the jurisdictional agency as collectible, having economic value, or being susceptible to decline as a result of visitation.
WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, upload* or email the following information to the agency(s) (see AGENCY CONTACT INFORMATION). Instructions for uploading project materials can be found <u>here</u>. This option provides the applicant with the convenience of sending project materials to a single location accessible to all three state agencies (but not USFWS).

*If information was requested by USFWS, applicants must email, or mail, project information to <u>IR1_ESPenn@fws.gov</u> to initiate a review. USFWS will not accept uploaded project materials.

Check-list of Minimum Materials to be submitted:

_____Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.

_____A map with the project boundary and/or a basic site plan(particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)

In addition to the materials listed above, USFWS REQUIRES the following

____SIGNED copy of a Final Project Environmental Review Receipt

The inclusion of the following information may expedite the review process.

____Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)

Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at https://conservationexplorer.dcnr.pa.gov/content/resources.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (<u>www.naturalheritage.state.pa.us</u>). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources

Bureau of Forestry, Ecological Services Section 400 Market Street, PO Box 8552 Harrisburg, PA 17105-8552 Email: <u>RA-HeritageReview@pa.gov</u>

PA Fish and Boat Commission

Division of Environmental Services 595 E. Rolling Ridge Dr., Bellefonte, PA 16823 Email: <u>RA-FBPACENOTIFY@pa.gov</u>

U.S. Fish and Wildlife Service

Pennsylvania Field Office Endangered Species Section 110 Radnor Rd; Suite 101 State College, PA 16801 Email: <u>IR1_ESPenn@fws.gov</u> NO Faxes Please

PA Game Commission Bureau of Wildlife Habitat Management

Division of Environmental Planning and Habitat Protection 2001 Elmerton Avenue, Harrisburg, PA 17110-9797 Email: <u>RA-PGC_PNDI@pa.gov</u> NO Faxes Please

7. PROJECT CONTACT INFORMATION

Name: Kathleen Lester	LING WALLENGE CA
Company/Business Name:	BIF III Holtwood LLC
Address: 482 Old Holtwood Rd.	
City, State, Zip:	Holtwood, PA 17532
Phone:(570) 226-1371	Fax:()
Email: kathleen.lester@bro	okfieldrenewable.com

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

9/29/21

applicant/project proponent signature

date



BUREAU OF FORESTRY

October 12, 2021

PNDI Number: 743538 Version: Final_1; 9/29/21

Kathleen Lester BIF III Holtwood LLC 482 Old Holtwood Road Holtwood, PA 17532 Email: kathleen.lester@brookfieldrenewable.com (hard copy will not follow)

Re: Holtwood LIHI Recertification Lancaster, York County, PA

Dear Kathleen Lester,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number **743538** (Final_1) for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

No Impact Anticipated

PNDI records indicate species or resources under DCNR's jurisdiction are located in the vicinity of the project. However, based on the information you submitted concerning the nature of the project, the immediate location, and our detailed resource information, DCNR has determined that no impact is likely. No further coordination with our agency is needed for this project.

Please see the attached table detailing species that may occur within the project area. Avoidance of suitable habitat is recommended and should be considered during the planning process as specific projects commence. Please obtain a PNDI receipt using the online PA Conservation Explorer tool for each subsequent project.

Scientific Name	Common Name	PA Current Status	PA Proposed Status
Boltonia asteroides	Aster-like Boltonia	Endangered	Endangered
Solidago erecta	Slender Golden-rod	Endangered	Endangered
Solidago simplex ssp. randii var.	Sticky Golden-rod	Endangered	Endangered
racemosa			
Cyperus refractus	Reflexed Flatsedge	Endangered	Endangered
Lipocarpha micrantha	Common Hemicarpa	Endangered	Endangered
Vernonia glauca	Tawny Ironweed	Endangered	Endangered
Ludwigia polycarpa	False Loosestrife Seedbox	Endangered	Endangered
Ludwigia decurrens	Upright Primrose-willow	Endangered	Endangered
Matelea obliqua	Oblique Milkvine	Endangered	Endangered
Eleocharis compressa	Flat-stemmed Spike-rush	Endangered	Endangered
Helianthemum bicknellii	Bicknell's Hoary Rockrose	Endangered	Endangered
Asplenium bradleyi	Bradley's Spleenwort	Threatened	Endangered
Ilex opaca	American Holly	Threatened	Threatened
Aristida purpurascens	Arrow-feathered Three Awned	Threatened	Threatened
Melica nitens	Three-flowered Melic-grass	Threatened	Threatened

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 17015-8552 717-787-3444 (fax) 717-772-0271

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Vittaria appalachiana	Appalachian Gametophyte Fern	Threatened	Threatened
Magnolia tripetala	Umbrella magnolia	Threatened	Rare
Erigenia bulbosa	Harbinger-of-spring	Threatened	Rare
Rotala ramosior	Tooth-cup	Rare	Rare
Schoenoplectus fluviatilis	River Bulrush	Rare	Rare
Cyperus lancasteriensis	Many-flowered Umbrella Sedge	None	Threatened
Dryopteris clintoniana	Clinton's Wood Fern	None	Threatened
Hypericum stragulum	St. Andrew's-cross	None	Threatened
Chionanthus virginicus	Fringe-tree	None	Threatened
Morus rubra	Red Mulberry	None	Threatened
Eupatorium godfreyanum	Godfrey's Thoroughwort	None	Threatened
Asplenium pinnatifidum	None	None	Rare
Erythronium albidum	White trout-lily	None	Rare
Chasmanthium latifolium	Wild Oat	Undetermined	Endangered
Trillium flexipes	Devlined Trillium	Undetermined	Threatened
Leucothoe racemosa	Swamp Dog-hobble	Undetermined	Rare
Rosa virginiana	Virginia Rose	Undetermined	Undetermined

This response represents the most up-to-date review of the PNDI data files and is valid for two (2) years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. Should the proposed work continue beyond the period covered by this letter and a permit has not been acquired, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative, description of project changes and accurate map). As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review.

Should you have any questions or concerns, please contact Alexander Dogonniuck, Ecological Information Specialist, by phone (717-783-3913) or via email (c-adogonni@pa.gov).

Sincerely

Brug Podmisinshi

Greg Podniesinski, Section Chief Natural Heritage Section



Pennsylvania Fish & Boat Commission

Division of Environmental Services Natural Diversity Section 595 E Rolling Ridge Dr. Bellefonte, PA 16823 814-359-5237

November 1, 2021

IN REPLY REFER TO SIR# 55129

BIF III Holtwood LLC Kathleen Lester 482 Old Holtwood Road Holtwood, Pennsylvania 17532

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species PNDI Search No. 743538_1 Holtwood LIHI Recertification LANCASTER County: Conestoga Township, Manor Township, Martic Township - YORK County: Chanceford Township, Lower Chanceford Township

Dear Kathleen Lester:

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search "potential conflict" or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code.

Chesapeake Logperch (*Percina bimaculata*, Threatened) Broad-headed Skink (*Plestiodon laticeps*, Candidate) Northern Red-bellied Cooter (*Pseudemys rubriventris*, Threatened)

If any earth-moving activity or any changes to hydrology beyond the current scope of operations occur from the project activity or if wetlands, vernal pools or the area within 300 ft of these water features are to be disturbed, we will need to conduct a more thorough evaluation of the potential adverse impacts to the species of concern. Items **such as:** basic project plans, project narrative, general habitat descriptions, and color photographs keyed to a site map or diagram of the project area, wetlands identification and delineation, stream characterization (flow velocity, width, depth, substrate type, pools and riffles, identification of basking areas, logs, woody debris, presence of aquatic vegetation) would expedite our review process. Follow-up information may be uploaded to the PA Conservation Explorer site PNDI project file. Pending the review of information, a habitat assessment or survey targeting the presence of the species of concern may be warranted.

Our Mission:

www.fish.state.pa.us

To protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities.

However, if any earth-moving activity or any changes in hydrology beyond the current scope of operations, and if wetlands, vernal pools or the area within 300ft of these water features are not to be disturbed in any way by the proposed activity, and provided that best management practices are employed and strict erosion and sedimentation measures are maintained, I do not foresee any adverse impacts to the Chesapeake Logperch (*Percina bimaculata*), Broad-headed Skink (*Plestiodon laticeps*) and Northern Red-bellied Cooter (*Pseudemys rubriventris*) from the proposed project.

This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be reinitiated.

If you have any questions regarding this review, please contact Josh Brown at 814-359-5129 and refer to the SIR # 55129. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

Chintophen Cl. Culum

Christopher A. Urban, Chief Natural Diversity Section

CAU/JRB/dn

Hi Katie,

The PNDI request for a list of state and federally listed species at Holtwood (for the LIHI recertification) ended up in my inbox. I assume the PNDI request will result in the state folks providing a list of state-listed species. For federally listed species, we recommend using our Information for Planning and Consultation (IPaC) tool: <u>https://ecos.fws.gov/ipac/</u>



I asked an endangered species biologist in my office how to handle the PNDI request, and she told me to send you to IPaC. My apologies for this - it seems like PNDI is supposed to be one-stop shopping, but I don't think it is set up to automatically generate a list of federal status species.

After you follow the above link, click on "Get Started" and you will be prompted to define the project area. Once you do that, you can get a list of federally listed species in the defined project area. Please let me know if you encounter any problems or if you have questions. Thanks!

Rick

Richard C. McCorkle Fish and Wildlife Biologist U.S. Fish & Wildlife Service Pennsylvania Field Office 110 Radnor Road, Ste 101 State College, PA 16801 Office: 814-206-7470 Personal cell (while teleworking): 302-382-0284 3800-FM-BCW0528A 5/2017



COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF CLEAN WATER



INDUSTRIAL WASTE COMPLIANCE INSPECTION REPORT

	Mo/Day/Vear Entry	/ Time Exit Time	Inspection Type	eFACTS Inspection ID
NPDES / WQM Permit No.	4/10/2017		FUI	2619509
PA0008435	4/19/2017			
acility Name:		Permittee Name:	od U C	
oltwood Hydroelectric Static	on		Permit Expiration Dat	te: Renewal / NOI Due:
nysical Location/Directions:	i De		6/30/2020	1/2/2020
82 Old Holtwood Rd, Holtwo			Type of Discharge:	Other(s):
lunicipality:	Lancaster		OTHER	
lartic Township	Title	Operator:		
esponsible Official:	The.			
larshall Ulson		Title:		
Permittee Address: 11 Victoria, Gatineau, QC J8	X2A1			
Business Phone:		Business Phone	r:	
Cell Phone:				
Email:		Email		
24-Hour Emergency Contact Pe	erson / Phone / Email:		Denr	ling Sample Results
VIOLATIONS*: 🛛 🛛 Yes	None Iden	tified During Inspection		
Recommendations:				
		Imanadari		Date:
Person Interviewed:	Date:	Sheena Rini	ple	4/19/17
Randal Moyer	4/19/17	Signature		Phone No.:
Signature:	717.284.6211		en Bippi	717.771.4466
Title: Manager, Operation	S	Title: WQS	- *	
Email: randal.moyer@bro	okfieldrenewable.com	Email: sripp	le@pa.gov	
This document is official notificat this inspection are shown above be discovered upon examination	tion that a representative of th and on any attached pages. * n of the results of laboratory ar	he Department of Environm Any violations which were r nalyses of the discharge and	ental Protection inspect toted during the inspect d/or review of Departme	ion are indicated. Violations may nt records.

Page 1 of 2

INDUSTRIAL WASTE COMPLIANCE INSPECTION REPORT

Comments

The Department received notification from Katie Lester (Compliance Specialist) that there was a sheen on the Susquehanna River. The source was determined to be the number 3 Lube Oil Pump at the Hydroelectric Facility.

I met Randal Moyer (Manager, Operations) and John McVaigh (Director, Operations) at the Holtwood Hydroelectric Station.

The oil came from the old plant, the Legacy Station. Recently, a quart of oil leaked from a pump. It was not captured in the oil water separator. The oil water separator filters were clogged due to an increase of materials due to recent high flows.

The sheen was observed at Outfall 001. Booms and pads were installed.

ERC was contacted to clean the oil water separators.

Corrective action: increase frequency of cleaning oil water separators. They are currently cleaned 1/yr.

Ripple, Sheena

Kunkel, Summer Wednesday, April 19, 2017 10:44 AM From: Sent: FW: NRC#1176055 - OIL SHEEN ON THE SUSQUEHANNA - Lancaster County 4-19-17 To: Subject:

Sheena-Please check on this. Thanks.

-----Original Message-----From: Bair, Walter A Sent: Wednesday, April 19, 2017 10:42 AM To: Kunkel, Summer <sukunkel@pa.gov>; Landis, Victor <vlandis@pa.gov> Cc: Ripple, Sheena <sripple@pa.gov>; Bair, Walter A <wbair@pa.gov>; Minskey, Jeffrey <jminskey@pa.gov> Subject: FW: NRC#1176055 - OIL SHEEN ON THE SUSQUEHANNA - Lancaster County 4-19-17

Katie Lester from Brookfield notified the ER Hotline of this incident at 0910hrs. They have absorbent boom deployed along with an oil/water separator.

Katie can be reached at 857-205-1695.

Walt Bair | Emergency Response Program Manager Department of Environmental Protection | Southcentral Regional Office 909 Elmerton Avenue | Harrisburg, PA 17110 Phone: 717.705.4741 | Fax: 717.705.4710 www.dep.pa.gov

24-hour toll free Emergency Response number for SCRO: 866-825-0208

-----Original Message-----

From: StateEOC, Pennsylvania

To: Lancaster County 911 / Timothy Baldwin (tbaldwin@lcwc911.us) <tbaldwin@lcwc911.us>; Lancaster 911 Sent: Wednesday, April 19, 2017 9:20 AM Coordinator (mweaver@lcwc911.us) <mweaver@lcwc911.us>; Lancaster 911 Coordinator (Business Fax) <IMCEAFAX-Lancaster+20911+20Coordinator+40+2B1+20+28717+29+20664-1126@pa.gov>; LANCASTER COUNTY EMA (pcolvin@lancema.us) <pcolvin@lancema.us>; LANCASTER COUNTY EMA (lema@lancema.us) <lema@lancema.us>; LANCASTER COUNTY EMA (lema@lists.lancema.us) <lema@lists.lancema.us>; LANCASTER COUNTY EMC (rgockley@lancema.us) <rgockley@lancema.us>; LANCASTER COUNTY EOC (lemaeoc@lancema.us) <lemaeoc@lancema.us>; LANCASTER COUNTY EOC (lema@lancema.us) <lema@lancema.us>; Bair, Walter A <wbair@pa.gov>; Maiolie, Michael <mmaiolie@pa.gov>; Borst, William <wborst@pa.gov>; Hand, Mark <mhand@pa.gov>; Scheetz, Lynne <lscheetz@pa.gov>; Kunkei, Summer <sukunkel@pa.gov>; Repetz, John <JREPETZ@pa.gov>; Bair, Walter A <wbair@pa.gov>; Adams, Joseph <josepadams@pa.gov>; EP, DEP Emergency Reports <RA-epDEPEmergencyRep@pa.gov>; Moore, Brian <briamoore@pa.gov>; Britcher, Corey <cbritcher@pa.gov>; DH-OnCallEPLO_EPLO <DH-oncalleplo@pa.gov>; River Basin Comm - Susquehanna - Dehoff (adehoff@srbc.net) <adehoff@srbc.net>; River Basin Comm - Susquehanna - Pratt (bpratt@srbc.net) <bpratt@srbc.net>; River Basin Comm - Susquehanna - Pratt (benjamin.pratt1467@gmail.com) <benjamin.pratt1467@gmail.com> Cc: StateEOC, Pennsylvania <stateeoc@pa.gov>; EM-PEMA CENTRAL OFFICE <EM-PEMACENTRALOFFICE@pa.gov> Subject: NRC#1176055 - OIL SHEEN ON THE SUSQUEHANNA - Lancaster County 4-19-17

PEMA Operations received NRC Report 1176055 regarding an oil sheen on the Susquehanna River near the Brookfield Renewable hydroelectric facility located at 482 Old Holtwood Road in Martic Township Lancaster County. The source was determined to be the number 3 lube oil pump from the hydroelectric facility. Please see the report below for further details.

CWWC/jlr

Commonwealth Watch and Warning Center Bureau of Emergency Operations and Resource Coordination Pennsylvania Emergency Management Agency 1310 Elmerton Avenue | Harrisburg, PA 17110 Phone: 717.651.2001 | Fax: 717.651.2021 www.PEMA.pa.gov

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-----Original Message-----From: HQS-PF-fldr-NRC@uscg.mil [mailto:HQS-PF-fldr-NRC@uscg.mil] Sent: Wednesday, April 19, 2017 9:05 AM To: StateEOC, Pennsylvania Subject: NRC#1176055

NATIONAL RESPONSE CENTER 1-800-424-8802 ***GOVERNMENT USE ONLY***GOVERNMENT USE ONLY*** Information released to a third party shall comply with any applicable federal and/or state Freedom of Information and Privacy Laws

> Incident Report # 1176055 INCIDENT DESCRIPTION

*Report taken by: CIV JUSTIN MURRAY at 08:56 on 19-APR-17 Incident Type: FIXED Incident Cause: UNKNOWN Affected Area: SUSQUEHANNA RIVER Incident was discovered on 19-APR-17 at 08:00 local incident time. Affected Medium: WATER / SUSQUEHANNA RIVER

REPORTING PARTY Name: KATIE LESTER Organization: BROOKFIELD RENEWABLE Address: 482 OLD HOLTWOOD ROAD HOLTWOOD, PA 17532 PRIMARY Phone: (857)2051695 Type of Organization: PRIVATE ENTERPRISE

SUSPECTED RESPONSIBLE PARTY KATIE LESTER Name: Organization: BROOKFIELD RENEWABLE 482 OLD HOLTWOOD ROAD Address: HOLTWOOD, PA 17532 PRIMARY Phone: (857)2051695 Type of Organization: PRIVATE ENTERPRISE

INCIDENT LOCATION 482 OLD HOLTWOOD ROAD County: LANCASTER City: HOLTWOOD State: PA Zip: 17532

RELEASED MATERIAL(S) CHRIS Code: OLB Official Material Name: OIL, MISC: LUBRICATING Qty in Water: 0 UNKNOWN AMOUNT Also Known As: Qty Released: 0 UNKNOWN AMOUNT

DESCRIPTION OF INCIDENT CALLER IS REPORTING THE DISCOVERY OF AN OIL SHEEN ON THE SUSQUEHANNA RIVER. THE SOURCE WAS DETERMINED TO BE THE NUMBER 3 LUBE OIL PUMP AT THE HYDROELECTRIC FACILITY. THE CAUSE IS UNKNOWN AND IS UNDER INVESTIGATION.

SENSITIVE INFORMATION

INCIDENT DETAILS

Package: NO **Building ID:** Type of Fixed Object: POWER PLANT Power Generating Facility: YES Generating Capacity: Type of Fuel: NATURAL NPDES: NPDES Compliance: UNKNOWN ---SHEEN INFORMATION---Sheen Color: Sheen Odor Description: Sheen Travel Direction: Sheen Size Length: 30 FEET Sheen Size Width: 5 FEET ---WATER INFORMATION---Body of Water: SUSQUEHANNA RIVER Tributary of: Nearest River Mile Marker: Water Supply Contaminated: UNKNOWN

IMPACT

Fire Involved: NO Fire Extinguished: UNKNOWN Passenger: INJURIES: NO Hospitalized: Empl/Crew: Occupant: Passenger: FATALITIES: NO Empl/Crew: Radius/Area: EVACUATIONS:NO Who Evacuated: Damages: NO

Hours Direction of Closure Type Description of Closure Closed Closure N Air: N Major Road: Artery:N N Waterway: N Track: Environmental Impact: UNKNOWN Media Interest: UNKNOWN Community Impact due to Material:

REMEDIAL ACTIONS BOOM IS BEING DEPLOYED. BACK-UP OILY WATER SEPARATOR IS BEING USED. Release Secured: UNKNOWN Release Rate: Estimated Release Duration:

WEATHER Weather: PARTLY CLOUDY, 50ºF

ADDITIONAL AGENCIES NOTIFIED

Federal: State/Local: State/Local On Scene: State Agency Number:

NOTIFICATIONS BY NRC CENTERS FOR DISEASE CONTROL (GRASP) 19-APR-17 09:04 (770)4887100 DHS NOC (NOC) 19-APR-17 09:04 (202)2828114 DHS DEFENSE THREAT REDUCTION AGENCY (CHEMICAL AND BIOLOGICAL TECHNOLOGI 19-APR-17 09:04 (703)7673477 DOT CRISIS MANAGEMENT CENTER (MAIN OFFICE) 19-APR-17 09:04 (202)3661863 U.S. EPA III (MAIN OFFICE) (215)8143255 FLD INTEL SUPPORT TEAM PHILADELPHIA (MAIN OFFICE) 19-APR-17 09:04 (215)8975406 NATIONAL INFRASTRUCTURE COORD CTR (MAIN OFFICE) 19-APR-17 09:04 (202)2829201 NJ STATE POLICE (MARINE SERVICES BUREAU) 19-APR-17 09:04 (609)9636900 NOAA RPTS FOR PA (MAIN OFFICE) 19-APR-17 09:04 (206)5264911 NATIONAL RESPONSE CENTER HQ (AUTOMATIC REPORTS) 19-APR-17 09:04 (202)2671136 PA ENVIRONMENTAL PROTECTION AGENCY (EMERGENCY ENVIRONMENTAL RESPONSE) 19-APR-17 09:04 (717)7875715

PA STATE POLICE (BUREAU OF CRIMINAL INVESTIGATION) 19-APR-17 09:04 (717)5255260 SECTOR DELAWARE BAY (COMMAND CENTER) (215)2714807 OFFICE OF ENV. POLICY & COMPLIANCE (MAIN OFFICE) 19-APR-17 09:04 (215)5975012 PA EMERG MGMT AGCY (MAIN OFFICE) 19-APR-17 09:04 (717)6512001 USCG DISTRICT 5 (D5 DRAT) 19-APR-17 09:04 (757)3986231 USCG DISTRICT 5 (INTEL CHIEF) 19-APR-17 09:04 (757)3986655

ADDITIONAL INFORMATION CALLER WILL BE MAKING ADDITIONAL NOTIFICATIONS.

*** END INCIDENT REPORT #1176055 *** Report any problems by calling 1-800-424-8802 PLEASE VISIT OUR WEB SITE AT http://www.nrc.uscg.mil

SPILL RESPONSE NOTIFICATION FORM

Reporting Party	Location
Name: Katie Lester Phone Numbers (work, home, pager): <u>857-205-1695</u> Company: Brookfield Renewable Position: Compliance Specialist Address: PO Box 122 City, State, Zip: Hawley, PA 18428	Owner Name: Holtwood Hydroelectric Plant Company: BIF III Holtwood LLC (Brookfield Renewable) Organization Type: Private Enterprise Address: 482 Old Holtwood Road City, State, Zip: Holtwood, PA 17532 Latitude: 39° 49' 36.62" N Longitude: 76° 19' 47.73" W Township: Martic County: Lancaster

Date of Incident: 4/19/17 Time of Incident: 8 a.m.

Incident Description:

Source and/or Cause of Incident

Oil sheen noticed at NPDES Outfall #001 at 8 a.m. Source determined to be oily sludge buildup and fouling on primary and backup oil-water separators in the legacy station.

Material Discharged: ____Oil_____Quantity Discharged: Unknown. Sheen estimated at 5 feet wide x 30 feet long.

Actions Used to Stop, Remove, and Mitigate Effects of the Discharge Oil water separators were cleaned out on 4/19

and 4/20 and an oil boom was deployed. Residual sludge was cleaned off the rocks and samples were taken.

Contractor Used:

Environmental Recovery Corp. (ERC), 1076 Old Manheim Pike, Lancaster, PA 17601, Mike Mulrine, EH&S Manager, 717-393-2627.

Notifications Made:

- <u>National Response Center (800-424-8802)</u> @ 8:54 a.m. Spoke to Justin Murray. Report # 1176055.
 <u>Verified details and he indicated they would call for more information if needed.</u>
- 2. EPA Region III (800-438-2474) @9:04 a.m. Spoke to Ginny Davis at the Public Information Office.
- 3. <u>DEP Southcentral Region Emergency Response Line Left Voicemail @9:07 a.m. Walt Bair returned</u> call at 9:11 a.m. and verified that the NRC was contacted.
- Jeff Nagle at the Coast Guard called at 9:21 a.m. to verify address and let us know it is out of their jurisdiction.
- 5. Sheena Ripple of PA DEP visited plant at 2:30 p.m. and met with Randy Moyer and John McVaigh.

3800-FM-BCW0440 12/2016

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF CLEAN WATER

NON-COMPLIANCE REPORTING FORM

Complete all sections that apply. If you are reporting violations of permit limits, monitoring requirements or schedules that do not pose an immediate threat to health or the environment, you may attach this form to the Discharge Monitoring Report (DMR). Title 25, Pa. Code §§ 91.33 and 91.34 (regarding incidents causing or threatening remediation, and may require an additional report on the incident or plan of pollution prevention measures. If you are reporting other non-compliance events, and the Use this supplemental form to report all permit violations and any other non-compliance that may endanger health or the environment, in accordance with your permit. pollution and activities utilizing pollutants, respectively), in part requires immediate notification by telephone to the Department of pollution incidents, reporting deadline does not coincide with your submission of the DMR, it should be submitted separately to the Department by the reporting deadline set forth in the permit.

' Name: oality:	BIF III Holtw Martic	ood LLC (Holtw	<u>ood Hydro</u>	electric Pro	oject) County: Lar	ncaster		Month: April		Year.	2017
lations of	Fermit Effluen	t Limitations*							A4		
Date	Paramete	ermit er Limit	Units	Statistic Code	al Resu		lnits	Cause of Viole			
									auore	Corrective	ction Taken
ıitary Sew	ier Overflows al	nd Other Unaur	thorized C	lischarges	*						
ivent Date I	Substance Vischarged	Location		Volume (gals)	Duration (hrs)	Receiv Wate	ving	Impact on			Date DEP
							2	Watels	cause of	<u> Uischarge</u>	Notified

Other Permit Violations*

		Oil sheen at Outfail 001 on Anril 19, 2017 / 200 2448 2020 24228	
Explain	Explain Explain	Explain	Explain
Sample collection less frequent than required	Violation of permit schedule	Other	L Other

*If the space provided is not sufficient to record all information, please attach additional sheets.

I certify under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. See 18 Pa. C.S. § 4904 (relating to unsworn

Signature:	Date: 7/3/2017
Prepared By: Kathleen Lester	Title: Compliance Specialist

(

LOWER SUSQUEHANNA FUND AGREEMENT

THIS AGREEMENT made and entered into this $\frac{27}{4}$ day of $\frac{9000}{2}$, 2011, by and among the following (collectively, the "Parties"):

LANCASTER COUNTY CONSERVANCY ("LCC"), a non-profit land trust duly organized under the laws of the Commonwealth of Pennsylvania (the "Commonwealth"), with its principal place of business at 117 S. West End Avenue, Lancaster, PA 17608;

The DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES ("DCNR"), an executive agency of the Commonwealth with its headquarters in the Rachel Carson State Office Building, 400 Market Street, Harrisburg, PA 17101; and

The COUNTY OF YORK ("York"), a political subdivision of the Commonwealth located at 28 East Market Street, York, PA 17401; and

The SUSQUEHANNA GATEWAY HERITAGE AREA ("SGHA"), a non-profit corporation duly organized under the laws of the Commonwealth with its principal place of business at 1706 Long Level Road, Wrightsville, PA. 17368;

WITNESSETH,

WHEREAS, PPL owns approximately 3,600 acres of land and associated facilities along the Susquehanna River in Lancaster and York Counties, known as the Holtwood Environmental Preserve, in the vicinity of its Holtwood hydroelectric station (the "Property"); and

March 2, 2011

WHEREAS, PPL, LCC, York and DCNR have entered into an Agreement of Bargain Sale and Conservation Easement Donation dated March 23, 2010 (referred to hereinafter as the "Holtwood Transfer Agreement," a copy of which is attached hereto as Exhibit "A" and incorporated herein by reference), whereby PPL intends to enable the Property to be managed for open space and as a State Park by transferring approximately 1,980 acres of the Property in fee to LCC; transferring approximately 51 acres of the Property in fee to York; and by granting Conservation Easements on approximately 1,383 acres of the Property to LCC, York and DCNR;

WHEREAS, LCC purchased the first 324.5 acres of land from PPL on December 31, 2010 for \$2,687,403.

WHEREAS, pursuant to the Holtwood Transfer Agreement, LCC established an account known as the Lower Susquehanna Fund (the "Fund") for the purpose of providing revenue to protect, operate, maintain, improve and promote the Property and other lands and facilities as defined in the Conservation Landscape Initiative along the Lower Susquehanna River in Lancaster and York Counties for public conservation and recreation use;

WHEREAS, pursuant to the Holtwood Transfer Agreement, PPL has committed to donate the remaining funds it receives for the bargain sale of the Property (\$3,312,597), for a total of \$6,000,000 to the Fund and to contribute an additional \$115,000 to the Fund annually with a three percent (3%) increase each year for a period of twenty (20) years ending in 2031("Annual Contributions"); and

NOW THEREFORE, in consideration of the foregoing and the mutual promises contained herein, and intending to be legally bound hereby, the parties agree to the following provisions:

- <u>1</u> Fund Contributions. LCC shall be designated as the entity responsible for management of the Fund and the distributions from the Fund specified herein. LCC shall promptly deposit into the Fund all contributions made by PPL and others interested in supporting the purpose of the Fund
- 2. Lower Susquehanna Fund Advisory Council. The advisory council created pursuant to the Holtwood Transfer Agreement shall be known as the Lower Susquehanna Fund Advisory Council (the "Council"). Membership in the Council shall include representatives designated by LCC, DCNR, SGHA, Lancaster County, York County, The Conservation Fund (TCF) and PPL. The Council may invite other members or ex officio members to join the Council by an affirmative vote of the majority of the existing members. The Council shall adopt guidelines establishing procedures for the functioning of the Council and the process by which it will consider and recommend projects to the LCC Board of Directors for funding through distributions from the Fund.
- 3. Fund Management. On execution of this Agreement, the balance in the Fund is \$2,802,403, which represents the purchase price plus the first year contribution from PPL as specified in the Holtwood Transfer Agreement. Upon receipt, the Phase 2 Contribution (\$3,312,597) shall be added to the Fund and managed as part of the Fund. It is agreed that the Fund principle may drop below the \$6,000,000 level during the period 2012-2021 if required to carry out the responsibilities outlined in this Agreement. After December 31, 2021, the Fund will be managed with a minimum balance of \$6,000,000 for the remaining life of the Fund. LCC will retain outside Fund management assistance to make investment decisions based upon LCC's Investment Policy Statement (IPS) as it

may be revised from time to time. LCC will annually report the status and performance of the investments to the Advisory Council noted in paragraph 2 above.

<u>Preservation of Principle.</u> If on December 31, 2021, the principle balance in the Fund is less than \$6,000.000, the Council shall review the Fund distributions and propose distribution modifications to the LCC Board. Any distribution modifications adopted by the LCC Board of Directors will be incorporated through amendment of this Agreement. All Fund distributions after 2021 shall be based on maintaining a minimum annual balance of \$6,000,000.00 in the Fund. Commencing on the execution date of this agreement, the initial Fund contribution of \$2,687,403 and all Annual Contributions and Income from leases shall be subject to the following distributions ("Fund Distributions").

5. Fund Distributions.

- a. <u>Date of Distributions</u>: Initial Fund Distributions shall be made thirty (30) days after execution of this Agreement by all Parties. Thereafter, Fund Distributions will be made annually on the anniversary of the date of this Agreement.
- b. <u>LCC Distribution</u>: For the life of the Fund, LCC shall receive \$150,000 annually ("LCC Distribution"), subject to the escalation provision established in subparagraph (e) below. Such LCC Distribution shall also be subject to the provision for the minimum balance established in Section 3 (Fund Management) above. The LCC Distribution shall be used for maintenance of the Property transferred to LCC in fee and/or for which LCC holds a Conservation Easement. LCC may also use these funds for administration and management costs related to the Fund, existing leases, management plan development, and other

administrative costs deemed necessary to carry out the provisions of this Agreement. For the period 2011 – 2016, LCC will receive an additional distribution of \$50,000 per year for settling issues associated with leases, taxes, subdivision of properties and other short-term real estate issues related to this Agreement.

- c. <u>SGHA Distribution</u>: LCC shall distribute annually to the SGHA \$50,000 from 2011 until 2031 ("SGHA Distribution"), subject to the provision for the minimum balance established in Section 3 (Fund Management) above. These funds shall be utilized by SGHA to promote the Lower Susquehanna through its<u>-</u>heritage and tourism opportunities. The SGHA may also use these funds for administrative and management costs deemed necessary to carry out the provisions of this Agreement. The SGHA Distribution will escalate at 3% until 2031, in which year the SGHA Distribution will end.
- d. <u>York County Distribution</u>. Upon the transfer of the Phase 2 lands to York, York shall receive \$5,000 annually for the life of the Fund ("York Distribution"), subject to the escalation provisions established in subparagraph (e) below. Such York Distribution shall also be subject to the provision for the minimum balance established in Section 3 (Fund Management) above. These annual funds shall be used for maintenance of the Property transferred to York in fee and/or for which York County holds a Conservation Easement.
- e. <u>Escalation Provision.</u> The LCC and York Distributions set forth in subparagraphs
 (b) and (d) above shall increase annually at the rate of three percent (3%) until

2031. After that date, and unless modified based on the available income on the \$6,000,000 principle, the LCC and York Distributions shall escalate at 1% for the life of the Fund.

- f. <u>Capital Project Distribution</u>: Provided such distributions are consistent with the long-term sustainability of the Fund, LCC may distribute Fund Revenue for capital projects consistent with the purposes of the Fund and recommended by the Council.
- g. Special Projects Distribution: Provided the total amount available equals at least \$50,000, LCC may distribute to non-profit organizations and public agencies, including the members of the Council, revenue from the Fund to the extent available for projects consistent with the purposes of the Fund and recommended by the Council.
- 6. Other Fund Expenditures. LCC may make additional distributions from the Fund for the following purposes to the extent consistent with the purposes of the Fund:
 - a. Unreimbursed costs incurred as part of the closings under the Holtwood Transfer Agreement;
 - b. Payments made in lieu of taxes and other taxes due on the leased premises;
 - c. Cost of capital projects provided such expenditures do not jeopardize the longterm sustainability of the Fund.
 - d. Payments to remove, improve, manage or otherwise address existing structures including buildings, septic systems, wells and other improvements.

- <u>7. Existing Leases</u>. LCC shall assume and manage all leases that exist on the Non-Project
 Property and Removed Property transferred pursuant to the Holtwood Transfer
 Agreement. LCC shall deposit all revenue from such leases into the Fund. If LCC
 decides to sell any of the leased premises to the lessee rather than continue to lease the
 Property, the proceeds of the sale shall be deposited into the Fund. LCC shall not sell
 any property acquired using funds provided by DCNR or TCF without written consent of
 DCNR or TCF.
- 8. Cooperation. The Parties shall use their best efforts to work cooperatively and reach agreement on plans to manage the lands under their control along the Lower Susquehanna and administer the Fund. Within sixty (60) days of execution of this Agreement, the Parties shall develop and approve a set of guidelines setting forth the procedures required to fully implement this Agreement.
- 9. Management Plans. Pursuant to the Holtwood Transfer Agreement LCC, York and DCNR shall develop management plans for the Property they acquired in fee or for which they hold Conservations Easements. LCC, York, and DCNR shall coordinate with the Council in the development of their management plans. Such plans will establish the long-term objectives for these lands and facilities consistent with the FERC License. The draft management plans shall be submitted to each member of the Council for review and comment prior to being finalized. It is understood that if any management plan developed for Property subject to the FERC License is deemed by PPL to require FERC approval, PPL shall submit the plan to FERC for such approval. Nothing in this

Agreement should be construed to limit the ability of LCC, York or DCNR to manage

lands under their control consistent with their authority to do so.

10. Notice. All notices, inquiries, or other written communications made or given pursuant

to this Agreement shall be addressed to the following:

Lancaster County Conservancy President & CEO 117 S. West End Avenue Lancaster, PA 17608

Department of Conservation and Natural Resources Director, Bureau of State Parks Rachel Carson State Office Building, 8th Floor 400 Market Street Harrisburg, PA 17101

York County Administrator/Chief Clerk York County Administrative Center, 2nd Floor 28 E. Market Street York, PA 17401

Susquehanna Gateway Heritage Area President 1706 Long Level Road Wrightsville, PA 17368

Any changes in the above addresses or contact person shall be made by giving notice to

all parties to this Agreement.

<u>Amendment</u>. This Agreement may be amended in the future by the LCC Board of
 Directors following the receipt of written comments on the proposed modifications by the
 Council.

- 12. Assignment/Transfer of Property or Facilities. The Parties agree not to assign this Agreement, or transfer, sublet or otherwise convey their interest in any Property acquired pursuant to the Holtwood Transfer Agreement without first offering to assign or transfer their interests to the other members of the Council and ensuring that this Agreement is amended as appropriate to provide for continued and effective administration of the Fund.
- 13. Fund Reimbursement. If any Party makes use of any distribution from the Fund in a manner that the Council determines is inconsistent with the purposes of the Fund, the Council shall advise LCC of its determination, along with its supporting documentation, and recommend that LCC suspend any future distributions from the Fund to that Party until LCC has investigated and resolved the matter.
- <u>14.</u> Successors and Assigns. All covenants and agreements contained herein shall be binding upon the Parties hereto, including their successors and assigns, and shall inure to the benefit of the Parties hereto, including their successors and assigns. Similarly, any request, notice, recommendation, approval or other writing or action taken by the Parties hereto shall bind their successors and assigns.
- 15. <u>Governing Law</u>. This Agreement shall be construed and governed in all respects in accordance with the law of the Commonwealth.

IN WITNESS WHEREOF, the Parties hereto intending to be legally bound hereby, have signed and sealed these presents as of the day and year first above written.

March 2, 2011

LANCASTER COUNTY CONSERVANCY President & CEO

SUSQUEHANNA GATEWAY HERITAGE AREA

President

COUNTY OF YORK

Commissioner

Commissioner

Commissioner

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES BUREAU OF STATE PARKS

Dire

Form &/Legality Review: Office) of

Office of Attorney General

Office of General Counsel

Administrator/Chief Clerk

Chairman

Attest:

Attest:

Attest: turk Secretary

LANCASTER COUNTY CONSERVANCY

Attest:

President & CEO

SUSQUEHANNA GATEWAY HERITAGE AREA

President

Secretary

Attest:

Chairman

Attest:

Administrator/Chief Clerk

COUNTY OF YORK

President Commissi bner

Vice President Commissioner

Doug Hoke

Commissioner

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES BUREAU OF STATE PARKS

Director

Form & Legality Review:

Office of Chief Counsel

Office of Attorney General:

Office of General Counsel

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Agreement for Bargain Sale and Conservation Easement Donation

This Agreement for Bargain Sale and Conservation Easement Donation (the "Agreement") is made this ______ day of ______, 2009 (the "Effective Date"), by and between PPL Holtwood, LLC ("PPL"), a Delaware limited liability company, the Lancaster County Conservancy ("LCC"), a Non-Profit Corporation organized under the laws of the Commonwealth of Pennsylvania (the "Commonwealth"), the County of York ("York County"), a political subdivision of the Commonwealth, and the Department of Conservation and Natural Resources ("DCNR"), an executive agency of the Commonwealth (collectively, the "Parties").

WHEREAS, PPL operates the Holtwood hydroelectric station on the Susquehanna River (the "**Project**") pursuant to a hydroelectric license (Project No. 1881) issued by the Federal Energy Regulatory Commission ("**FERC**") on October 30, 2009, as heretofore and hereafter amended and renewed (the "**FERC License**"), which Project includes, among other things, a power plant (the "**Power Plant**"), a dam (the "**Dam**") and above-ground and submerged property both outside of and within the FERC-designated boundary; and

WHEREAS, PPL desires to transfer to LCC and York County in fee certain deeded parcels ("**Parcels**"), as well as transfer to LCC, York County and DCNR certain easement rights with respect to certain other properties, located in York and Lancaster Counties for the purpose of conserving and protecting natural resources on the land and allowing public access to these resources; and

WHEREAS, PPL, LCC, York County and DCNR propose that the Parcels and rights will be transferred at the following three closings (collectively, the "**Closings**"):

- <u>Phase One Closing</u>: PPL proposes to transfer in fee to LCC approximately 610.0 acres of land composed of Parcels located outside of the FERC-designated boundary (the "Non-Project Property"), which are more fully identified and described in Exhibit "A" attached hereto;
- 2) <u>Phase Two Closing</u>: PPL proposes to transfer in fee to LCC approximately 1654.9 acres of land and to York County approximately 51 acres of land composed of Parcels that are currently located within the FERC-designated boundary but are proposed to be removed from the FERC-designated boundary (the "Removed Property"), which are more fully identified and described in Exhibit "B" attached hereto; and
- 3) <u>Phase Three Closing</u>: PPL proposes to grant conservation easements ("Conservation Easements") on certain lands that will remain within the FERC-designated boundary (the "**Project Property**") as follows:
 - a. A Conservation Easement on approximately 188 acres, which are more fully identified and described in **Exhibit "C"** attached hereto, will be granted to LCC;

- b. A Conservation Easement on approximately 1183.6 acres, which are more fully identified and described in **Exhibit "D**" attached hereto, will be granted to DCNR; and
- c. A Conservation Easement on approximately 11.64 acres, which are more fully identified and described in **Exhibit** "E" attached hereto, will be granted to York County.

Collectively, the properties to be transferred in fee or to be made subject to Conservation Easements at the Closings are referred to as the "**Property**" and are generally depicted in Figures 1-10 attached hereto in **Exhibit "F**"; and

WHEREAS, PPL's grant of Conservation Easements will be made subject to the right of PPL and its successors or assigns to continue the operation of the Project and to satisfy all conditions and obligations imposed upon PPL under the FERC License and the Federal Power Act (as renewed, modified or amended from time to time), and LCC, York County and DCNR desire to obtain Conservation Easements on the Project Property subject to such retained rights, and subject to the terms and conditions stated herein; and

WHEREAS, the Parties desire to set forth the terms and conditions under which PPL will transfer in fee and LCC will accept the Non-Project Property and a portion of the Removed Property; will transfer in fee and York County will accept a portion of the Removed Property; and will grant and LCC, York County and DCNR will accept and hold Conservation Easements on the Project Property.

NOW THEREFORE, in consideration of the mutual promises, conditions and agreements set forth herein, and other good and valuable consideration, the receipt, adequacy and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. Purchase Price for Fee Sale. PPL agrees to sell by bargain sale to LCC in fee the Non-Project Property for a purchase price of FOUR MILLION DOLLARS (\$4,000,000.00) to be paid at the Phase One Closing (the "Phase One Purchase Price") and to sell by bargain sale to LCC and York County in fee the Removed Property for a purchase price of TWO MILLION DOLLARS (\$2,000,000) to be paid at the Phase Two Closing (the "Phase Two Purchase Price"). If the appraised value of the Non-Project Property eligible for acquisition with DCNR grant funds awarded to LCC is less than \$4,000,000, the Phase One Purchase Price will be adjusted to reflect the value of the eligible costs and the balance of the \$4,000,000 will be paid as part of the Phase Two Purchase Price If the appraised value of the Removed Property eligible for acquisition with DCNR grant funds to LCC is less than the Phase Two Purchase Price, the Phase Two Purchase Price will be adjusted to reflect the value of the eligible costs and the balance will be paid to PPL at the Phase Three Closing (the "Phase Three Purchase Price"), provided that the Conservation Easements granted by PPL to LCC and York County at the Phase Three Closing are eligible for acquisition with DCNR grant funds and have an appraised value equal to or greater than the Phase Three Purchase Price. The Phase One Purchase Price, Phase Two Purchase Price and Phase Three Purchase Price are referred to collectively as the "Purchase Price." The Closings are contingent upon LCC receiving the necessary funding from

Lancaster and York Counties, DCNR and/or other parties identified by LCC in order to close on the transaction or upon LCC being able to make sufficient interim arrangements to proceed with closing pending receipt of such funds.

2. <u>Donation of Conservation Easements</u>. PPL agrees to donate Conservation Easements to LCC, York County and DCNR on the Project Property at the Phase Three Closing.

3. <u>Representations and Warranties</u>.

(a) <u>Authorized Action</u>. The Parties represent and warrant that the execution, delivery and performance of this Agreement are within their respective powers and have been duly authorized by all necessary and proper action.

(b) <u>LCC Status</u>. LCC represents that it is a "Qualified Organization" as that term is used in Subsection 170(h) of the Internal Revenue Code of 1986, as amended, (the "Code") and a non-profit organization under Section 501(c)(3) of the Code.

(c) <u>Title</u>. PPL represents and warrants that title to the Property being transferred is good and marketable, such as will be insured by any responsible title insurance company, licensed to do business in Pennsylvania, at regular rates, free and clear of all liens and encumbrances, except the following: (i) taxes and assessments (both general and special), not yet due and payable; (ii) easements, conditions, exceptions, reservations, restrictions, and similar encumbrances of record, visible upon the Property, and as otherwise set forth in this Agreement; and (iii) any state of facts known by PPL or that an accurate survey and/or personal inspection of the Property would disclose.

(d) Regulatory Matters and Definitions. To the best of its knowledge, PPL represents that it has not violated any Laws in any material respect in its management and use of the Property or received any written notices from any Governmental Authority concerning violations affecting the Property, including but not limited to violations under the FERC License or that involve the use, storage, transportation or handling of any Hazardous Substance. The term "Governmental Authority" shall mean any federal, state, local, provincial, foreign, international or other governmental, regulatory or administrative agency, taxing authority, commission, department, board, or other governmental subdivision, court, tribunal or other governmental authority. The term "Law or Laws" shall mean and include all laws, rules, regulations, codes, statutes, ordinances, decrees, treaties, and/or administrative orders of any Governmental Authority, and any conditions or requirements imposed in connection therewith. The term "Hazardous Substance" shall mean and include (i) any petroleum, asbestos, and urea formaldehyde foam insulation, and any transformer or other equipment that contains polychlorinated biphenyls; (ii) any chemicals, materials or substances defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "hazardous constituents," "restricted hazardous materials," "extremely hazardous substances," "toxic substances," "contaminants," "pollutants," "toxic pollutants," "hazardous air pollutants" or words of similar meaning and regulatory effect under any applicable Hazardous Substances Law; and (iii) any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Hazardous Substances Law.

(e) <u>Tax Benefits.</u> PPL represents, warrants and covenants that (i) it has not relied upon any information or analyses furnished by LCC, York County or DCNR with respect to the value of the Property or the amount or effect of any deduction, credit or other benefit that may be available to PPL under the Code, its implementing regulations or other applicable law; (ii) its sale of the Non-Project Property and the Removed Property and its grant of Conservation Easement pursuant to this Agreement are not conditioned upon the availability or amount of any deduction, credit or other benefit under the Code, its implementing regulations or other applicable law; (iii) it has relied solely upon its own judgment and/or professional advice furnished by the appraiser and legal, financial and accounting professionals engaged by the PPL; and (iv) if the providers of any appraisals or professional advice were recommended to PPL by another party to this Agreement, then the other party is not responsible in any way for the performance of such providers.

4. <u>Due Diligence</u>.

(a) <u>Due Diligence Period</u>. LCC, York County and DCNR shall have a period of one hundred eighty (180) days commencing upon the Effective Date to conduct a due diligence review of the Property for which each will obtain an interest, including preparation and review, to the extent deemed necessary and prudent by each, of a title report, a land survey, and Phase I Environmental Site Assessment, and such other investigations as each deems necessary or appropriate (the "Due Diligence Period"). LCC, York County and DCNR will bear the entire cost of such due diligence review for the Property for which each will obtain an interest, except that PPL will pay LCC for the reasonable cost of performing all Phase I Environmental Site Assessments on the Property for which LCC is being offered an interest. Prior to performing a Phase I Environmental Site Assessment, LCC shall provide PPL with an estimate of the proposed cost and the proposed scope of work for PPL's review and approval. PPL shall not be obligated to pay for any such environmental assessment unless it first approves the scope and cost for such work. The cost of additional environmental studies recommended by the Phase I Environmental Site Assessment shall be paid by PPL, subject to PPL first reviewing and approving the scope of work and proposed cost. Alternatively, PPL shall have the right at its sole discretion to remove any Parcel identified as requiring additional environmental studies from the transfers contemplated herein. Should LCC, York County or DCNR determine, for any reason, that it is not feasible to proceed with the transactions contemplated by this Agreement with respect to any Parcel, LCC, York County or DCNR may elect, by notice given to PPL and the other parties to the Agreement on or before thirty (30) days after the end of the Due Diligence Period, to terminate its participation under this Agreement with respect to such Parcel. Any termination by LCC, York County or DCNR shall be with respect to an entire Parcel, and in no event shall PPL be required to subdivide any Parcel to allow the transfer in fee of a portion of that Parcel, unless PPL determines in its sole discretion to do so.

(b) <u>Documents Furnished by PPL</u>. PPL agrees to provide LCC with all material written information in the possession of PPL or its affiliates relating to the Property, including, but not limited to, copies of all surveys and any reports in Seller's possession regarding soil or subsurface conditions of the Property, within forty-five (45) days of the Effective Date.

(c) <u>Updated Due Diligence</u>. During the period of time between the expiration of the Due Diligence Period and the Phase Two Closing Date as defined in Section 12 of this Agreement, LCC may obtain, at its sole expense, an updated title commitment and survey of the Removed Property. To the extent PPL makes any changes to the Property or becomes aware of any changes to the Property prior to the Phase Two Closings, PPL shall pay for an update of the environmental assessment, if requested.

5. <u>Fund and PPL Contributions.</u>

(a) <u>Fund Establishment</u>. Prior to the Phase One Closing, LCC shall establish an account in a financial institution of its choosing to be known as the Lower Susquehanna Greenway Fund (the "**Fund**") for the purpose of providing revenue to protect, operate, maintain, improve and promote the lands being transferred pursuant to this Agreement and other lands and facilities managed as part of the greenway along the Susquehanna River in Lancaster and York Counties for public conservation and recreation use ("**Fund Purpose**").

(b) <u>PPL Contributions ("Contributions"</u>). Upon PPL's receipt of the Phase One Purchase Price at the Phase One Closing, PPL shall contribute the Phase One Purchase Price to LCC for deposit in the Fund. PPL shall also contribute to LCC for deposit in the Fund the Phase Two Purchase Price upon receipt at the Phase Two Closing and, if applicable, the Phase Three Purchase Price upon receipt at the Phase Three Closing (collectively, the "**Closing Contributions**"). Within thirty (30) days of the Phase One Closing, PPL shall contribute to LCC an initial payment equal to One Hundred Fifteen Thousand and 00/100 Dollars (\$115,000) (the "**Annual LCC Contribution**"). The first Annual LCC Contribution due and payable by PPL shall be prorated on a calendar year basis based upon the date of the Phase One Closing. Thereafter, PPL shall contribute the Annual LCC Contribution to LCC by January 31 of each calendar year following the Phase One Closing for twenty (20) years. The Annual LCC Contribution for each subsequent year shall be equal to the Annual LCC Contribution for the prior year increased by three percent (3%).

(c) <u>Fund Use</u>. LCC shall establish an advisory council to advise LCC on expenditures from the Fund for the Fund Purpose. The advisory council shall consist of a representative designated by LCC, DCNR, the Susquehanna Gateway Heritage Area, Lancaster County, York County, The Conservation Fund and PPL. LCC and the advisory council shall develop procedures for distributing the Fund consistent with the Fund Purpose and management plans developed for the Property.

6. <u>Conditions Precedent for the Closings and Contributions.</u> PPL shall not be obligated to proceed to the Closings or make the Closing Contributions unless each of the following conditions has been met:

(a) LCC acknowledges that the Closing Contributions and the Annual LCC Contributions are contributory in nature and are not in any manner intended as mitigation or compensation for any activities carried on by PPL, LCC, York County or DCNR.

(b) LCC, York County and DCNR understand and acknowledge that PPL's highest priority is the ability to operate the PPL Project now and in the future in a manner consistent with PPL's current rights and privileges of operation, including but not limited to PPL's ability to expand any of the operations of the Project in connection with the Project Property.

(c) PPL receives final, unappealable approval for the removal of the Removed Property from the FERC boundary (with respect to the Phase Two Closing) or the granting of the Conservation Easements on the Project Property (with respect to the Phase Three Closing) from FERC, subject, in each case, to covenants, conditions and restrictions acceptable to PPL and FERC. If FERC denies approval to remove any lands currently part of the FERC boundary, then such lands shall be considered part of the Project Property that will be subject to the Conservation Easement. If FERC denies approval to allow all or part of the Project Property to be subject to a Conservation Easement, PPL shall have no obligations under this Agreement with respect to such Project Property.

7. <u>Management of the Project Property.</u> DCNR, LCC and York County shall manage the Project Property for which they hold Conservation Easements for conservation and/or recreation purposes following the Phase Three Closing as provided in the Conservation Easements and the Conservation and Resource Management Plans to be developed prior to the Phase Three Closing, subject to PPL's continuing right to use the Project Property as necessary to operate the Project. If, within one hundred eighty (180) days after the Effective Date, PPL, on the one hand, and LCC, York County or DCNR, on the other hand, are unable to complete a mutually acceptable Conservation and Resource Management Plan, either such Party may elect, upon written notice to the other Parties, to terminate its obligation to proceed with the Phase Three Closing. The Parties may upon mutual consent extend the period to complete the Conservation and Management Plans.

DCNR shall operate and maintain the existing improvements located on the Project Property for which DCNR holds the Conservation Easement as of the Phase Three Closing or another date mutually agreed upon. Within thirty (30) days of the Phase Three Closing, PPL shall contribute to DCNR \$200,000 (the "Initial DCNR Payment"), which amount shall be prorated on a yearly basis based on the Phase Three Closing Date as defined in Section 12. Thereafter, PPL shall make a payment to DCNR on an annual basis on the anniversary of the Phase Three Closing for twenty (20) years, with the amount being equal to \$200,000 increased by 3% per year (the "Annual DCNR Payment").

The Annual DCNR Payment shall be utilized by DCNR solely for operation and maintenance costs and expenses associated with the following areas: a) Pequea Creek Recreation Area; b) Pequea Creek Boat Launch; c) Otter Creek Recreation Area; d) York Furnace Boat Launch; and e) Lock 12 Historic Area. Additionally, PPL and DCNR shall enter into a lease agreement authorizing DCNR to manage, operate and maintain the aforementioned facilities.

8. <u>Existing Leases and Lease-back Properties.</u> Existing leases between PPL and third parties on the Non-Project Property and Removed Property that are to be transferred at the Phase

One and Phase Two Closings are identified in **Exhibit** "G", attached hereto. Complete copies of all current leases will be provided to LCC within thirty (30) days of the Effective Date. Excluding leases on lands to be transferred to the Conservation Society of York County at the Indian Steps Museum and certain lands proposed to be transferred to Karen Ament, after the Effective Date, PPL shall take no action regarding the sale, transfer or change in lease terms on the Property leased to third parties ("**Property Leases**") without the prior written approval of the party that will receive the Property in fee or hold a Conservation Easement on the Property. At the Phase One and Phase Two Closings, PPL will assign all of its interests in those real estate leases related to the Non-Project Property and Removed Property in effect at that time to LCC. Lease income will be prorated as of the Closing dates. After the Phase One Closing and Phase Two Closing, LCC shall assume all lease management responsibility required under the terms of the leases and may terminate said leases with respect to Non-Project Property or Removed Property or sell leased lands.

LCC shall lease back to PPL (at \$1/year) for a term mutually agreed upon by PPL and LCC, the Holtwood Land Management Office and Holtwood Environmental Center ("Leaseback Properties"). PPL and LCC shall enter into discussions regarding long-term joint use of these facilities within 180 days after the Phase One Closing. In the lease developed by PPL and LCC for the Lease-back Properties, PPL shall continue to be responsible for all operation and maintenance and capital replacement associated with the Lease-back Properties. LCC may make additional improvements to these properties subject to PPL's approval and rights under the lease, such approval not to be unreasonably withheld, and LCC shall assume any maintenance and capital responsibility associated with such improvements.

PPL shall be responsible for maintaining the Lease-back Properties in a safe and satisfactory condition in accordance with the terms of the lease. No monies from the Fund shall be used for PPL's maintenance or capital replacement obligations associated with the Lease-back Properties. The lease shall provide that if PPL does not fulfill its maintenance obligations with respect to the Lease-back Properties, LCC shall have the right to correct such problems and invoice PPL for the costs and expenses associated therewith.

9. <u>FERC and Other Governmental Approval and Requirements</u>. LCC, York County and DCNR understand and agree that the removal of lands from the project boundary and the granting of a Conservation Easement on the Project Property is subject to the approval of FERC, as well as any and all requirements and conditions imposed by FERC. Any Party may elect to terminate the transaction consistent with Section 10 if it finds any of the conditions imposed by FERC upon the transfer of the Removed Property or the granting of the Conservation Easement to be unacceptable. PPL or its assigns shall be responsible for obtaining all FERC approvals and meeting all FERC requirements for as long as it operates the Project under the FERC License.

LCC, York County and DCNR understand and agree that PPL shall be retaining certain lands that are necessary for the operation of the Project. PPL shall be responsible, at its sole cost, for obtaining any subdivision approvals and any other local or state approvals required for PPL to retain the lands.

10. <u>FERC</u>.

(a) Within one hundred twenty (120) days after the Effective Date, PPL shall, at its expense, apply to FERC for permission to remove the Removed Property from the FERCdesignated boundary (the "Phase Two FERC Application"). LCC and York County shall cooperate with PPL in the preparation, submission and processing of the Phase Two FERC Application. PPL, LCC or York County may elect, upon written notice to the other parties to this Agreement, to terminate their obligations under those provisions of this Agreement relating to the specific Parcels of the Removed Property or agree to convert the Phase Two FERC Application to a request for a Conservation Easement on the specific Parcels of lands subject to the Phase Two FERC Application and combine that application with the Phase Three FERC Application as provided under paragraph 10(b) herein, if either PPL, LCC or York County determines, in its sole discretion, that any of the conditions and restrictions imposed by FERC in its approval of the Phase Two FERC Application regarding their Parcels of the Removed If either PPL, LCC or York County determines to terminate the Property are unacceptable. provisions of the Agreement relating to any of its Parcels in the Phase Two Closing based upon conditions and restrictions imposed by FERC as part of FERC's approval of the Phase Two FERC Application, then there shall be no further obligation on the part of PPL, LCC or York County with respect to this Agreement as it pertains to those Parcels in the Phase Two Closing. To the extent FERC does not approve of the removal of the Removed Property from the FERCdesignated boundary in whole or part, PPL may include the Removed Property not approved for removal in the Phase Three FERC Application discussed below or, if the Phase Three FERC Application has already been submitted, may seek to amend the application to include the Removed Property not approved for removal.

Within one hundred eighty (180) days after the Effective Date or upon (b)completion of the Conservation and Recreation Management Plans that are part of the Conservation Easements, whichever is later, PPL shall, at its expense, apply to FERC for permission to allow the granting of Conservation Easements on the Project Property (the "Phase Three FERC Application"). LCC, York County and DCNR shall cooperate with PPL in the preparation, submission and processing of the Phase Three FERC Application. Any party may elect, upon written notice to the other parties, to terminate its obligation to proceed with the Phase Three Closing on its portion of the Project Property, if such party determines, in its sole discretion, that any of the conditions and restrictions imposed by FERC in its approval of the Phase Three FERC Application regarding that Project Property are unacceptable. In such case, no party shall have any further responsibilities and obligations under this Agreement relating to proceeding with the Phase Three Closing for the Project Property subject to the written notice of termination. If LCC, York County or DCNR is the party seeking to terminate its obligation to hold the Conservation Easement on a portion of the Project Property, another party may elect to hold the Conservation Easement on that portion of the Project Property. Any termination of obligations related to the Phase Three Closing shall not affect the previous fee transfer of the Non-Project Property and the Removed Property at the Phase One Closing and Phase Two Closing and the terms of this Agreement related thereto,

Appraisal. PPL, at its expense, shall obtain an appraisal of the fair market value 11. of the Highest and Best Use of the Property to support a deduction for this charitable contribution under Section 170 of the Code and the comparable provision of the Pennsylvania income tax law, and for the use of LCC and DCNR to substantiate the release of grant funds. PPL shall consult with LCC and DCNR in the selection of an appraiser to ensure compliance with grant requirements and will complete the appraisal and provide LCC and DCNR with five (5) copies of same. To the extent that PPL makes any changes to the Property or becomes aware of any such changes prior to Closing, but subsequent to obtaining the appraisal, PPL shall obtain an updated appraisal as appropriate. PPL acknowledges that the substantiation of a charitable contribution deduction rests exclusively with PPL, except that, at or promptly after the Closings, LCC, York County and/or DCNR shall execute Internal Revenue Service Form 8283 evidencing the charitable contributions contemplated by this Agreement, provided the same has been (a) fully completed and signed by PPL and PPL's appraiser, (b) timely submitted to LCC, York County and/or DCNR for signature, (c) LCC, York County and/or DCNR has been provided with a copy of the appraisal, and (d) LCC, after a substantive review of the appraisal, agrees with the donated value.

12. <u>Closing Dates</u>. This transaction shall be consummated at three closings, each of which shall take place in the office of the title company or local counsel selected by LCC, or at such other place as the Parties shall mutually agree, on a date mutually agreed upon by the Parties, the timing of such closings being as follows:

(a) The Phase One Closing on the Non-Project Property shall occur within sixty (60) days of the expiration of the Due Diligence Period. The date upon which this closing occurs is hereinafter call the "Phase One Closing Date".

(b) The Phase Two Closing on the Removed Property shall be no later than sixty (60) days after the date of PPL's written notice to LCC and York County that FERC's approval of the Phase Two FERC Application becomes unappealable (the "Phase Two Unappealability Date") or thirty (30) days after final approval of any subdivision required for the Removed Property, whichever is later. PPL shall give LCC and York County prompt notice of the Phase Two Unappealability Date. The date upon which this closing occurs is hereinafter called the "Phase Two Closing Date".

(c) The Phase Three Closing on the granting of the Conservation Easements on the Project Property shall be no later than sixty (60) days after the date of PPL's written notice to LCC, York County and DCNR that FERC's approval of the Phase Three FERC Application becomes unappealable (the "Phase Three Unappealability Date") or thirty (30) days after final approval of any subdivision required for the Project Property. PPL shall give LCC, York County and DCNR prompt notice of the Phase Three Unappealability Date. The date upon which this closing occurs is hereinafter called the "Phase Three Closing Date".

(d) In the event LCC has submitted grant applications or funding requests to the appropriate governmental or funding agencies, and LCC is diligently pursuing such grants and funding, LCC shall have the right to extend the applicable Closing Dates up to ninety (90) days, by written notice to PPL.
13. <u>Reservations.</u>

(a) PPL shall retain all necessary easements, rights-of-way, access rights, flooding and other rights on Project Property as required for the continued operation, maintenance and/or improvement of the Project in accordance with the licensing and other requirements of FERC and the Federal Power Act, as the same may be renewed, modified or amended from time to time.

(b) PPL Electric Utilities Corporation shall retain all easements, rights-of-way and access rights necessary for the continued operation of existing electrical distribution, transmission and communication facilities owned and operated by PPL Electric Utilities Corporation or its affiliates or for the expansion of such facilities to the extent such facilities and any future expansion areas are specifically identified in a plan submitted to LCC, DCNR and York County within thirty (30) days of the Effective Date. The plan shall include maps identifying all transmission and/or substation easements and rights-of-way to be either included in the deeds to the respective Parcels or to be recorded in a separate easement/right-of-way document at the time of, or prior to, the Phase One Closing. With respect to distribution rights, the plan shall include language indicating that PPL Electric Utilities Corporation shall be reserving easements/rights-of-way for all distribution facilities located along any public or private street and road adjacent to any of the Parcels. PPL Electric Utilities Corporation shall execute and record the appropriate land records to conform the reserved rights to the specific parameters set forth in the plan.

(c) The Non-Project Property and Removed Property shall be preserved for public conservation and recreation use, except to the extent LCC agrees to continue any existing residential and commercial leases and licenses or sells any such leased or licensed parcels. Non-Project Property and Removed Property acquired by LCC with funds provided through DCNR Grant Agreement No. BRC-LTA-13.6-553 or with funds provided as a match for this grant shall be used for purposes consistent with the Keystone Recreation, Park and Conservation Fund Act, act of July 2, 2993, P.L. 359, No. 50, and the Environmental Stewardship and Watershed Protection Act, the act of December 14, 1999, P.L. 949, No. 68, as amended.

(d) PPL shall be reserving flooding rights over all Non-Project Property and Removed Property.

(e) Within thirty (30) days of the Effective Date, PPL shall provide a plan identifying the specific Parcels of Non-Project Property and Removed Property on, over and across which PPL shall require a temporary construction easement for the construction of the Holtwood Expansion project. The parcels over which such rights are required are preliminarily identified on Exhibits A and B attached hereto. The parties shall execute at or before the respective Closings a temporary construction easement for the applicable Parcels.

14. <u>Conveyance</u>.

(a) <u>Phase One Closing and Phase Two Closing</u>. At the Phase One Closing and Phase Two Closing, PPL shall convey the Non-Project Property to LCC, and the Removed

Property to LCC and York County via Special Warranty Deeds (the "Deeds"). The Deeds shall include conditions, restrictions or covenants necessary to satisfy the reservations in Section 13. In addition, the Phase Two Closing Deeds shall include any and all conditions and restrictions imposed by FERC in connection with its approval of the removal of the Removed Property, including the insertion of such restrictive covenants as FERC elects to require as a condition of its approval.

(b) <u>Phase Three Closing</u>. At the Phase Three Closing, PPL shall enter into Conservation Easements on the Project Property with LCC, York County and DCNR. The Conservation Easements shall include any conditions, restrictions or covenants relating to the following: (i) any and all conditions and restrictions imposed by FERC in connection with its approval of the transfer, including the insertion of such restrictive covenants as FERC elects to require as a condition of its approval; (ii) any and all conditions and restrictions necessary to facilitate the safe and reliable operation of the Project in light of the FERC conditions and restrictions; and (iii) the conditions and restrictions necessary to satisfy the reservations in Section 13. The Conservation Easements shall be in a form substantially the same as attached hereto as **Exhibit "H**".

(c) Liens and Encumbrances. Subject to the right of LCC, York County or DCNR to examine and raise objections to the status of title and the physical condition of the Property during the Due Diligence Period, respectively, PPL will convey in fee simple the Non-Project Property and Removed Property and grant the Conservation Easements on the Project Property and Removed Property, mortgages and other monetary liens which shall be satisfied and released of record at the Closing (other than the lien for taxes not yet due and payable), (ii) all encroachments and other matters that would be revealed by an accurate survey of the Property, (iii) all standard exclusions and printed exceptions set forth in the standard form of owner's title insurance policy, (v) all easements for public utilities affecting the Property; (vi) all easements, covenants, restrictions, encumbrances, agreements and rights-of-way of record or visible upon the Property affecting the Property and any obligations arising therefrom ; (vii) any applicable zoning ordinances and other land use Laws.

In addition to the foregoing, the Conservation Easements on the Project Property shall be conveyed subject to (i) the FERC License and all renewals and amendments thereto; and (ii) all easements, covenants and restrictions, rights-of-way, access rights, flooding rights and other rights required for the continued operation, maintenance and/or improvement of the Project in accordance with the licensing requirements of FERC as may be amended from time to time. During the period between the Effective Date and the Closing Dates, PPL shall not otherwise encumber or cause the Non-Project Property or Removed Property to be encumbered or permit any lien or other encumbrance against the Non-Project Property or Removed Property, if such lien or encumbrance would extend beyond the Closing Dates.

(d) <u>Subdivision</u>. If required, PPL, at its sole expense, shall obtain local subdivision approvals.

Protection of Project. LCC, DCNR and York County covenant on behalf of 15. themselves and their successors and assigns that they shall not oppose any action taken by PPL and its successors and assigns to operate, maintain, alter, rebuild (including any license amendment relating to the foregoing) or relicense the Project, provided such actions maintain the Project at approximately the level of operation existing when the Conservation Easements are The provisions of the Project Protection granted (the "Project Protection Covenant"). Covenant shall be included within the Conservation Easements granted to LCC, DCNR and York County, and shall run with, touch and concern the Project Property, and be binding on LCC, DCNR and York County and their successors and assigns. Upon the granting of Conservation Easements on the Project Property, LCC, DCNR and York County may participate in the process for renewal of the FERC license as they deem appropriate to ensure operations conducted pursuant to the FERC License are consistent with such Conservation Easements. However, in no event shall the DCNR, LCC, and York County act to restrict hydroelectric operations in existence at the time of such relicensing for the purpose of enhancing other recreational or other uses of the Project Property.

16. Taxes and Adjustments.

(a) <u>Taxes</u>. Any State and local transfer and recordation taxes imposed upon the transfer of the Non-Project Property or Removed Property to LCC and York County will be split equally between PPL, on the one hand, and LCC and York County, as applicable, on the other hand. All annual and special assessments accruing for the tax year in which the Phase One Closing and Phase Two Closing occur shall be pro-rated between the Parties. Annual and special assessments accruing for the Phase One Closing and Phase Two Closing occur shall be pro-rated between the Parties. Annual and special assessments accruing for tax years subsequent to the Phase One Closing and Phase Two Closing, whether imposed before or after the these closings, shall be payable by LCC and York County, as applicable, and PPL shall have no obligation to pay such assessments.

(b) <u>Adjustments</u>. The following items shall be adjusted and apportioned between PPL and LCC as of the date of the Phase One Closing and between PPL, LCC, and York County as of the date of the Phase Two Closing:

- (i) rental income,
- (ii) water, sewer and other utility charges, and
- (iii) any other charges for municipal services.
- 17. Possession, Risk of Loss and Condemnation.

(a) <u>Possession</u>. Possession of the Non-Project Property and Removed Property shall be given to LCC and York County, according to their respective interests, via Special Warranty Deed at the Phase One and Phase Two Closings, respectively.

(b) <u>Risk of Loss</u>. The risk of loss to the Non-Project Property and Removed Property from fire or other casualty between the Effective Date and the Phase One Closing Date or Phase Two Closing Date, as applicable, shall belong to PPL. Notwithstanding the foregoing, PPL shall have no obligation to maintain insurance coverage or to restore or replace any improvements damaged or destroyed by a fire or other casualty occurring prior to the Phase One Closing or Phase Two Closing, as applicable. If any improvements on one or more Parcels of the Property are damaged or destroyed by fire or other casualty prior to Phase One or Phase Two Closings, LCC and York County may elect to acquire such parcel(s) "AS IS" or remove such Parcel(s) from the transaction, according to their respective interests.

(c) <u>Condemnation</u>. If any portion of the Property is taken by condemnation or eminent domain prior to the Closings, any Party shall have the right to terminate this Agreement by notice given to the other parties within thirty (30) days after notice of the condemnation or taking is received by the party giving such notice of termination. If no Party elects to terminate as aforesaid, the Closings shall occur, and PPL shall deposit any award payable by the condemning authority with respect to the Property so taken in the Fund, whether such award is paid before or after the Closing. PPL shall not be obligated to restore the Property following a condemnation.

18. Disclaimer Of Warranties; "As-Is" Conveyance.

(a) <u>GENERAL DISCLAIMER</u>. EXCEPT AS OTHERWISE PROVIDED IN THIS AGREEMENT, LCC, DCNR AND YORK COUNTY ACKNOWLEDGE THAT THEY ARE ACQUIRING THE PROPERTY IN ITS "AS-IS" CONDITION WITH ALL FAULTS, AND EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN THIS AGREEMENT, PPL MAKES NO REPRESENTATIONS, WARRANTIES OR GUARANTEES OF ANY KIND, EITHER EXPRESS OR IMPLIED, OR ARISING OUT OF OPERATION OF LAW, INCLUDING WARRANTY OF CONDITION, MERCHANTABILITY, HABITABILITY OR FITNESS FOR A PARTICULAR USE.

(b) <u>Due Diligence</u>. LCC, York County and DCNR acknowledge that it is their responsibility to make such legal, factual and other inquiries and investigations as they deem necessary, desirable or appropriate with respect to the Property. Such inquiries and investigations may involve and include, but shall not be limited to, the physical components of the Property, the condition of the Property, such state of facts as an accurate survey and inspection would show, present and future zoning ordinances, and resolutions and regulations of the municipality, county and state where the Property is located.

19. Notices. Each notice which is required hereunder or which any party desires to give hereunder (a) shall be in writing, (b) may be given by the party or its counsel, and (c) shall be deemed sufficiently given if (i) sent by certified or registered mail in the United States mails, return receipt requested, postage prepaid, in which event it shall be deemed to have been given and received on the third business day from the date deposited in the United States mails; or (ii) sent via overnight delivery with a nationally recognized carrier, in which event it shall be deemed to such carrier. The addresses and telefax numbers of the parties for receipt of notices shall be as follows:

To PPL:

Bradley J. Piatt Mgr. Peaking Power PPL Two North Ninth Street (GENPL6) Allentown, PA, 18101 Fax: 610-774-5623

Copy to:

PPL Services Corporation Office of General Counsel Two North Ninth Street (GENTW3) Allentown, PA 18101 Attn: Ronald J. Reybitz, Senior Counsel Fax: 610-774-6726

Ralph H. Goodno, President and CEO

Lancaster County Conservancy 117 South West End Ave.

P.O. Box 716

Lancaster, PA 17608 Fax: 717-392-8220

To LCC:

Copy to:

Barbara Reist Dillon, Esquire Nikolaus & Hohenadel, LLP 212 N. Queen Street Lancaster, PA 17603 Fax: 717-299-1811

To York County:

York County Department of Parks and Recreation Executive Director 400 Mundis Race Road York, PA 17406-9721

Copy to:

Michael W. Flannelly Solicitor County of York 28 E. Market Street, 2nd Floor York, PA 17401-1599

To DCNR:

Director, Bureau of State Parks PA Dept. of Conservation and Natural Resources 8th Floor, Rachel Carson State Office Building P.O. Box 8551 Harrisburg, PA 17105-8551

Copy to:

Chief Counsel PA Dept. of Conservation and Natural Resources 7th Floor, Rachel Carson State Office Building P.O. Box 8767 Harrisburg, PA 17105-8767 Each party shall have the right to designate an address for the receipt of notices other than that set forth above, provided the party's new address is contained in a written notice to the other party. Any party which gives a notice to another party shall endeavor to deliver a copy of such notice to the each person designated above to receive such copy, but any failure or delay in the delivery of such copy shall not affect the validity or the effective date of the notice delivered to the other party.

20. Miscellaneous.

(a) <u>Interpretive Matters</u>. In this Agreement, unless the context otherwise requires, the singular shall include the plural, the masculine shall include the feminine and neuter, and vice versa. The term "includes" or "including" shall mean "including without limitation." The term "Person" shall mean any individual, general partnership, limited partnership, limited liability company, joint venture, corporation, trust, unincorporated organization, governmental authority or other entity.

(b) <u>Recitals and Headings</u>. The recitals are deemed a part of this Agreement to the same extent as if set forth in their entirety herein. The table of contents and headings of the Sections and Subsections herein are for convenience only and shall not affect the scope, meaning or interpretation of the contents thereof.

(c) <u>References</u>. References to a Section, Subsection, Exhibit or Schedule shall mean, respectively, a Section, Subsection, Exhibit or Schedule of this Agreement. Reference to a given agreement or instrument shall be a reference to that agreement or instrument as modified, amended, supplemented and restated through the date as of which such reference is made. All of the Exhibits attached hereto are by this reference incorporated herein and made a part hereof.

(d) <u>Days</u>. If any action is required to be performed, or if any notice, consent, or other communication is given, on a day that is a Saturday or Sunday or a legal holiday in the jurisdiction in which the action is required to be performed or in which is located the intended recipient of such notice, consent, or other communication, such performance shall be deemed to be required, or such notice, consent or other communication shall be deemed to be given, as applicable, on the first business day following such Saturday, Sunday or legal holiday. Unless otherwise specified herein, all references herein to a "day" or "days" shall refer to calendar days and not business days.

(e) <u>Severability</u>. Any term or provision of this Agreement that is held invalid or unenforceable in any situation shall not affect the validity or enforceability of the remaining terms and provisions hereof or the validity or enforceability of the offending term or provision in any other situation, <u>provided</u>, <u>however</u>, that the remaining terms and provisions of this Agreement may be enforced only to the extent that such enforcement in the absence of such invalid term or provision would not result in (i) deprivation of PPL or LCC, DCNR or York County of a material aspect of its original bargain upon execution of this Agreement, (ii) unjust enrichment of PPL or LCC, DCNR or York County or (iii) any other manifestly unfair or inequitable result. (f) <u>Costs</u>. Regardless of whether Closings occurs hereunder, and except as otherwise expressly provided herein, each party hereto shall be responsible for its own costs in connection with this Agreement and the transactions contemplated hereby, including, without limitation, fees of attorneys, engineers, and accountants.

(g) <u>Binding Effect</u>. This Agreement shall be binding upon and inure to the benefit of the parties hereto, and their respective successors and permitted assigns.

(h) <u>Assignment</u>. None of LCC, York County or DCNR may assign this Agreement or its rights hereunder without the prior written consent of PPL (which consent PPL, in its sole discretion, shall not be obligated to give, and which consent, if given, shall be subject to such conditions as PPL may elect to impose). Any such prohibited assignment shall be void and unenforceable.

(i) <u>Waiver</u>. No provision of or remedy available under this Agreement shall be deemed to have been waived, unless waived expressly in writing, and such waiver of such provision or remedy shall not be considered a waiver of any right to enforce such provision or remedy thereafter.

(j) <u>Governing Law</u>. This Agreement and all documents referred to herein shall be governed by, and interpreted and enforced in accordance with, the laws of the Commonwealth of Pennsylvania, and any action or proceeding arising hereunder shall be brought in a state or federal court located in Pennsylvania.

(k) <u>No Partnership</u>. This Agreement does not and shall not be construed to create a partnership, joint venture, or any other relationship between the parties hereto, except the relationship of PPL, York County, DCNR and LCC specifically established hereby.

(l) <u>Survival</u>.

(i) The provisions of Section 5, Section 7, Section 8, Section 15, Section 18 and this Subsection 20(1), and any other right or obligation in this Agreement that by its terms is expressly or implicitly intended to do so, shall survive the execution and delivery of the Deed or the termination of this Agreement.

(ii) Except as otherwise expressly provided in this Agreement, no representations or warranties of PPL shall survive the Closings or termination of this Agreement, and no action based thereon shall be commenced after the Closings or termination of this Agreement.

(iii) The delivery of the Deeds by PPL on the Non-Project Property and the Removed Property and the Conservation Easements on the Project Property, and the acceptance thereof by LCC, York County and DCNR, shall be deemed the full performance and discharge of every covenant and other obligation on the part of PPL to be performed hereunder, except those rights, covenants and other obligations of PPL which are expressly stated in this Agreement to survive the Closings. (m) <u>Complete Agreement</u>. This Agreement represents the complete understanding between the parties hereto and supersedes all prior negotiations, representations or agreements, either written or oral, as to the matters described therein. This Agreement may be amended only by a written instrument signed by all parties.

(n) <u>Counterparts</u>. This Agreement may be executed in counterparts, each of which shall be deemed an original, and all of which, when taken together, shall constitute one and the same instrument. The signature of any party to any counterpart shall be deemed a signature to, and may be appended to, any other counterpart.

(o) <u>Waiver of Jury Trial</u>. EACH PARTY HERETO HEREBY WAIVES ANY RIGHT WHICH IT MAY OTHERWISE HAVE AT LAW OR IN EQUITY TO A TRIAL BY JURY IN CONNECTION WITH ANY SUIT OR PROCEEDING AT LAW OR IN EQUITY BROUGHT BY ANY PARTY HERETO AGAINST THE WAIVING PARTY OR WHICH OTHERWISE RELATES TO THIS AGREEMENT.

(p) <u>No Recordation</u>. In no event shall LCC, York County or DCNR record this Agreement or any memorandum hereof, and any such recordation or attempted recordation shall constitute a breach of this Agreement.

21. <u>Preferential Tax Assessment</u>. LCC, York County and DCNR acknowledge and agree that PPL may apply for preferential tax assessment of Project Property devoted to forest reserve pursuant to the Pennsylvania Farmland and Forest Land Assessment Act of 1974, act of Dec. 19, 1974, P.L. 973, No. 399, as amended (commonly known as the Clean and Green Act). In the event any Property is currently enrolled under the Clean and Green Act, PPL shall provide the required notice of transfer of the Property to the county assessor of the county in which the Property is located, with a copy to LCC or York County, as appropriate, mailed at least thirty (30) days prior to Closing. The required notice shall contain all such information in such format as required by the county assessor of the county in which the Property is located.

22. <u>Limited Joinder of PPL Electric Utilities Corporation</u>. PPL Electric Utilities Corporation is joining as a signatory to this Agreement for the limited purposes of (1) conveying certain properties as part of this transaction that are currently deeded to PPL Electric Utilities Corporation or a predecessor-in-interest of PPL Electric Utilities Corporation, but should have been transferred by deed previously to PPL Holtwood, LCC, and (2) conforming the reserved rights of PPL Electric Utilities Corporation on the Parcels being transferred consistent with the plan provided pursuant to Section 13(c) of this Agreement. PPL Electric Utilities Corporation shall have no obligations or duties pursuant to this Agreement except for the limited purposes set forth herein.

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY BLANK.]

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized officers on the day and year first above written.

ATTEST:

ATTEST:

PPL HOLTWOOD, LLC

Name:	
Title:	

By: ______ Dennis J. Murphy Chief Operating Officer

THE LANCASTER COUNTY CONSERVANCY

Name:			 •
Title: _	,		

By: Ralph Goodno President & CEO

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

By: ___

John Norbeck Director, Bureau of State Parks

For Form & Legality:

DCNR Chief Counsel

Deputy General Counsel PA Office of General Counsel

Deputy Attorney General PA Office of Attorney General

ATTEST:

THE COUNTY OF YORK

Charles R. Noll. Administrator/Chief Clerk Steve Chronister, President York County Board of Commissioners

Christopher B. Reilly, Commissioner

Doug Hoke, Commissioner

Limited Joinder of PPL Electric Utilities Corporation

ATTEST:

PPL ELECTRIC UTILITIES CORPORATION

	•		-
Name:]
Title:		 	,

By:		 	
Name:	•		
Title:			