# A Proposal

***In response to***

## The 2014 PJM RTEP Proposal Window 1

***To Provide Greenfield Project Company Evaluation and Constructability Information for***

## BL England – Lewis 138 kV Line

***By***

## Pepco Holdings, Inc.


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## 1.0 Executive Summary

Pepco Holdings, Inc, owners of Atlantic City Electric (ACE), Delmarva Power (DPL) and Pepco, hereafter referred to as "PHI," submits this proposal in response to the PJM Request for Proposal (RFP) within the 2014 RTEP Project Proposal Window 1. The specific project is a new 138kV alternating current (AC) line originating at ACE's BL England substation located in Ocean City, New Jersey and ending at ACE's Lewis substation in Pleasantville, New Jersey.

PHI offers this greenfield technical solution to address the RTEP criteria violations identified in the generator deliverability and common mode outage procedure within the ACE region and on the following facilities:

- Mill #1 – Lewis #1 138kV
- Scull #1 – Mill #1 138kV
- Scull #2 – Mill #2 138kV
- BL England – Scull #1 138kV
- BL England – Scull #2 138kV
- BL England – Corson/Middle Tap 138kV

The high level cost of the BL England – Lewis 138kV line is estimated at $54,675,400 and the estimated in service date is June 1, 2019. The pre-qualification information submitted by PHI, PJM ID 13-08, reflects PHI's current qualifications to be eligible for Designated Entity status. PHI seeks to be considered the Designated Entity for the construction, ownership, operation, maintenance, and financing of the proposed project.

## 2.0 Company Evaluation Information

### 2.1 Technical and Engineering Qualifications

PHI is uniquely qualified in the planning, siting, engineering, construction, operation and maintenance of substation and transmission facilities. Pepco, DPL and ACE each own and operate a network of wires, substations and other equipment that are classified as transmission facilities. Pepco is engaged in the transmission and distribution of electricity in the District of Columbia and major portions of Prince George's County and Montgomery County in Maryland, and the service territory covers approximately 640 square miles with a population of 2.2 million persons. DPL is engaged in the transmission and distribution of electricity in Delaware and portions of Maryland, and the service territory covers approximately 5,000 square miles with a population of 1.4 million persons. ACE is engaged in the transmission and distribution of electricity in Southern New Jersey, and the service territory covers approximately 2,700 square miles with a population of 1.1 million persons. PHI has in-house Transmission and Substation Engineering, Regional Operations and Maintenance, Project Management, Construction Management, Transmission Planning, Telecommunications, System Operations and Real Estate organizations dedicated to planning, designing, constructing, operating, maintaining and repairing the transmission facilities. PHI also has standing design contracts with numerous national and local engineering and design firms to support the in-house resources during peak periods and when specialized support is necessary. In addition, PHI has in-house and available contracting manpower and equipment to support restoration, including during routine storms and severe events such as Hurricane Sandy where PHI was able to share and allocate its resources among Pepco, DPL and ACE, and other nearby utilities under the various Mutual Assistance programs as needed such as Mid Atlantic Mutual Assistance (MAMA) and Southeast Electric Exchange.

Following is a table that summarizes PHI's capabilities:

**Table 2.1**

| Functions | Pepco | DPL | ACE |
|---|---|---|---|
| NERC Registered Transmission Owner | ✓ | ✓ | ✓ |
| Transmission Planning | ✓ | ✓ | ✓ |
| Transmission Operations | ✓ | ✓ | ✓ |
| - 24X7 Control Center | ✓ | ✓ | ✓ |
| - NERC Certified Operators | ✓ | ✓ | ✓ |
| Substation & Transmission Engineering | ✓ | ✓ | ✓ |
| Substation & Transmission Construction & Maintenance | ✓ | ✓ | ✓ |
| Emergency Response & Restoration | ✓ | ✓ | ✓ |

| | | | |
|---|---|---|---|
| Project Management | ✓ | ✓ | ✓ |
| Real Estate Acquisition | ✓ | ✓ | ✓ |
| Environmental Permitting and Compliance | ✓ | ✓ | ✓ |
| Spare Equipment Program | ✓ | ✓ | ✓ |

Pepco has been a full member of PJM as a Transmission Owner since 1967, DPL and ACE were associate members of PJM since 1965 and both became full members of PJM in 1981. Pepco, DPL and ACE have also been registered as Transmission Owners under NERC since 2007. As a registered Transmission Owner with NERC, some of the tasks that Pepco, DPL and ACE are required to perform include the following:

- Establish ratings of transmission lines
- Install and maintain transmission facilities and rights-of-way according to good utility practice
- Coordinate with Transmission Planners and the Planning Coordinator, Generator Owners, other Transmission Owners, and Load-Serving Entities desiring to connect with the bulk system
- Develop agreements or procedures with Transmission Service Providers
- Develop operating agreements or procedures with the Transmission Operators and Reliability Coordinators
- Develop agreements with adjacent Transmission Owners for joint transmission facilities
- Provide transmission facility ratings to Transmission Operators, Reliability Coordinators, Transmission Service Providers, and Transmission Planners
- Provide construction plans and schedules to the Transmission Operator and Transmission Planner
- Provide maintenance plans and schedules to the Transmission Operator and Transmission Planner
- Develop interconnection agreements with Generation Owners for connecting to the Bulk Electric System

PHI has fully staffed internal Transmission Engineering, Substation Engineering, Project Management, Transmission Planning, Transmission Operations, Transmission and Substation Maintenance, and Real Estate departments to provide all of the necessary design, construction, maintenance and planning to competently maintain and operate the transmission system. PHI also has the necessary consultants and contractors available to augment the internal workforce to successfully manage and complete all capital projects and maintenance tasks necessary.

START OF CONFIDENTIAL SECTION

## 2.2 Assessment and Remedy of Facility Failures

PHI currently addresses and is prepared to address in the future all emergencies and equipment failures on the high voltage transmission system utilizing a variety of solutions depending on the circumstances associated with any particular situation.

PHI's employees, contractors and suppliers are responsive on a 24-7-365 day a year basis and are ready to address all system emergencies that occur. PHI has a robust Incident Management Plan, and all employees are expected to fill second roles during system emergencies with the goal of restoring the transmission system to normal as soon as possible. Incident drills are held on a routine basis. Planning for potential large scale storms and emergencies begins as soon as the weather forecast indicates the potential for an incident.

PHI's internal work force will perform initial response, damage assessment and develop corrective action plans. PHI will execute repairs in the field with the internal work force when the situation is within the capabilities of our internal construction group and their equipment. The internal work force is able to isolate, secure and make safe in response to emergency situations.

PHI also employs on a regular and ongoing basis a significant number of qualified construction contract companies, while they are conducting scheduled construction and maintenance work, are fully prepared to respond immediately to small, medium and large scale emergencies on the system. Among those companies providing support are traditional line construction contractors and specialty services such as helicopter inspection and damage survey, energized bare hand/hot stick services, specialty heavy construction equipment vendors, bridge/matting suppliers, rigging/hauling contractors and cable and termination services. PHI has immediate access to all of these services when they become necessary. Due to PHI's large geographic area, the affiliate companies can share resources and material between the companies when necessary. This allows one company that is not impacted greatly by a storm or disaster to send personnel to the affiliate company that is impacted the most, thus speeding restoration.

PHI also maintains a sufficient stock of standard material across the territory and vendor agreements are in place to be able to support emergency restoration requirements. PHI utilizes existing stock to make permanent repairs and when necessary utilizes the stock to make temporary repairs if circumstances require.

PHI is engaged with industry associations (SEE, EEI, and MAMA) that facilitate and allow for resource and material sharing during extraordinary situations such as regional or national emergencies. For example, in the case of MAMA, PHI works with other utility members to ensure that qualified labor, equipment and material can be rapidly deployed on a scalable response level in the event of an emergency. PHI's participation in MAMA also provides a forum to discuss relevant industry related topics to continue to improve performance.

For several decades, PHI and its affiliates have successfully responded to transmission system emergencies on numerous occasions ranging from miscellaneous hardware replacements to full structure replacements to multiple structure replacements. System damage can be caused by vehicles, storms, vandalism or material failure. Some examples of recent emergency repairs and maintenance to prevent emergency repairs include:

- Replacement of 230KV dual circuit tower damaged by a vehicle accident, Pepco (Chalk Pt., MD.)
- 230KV polymer insulator replacement, DPL (Churchman's Marsh, DE during Hurricane Sandy.)
- 138 KV vertical structure failures when guy wires were damaged, DPL (Hillsboro, MD.)
- 230KV 'H' frame timber replacements at various locations, DPL (Harrington DE.)
- 138 KV steel pole replacements from vehicle accident, DPL (Seaford DE.)
- 69 KV multiple structures down in marsh from severe thunderstorms, ACE (Atlantic City area, NJ.)
- 230KV Polymer replacements on flying dead end structures, Pepco various locations in Maryland.
- 230KV cable failure that was resolved by installation of temporary OH circuit, DPL(Millsboro, DE.)
- 69KV cable replacements, Pepco and ACE various locations
- Various critical hardware replacements identified from inspections, all companies.

PHI and its affiliate companies are fully prepared and staffed to handle all transmission system disruptions that may occur. By employing a combination of internal manpower and materials, and various alliances with contractors and material and equipment suppliers along with regular training, Pepco, DPL and ACE are fully prepared to respond to, assess, and repair any transmission system emergency that may occur.

## 2.3 Acquiring and Managing Rights-of-Way

PHI has a uniquely qualified internal department (Real Property) dedicated to researching, procuring, and further managing company real property assets, to include fee owned properties, transmission and distribution rights-of-way and other miscellaneous excess properties. The Real Property Department is a function of Asset Management organization and works very closely with PHI's Planning and Engineering, Environmental Services and Governmental Affairs departments to either verify existing rights-of-way or acquire new rights-of-way and real property interests necessary to advance pending projects, as well as sustain, modify and improve existing facilities.

PHI's Real Property team currently manages transmission right-of-way assets in Delaware, Maryland, Virginia, New Jersey, and the District of Columbia. These transmission rights-of-way contain approximately 2,500 circuit miles of 115kV, 138kV, 230kV and 500kV transmission circuits. Relative to this right-of-way, varying iterations of property management practices are used to best preserve corridor integrity and maximize complimentary uses, to include; leasing fee simple interests, licensing easement interests, and managing encroachments to ensure compliance with all applicable standards, safety codes and environmental and governmental regulations.

In addition to procurement of new rights-of-way and property for infrastructure facilities, PHI is continually amending, supplementing and generally managing and upgrading land rights that we currently possess. This includes modifying rights at the behest of regulatory and governmental agencies, modifying existing rights due to engineering or maintenance concerns, and modifying rights at the request of businesses and private individuals. PHI's Real Property team is prepared, internally, to support the necessary requirements of PHI's transmission and distribution system, including the acquisition of new rights-of-way and property and the management and enhancement of existing rights-of-way and property.

## 2.4 Project Finance Plan

As demonstrated in the Designated Entity Prequalification Materials, PHI is more than qualified to provide the financing for this project, which will be through a combination of debt and equity at a FERC-approved capital structure.

PHI, an investment-grade company with total assets of $16 billion, maintains the ability to finance the project with any combination of the following: cash, existing credit facilities, external financing sources, and other financing alternatives. PHI's cash position and available credit facilities provide more than adequate liquidity (in excess of $1 billion) for the development, construction, and operation of this project.

## 2.5 Material and Labor Sourcing Plan

This proposal is based on the extensive transmission and substation permitting, engineering, design, construction and sourcing knowledge, experience and working relationships that have been gained from decades of designing and constructing new transmission and substation projects by PHI. The permitting, engineering and construction labor strategy will be to utilize a combination of both internal and qualified external companies to ensure the project is designed, permitted and constructed according to all applicable design and regulatory standards in a timely fashion. As soon as the project is awarded, it is anticipated that bids will be solicited for both the environmental studies and permitting work and the engineering and design work for the substations and transmission lines.

The consultants submitting bids will already be familiar with PHI standards and practices, so this will lead to savings in time and cost.

Established, experienced, and well qualified construction contract labor will be secured for the construction phases of the project. This proposal offers a strategy that captures the opportunity to utilize a variety of discipline specific contractors, with whom PHI has already developed strong collaborative working relationships. Additionally, this proposal offers internal experienced transmission owner labor for supporting project oversight and providing utility coordination with affected planned maintenance and operations activities.

The material procurement and supply strategy will be to utilize recognized, qualified transmission and substation suppliers that PHI has established relationships with, thus ensuring that the material is accurately manufactured and safely delivered at the correct location and on schedule. All material will be competitively bid and will be awarded based on cost and lead time.

## 2.6 Financial Management Plan

As demonstrated in the Designated Entity Prequalification Materials, PHI is more than qualified to provide the financing for this project, which will be through a combination of debt and equity at a FERC-approved capital structure.

PHI is an investment-grade company with total assets of $16 billion, maintains the ability to finance the project with any combination of the following: cash, existing credit facilities, external financing sources, and other financing alternatives. PHI's cash position and available credit facilities provide more than adequate liquidity (in excess of $1 billion) for the development, construction, and operation of this project.

## 3.0 Proposed Project Constructability Information

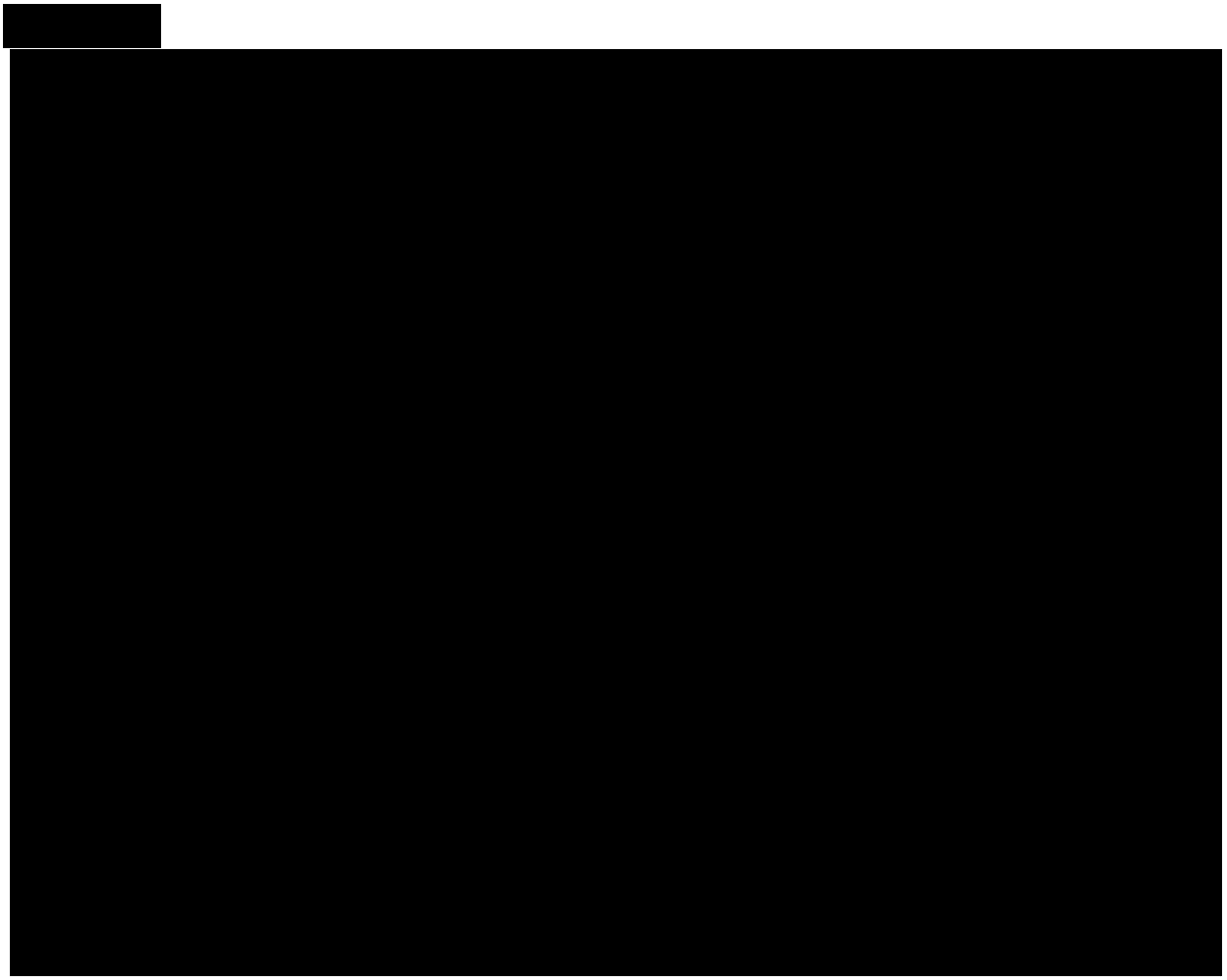
### 3.1 Component Scope

The specific project is a new 138kV line of approximately 16 miles originating at ACE's BL England substation located in Ocean City, New Jersey and ending at ACE's Lewis substation located in Pleasantville, New Jersey.

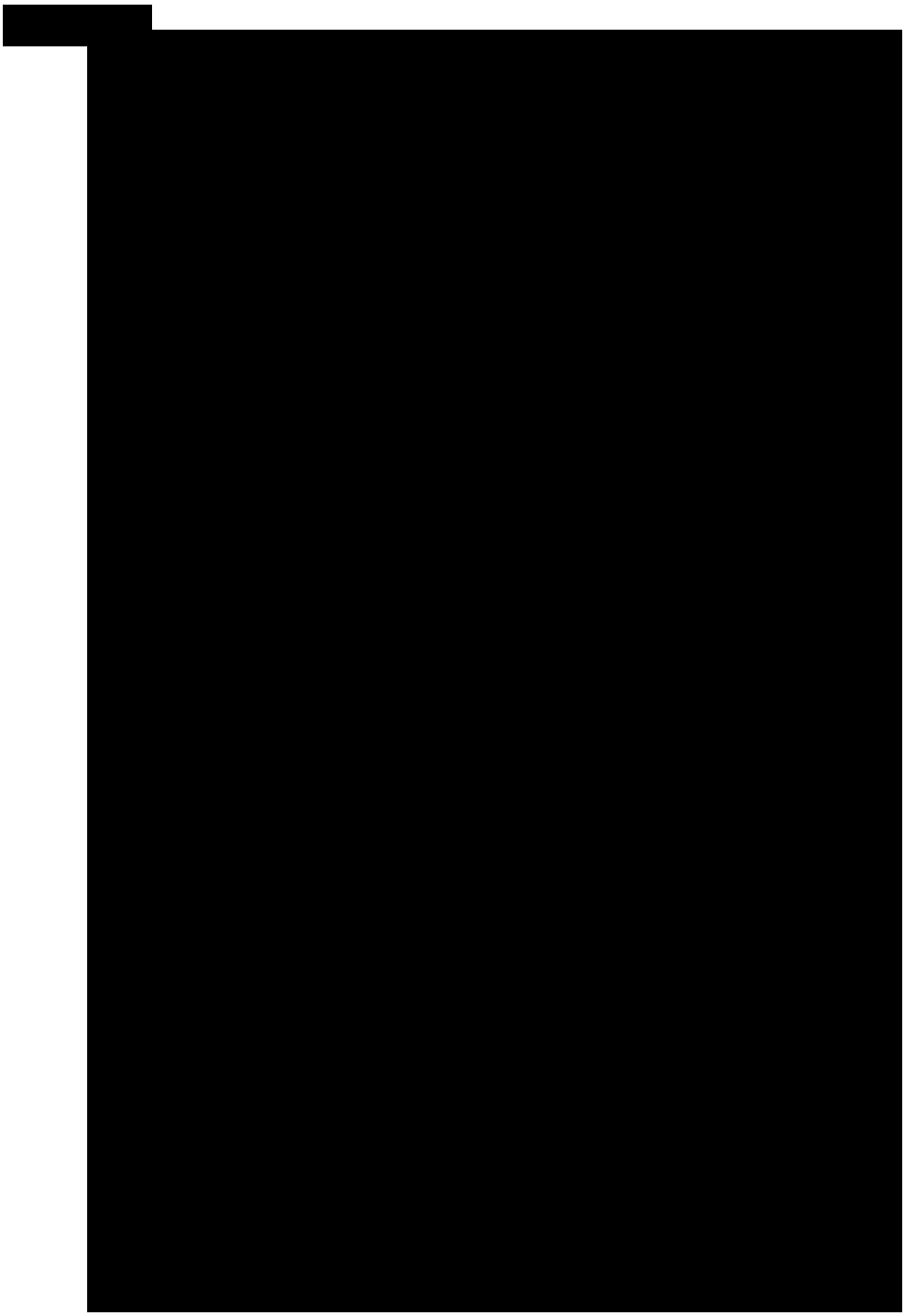
### 3.1.1 Greenfield Transmission Line Element Detail

The terminal points of the proposed transmission line are BL England and Lewis substations. The study area being considered is the portion of Southern New Jersey that lies between BL England substation located near Ocean City, New Jersey to Lewis substation located in Pleasantville, New Jersey.

A broad range in terrain is traversed including coastal areas, Pinelands, tidal and non-tidal wetlands and waterways. PHI would consider the environmental resource impacts in a comprehensive siting study. Below is a consolidated map of sensitive environmental and cultural resources in the study area.



Approximately 14 miles of existing rights-of-way would need to be expanded along the existing BL England – Lewis rights-of-way in order to build the new BL England – Lewis 138kV line. The new line would run parallel to the existing BL England – Scull – Mill – Lewis 138kV lines as demonstrated in Figure 3.2.



The nominal operating voltage of the proposed AC transmission line is 138kV. The table below describes the proposed line's impedance and normal and emergency MVA ratings.

**Table 3.1**

| Impedance | | | Ratings (MVA) | | | |
|---|---|---|---|---|---|---|
| **R (PU)** | **X(PU)** | **B (PU)** | **Summer Normal** | **Summer Emergency** | **Winter Normal** | **Winter Emergency** |
| 0.0026 | 0.028 | 0.0077 | 390 | 482 | 449 | 543 |

The proposed overhead 138kV line will be on single steel poles with an average height of 115 feet, with 1590 ACSR lapwing conductor. The line will be overhead, utilizing single circuit towers.

### 3.1.2 Greenfield Substation/Switchyard Facility Element Detail

The required substation work associated with the proposed project will utilize land in the existing yard and new land. New land is required to expand the substation at BL England; however, there is no new land required at Lewis substation. The relay communications plan for the proposed project includes the existing substations and will follow the current communication structure. Figures 3.3 and 3.4 contain the station one-line diagrams for the proposed project.

[redacted]

### 3.1.3 Transmission Facilities to be Constructed by Others

PHI does not intend for another entity to construct this project.

### 3.1.4 Environmental, Permitting and Land Acquisition

The purpose of this section is to provide a high level overview of the approach PHI will use for siting of a new transmission line. PHI has repeatedly demonstrated capability to effectively execute the below process steps throughout the Company's footprint. PHI will conduct a thorough alternatives analysis in order to select an appropriate transmission route. This analysis will consider key criteria including landowner impacts, environmental impacts, cost, and engineering.

According to the U.S. Army Corps of Engineers (Corps) Section 404(b)(1) Guidelines, 40 C.F.R. § 230.10, "[a]n alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." Additionally, the Guidelines limit the issuance of a permit to a project design representing the least environmentally damaging practicable alternative (LEDPA) that is not contrary to the public interest. It is within these guidelines, PHI examines practical alternatives in determining routes for a new transmission line.

### 3.1.4.1 Route Selection Criteria

PHI will evaluate and consider a wide range of criteria when conducting the alternatives analysis. Generally, these criteria can be discussed in these broad categories.

- Built – evaluates proximity to homes and buildings, takes into consideration land use expansion (development), and cultural and historic resources.
- Environmental – evaluates the impact of each route to a wide variety of environmental criteria, including, but not limited to, wetlands, other sensitive habitat, waterway crossings, protected lands, and forested lands.
- Land ownership – evaluates the ability to obtain rights of way along a particular route, proximity to adjacent land owners, numbers of parcels bisected; land rights restrictions such as conservation easements, and the proximity and use of pre-existing travel corridors such as railways, roadways, and other utility corridors.
- Engineering – evaluate the engineering constraints based on the desired design and voltage needs for each alternative.
- Cost – evaluates based on engineering options the costs to construct, operate, and maintain a route. Costs also consider the costs to permit, mitigate, acquire rights-of-way, and upgrade or design at the terminal points.

PHI will examine routes within the proposed study area (Figure 1). The study area is a reasonable geographic area generally bound by the two substations terminals. Once selected as the Designated Entity, PHI will evaluate alternative routes within the study area based on the criterion discussed above. The alternatives analysis will include the following high level siting steps: Scoping, Data Acquisition, Stakeholder Engagement, Alternative Route Identification, Alternative Route Analysis, Expert Judgment and Route Selection, and Documentation and Reporting.

The consolidated environmental resource map shown above demonstrates some of the resource data available in PHI's GIS system for analysis. Data layers include:

- CAFRA Zone boundaries
- Tidal Wetlands
- Non-tidal Wetlands
- Floodplain
- Pinelands boundaries
- Head of Tide
- Landscape data for specific species habitats
- Cultural resources including National Registry and state historic districts and properties
- Protected lands along with state and federal lands
- Permanent agricultural lands

- Land Use and Land Cover
- Base mapping including topography, street mapping, and aerial mapping

### 3.1.4.2 Permitting Process Overview

The environmental permitting process for PHI projects is often complex and requires input from a number of departments. The permitting process can have a significant impact on project design, construction methods, schedule and cost, as wells as on future operation and maintenance. As such, it is useful to describe the general permitting process in the context of overall project implementation, and the roles of various departments in the process.

Key participants in the overall permitting process include the Project Family Coordinator (PFC), Responsible Engineer/Project Manager, Environmental Planning, Environmental Compliance and Performance Assessment Group (ECPA), Real Estate & Right-of-Way (ROW), Transmission Planning, Engineering, Government Affairs, Corporate Communications, Legal, Forestry, Construction Management/ Field Groups, and System Operations. There are several phases in the overall environmental permitting process including:

- Project Planning
- Project Design
- Project Permitting

Key aspects of each of these phases are described herein.

### 3.1.4.3 Project Planning

Once PHI is selected as the Designated Entity, Environmental Planning will develop maps showing the proposed route and alternatives, as well as associated environmental data (e.g., wetlands, threatened & endangered species, water ways, etc.), if available. Environmental Planning completes an initial study including, site visits and a review of GIS data to evaluate potential environmental issues and permit needs for the project and alternatives.

Engineering evaluates alternatives from an engineering design, reliability and cost perspective. Real Estate and ROW evaluate land acquisition and/or easement status and needs. Others including Forestry and Construction Management also evaluate project relative to their areas of responsibility and provide input to all aspects of the planning process.

When notified of a project, Environmental Planning collects relevant project information including project purpose and need, in service date, internal order numbers, schedules, budget, etc., as appropriate, Government Affairs/Corporate Communications may meet with local officials to get an early read on potential concerns, including public opposition. After gathering initial

information, a determination can be made as to whether the project must be approved through any regulatory agencies (i.e., the Board of Public Utilities (BPU)) or locally. Once Environmental Planning has acquired the appropriate level of information a permit matrix is developed and Environmental Planning will identify potential mitigation needs including a preliminary schedule for permit application preparation and approval process. Early identification of permit requirements and preliminary schedule are critical given the significant impact permitting can have on route selection, design, construction schedule, and in-service dates. It may be necessary to modify the preferred route, site or project design or construction method to reduce or eliminate environmental impacts, as well as, permit requirements or potential obstacles to meet the target in-service dates.

The culmination of the planning process is the selection of a preferred route or site which meets objectives of cost, system needs while considering community concerns.

### 3.1.4.4 Project Design

Process design begins once the route/site has been selected and in-service dates have been established. Engineering and/or Environmental Planning proceeds with site survey, base mapping and preliminary layout design. During this same period, Environmental Planning completes agency consultation and begins environmental studies (e.g., threatened and endangered (T&E) species, cultural resources and wetland delineation). Real Estate makes contact with local agencies (Zoning & Planning Boards,) and begins the process of acquiring new/additional land, ROW, construction lay down areas and/or owner access agreements.

Environmental Planning will make an impact assessment using the preliminary design information and results of the environmental studies. Environmental Planning identifies issues that may significantly increase project cost, permit requirements, permit timeline, or potential construction restrictions. As appropriate, Environmental Planning updates permitting needs and schedule, and will work with Engineering to determine if changes in route or project design are warranted to minimize impacts.

Additional field studies are completed as necessary based on changes in route or site. Environmental Planning will also identify likely mitigation requirements, and Real Estate may identify potential sites for mitigation projects.

Pre-application meeting with environmental agencies may occur during this time period for larger, more complex projects. However, smaller, less complex projects may not require a pre-application meeting. Environmental Planning is evaluating the projects impacts based on construction activities (land disturbing activities) and documenting avoidance and minimization measures.

During this same period, Legal determines if BPU approvals are needed, as will be the case for the new Lewis – BL England 138kV line. In addition, Government Affairs/Corporate Communications continues to meet with local officials. At the end of this phase, Systems Operation schedules preliminary outage.

### 3.1.4.5 Project Permitting

The permitting process includes Federal and state environmental permitting, local/municipal permitting, as well as the BPU, as identified in the table below.

The first step in the permitting phase of the project, is finalizing layout and design, ROW, construction lay down areas, land acquisition, site plans, access and construction methods. Using this final design information, Environmental Planning finalizes permit application packages. It is possible, that minor adjustments in design may be requested by agencies. Environmental Planning files applications with the appropriate agencies and public notifications are completed and the state and federal environmental agency review process begins. Agencies may request additional information, route, design or construction modifications, as well as, additional environmental studies. The timeframe for review varies considerably by agency and permit type. Some have regulatory timeframes for the review process, although these are often extended as agencies request additional information. However, some agencies are not required to review the permits within any specified timeframe.

Filings of all Federal, state and local permit applications occur during this time period. The New Jersey BPU filings also occur during this phase.

## 3.2 Project Component Cost Estimates

Table 3.2 below illustrates cost estimates for key elements of the proposed project:

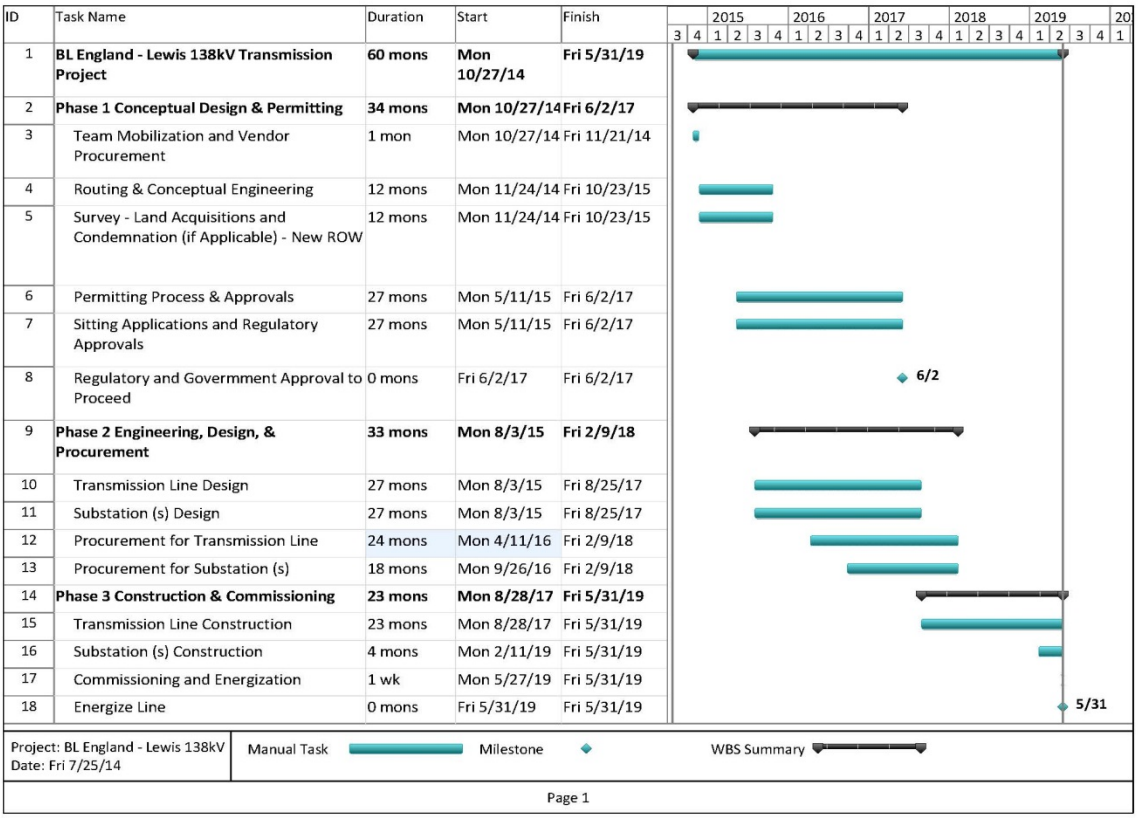
**Table 3.2**

| | BL England - Lewis 138kV line | BL England Substation | Lewis Substation |
|---|---|---|---|
| Engineering and Design Costs | $326,400 | $444,000 | $336,000 |
| Material and Equipment Costs | $9,808,000 | $1,697,000 | $494,000 |
| Construction and Commissioning Costs & Construction Management Costs | $16,816,000 | $1,315,000 | $698,000 |
| Rights-of-Way Land Procurement Costs | $4,672,000 | $180,000 | |
| Permitting Costs | $10,272,000 | $200,000 | |
| Contingency | $4,672,000 | $864,000 | $382,000 |
| Other Cost Adders (i.e. Corporate Overhead) | $750,000 | $519,000 | $230,000 |
| Total Cost | $47,316,400 | $5,219,000 | $2,140,000 |
| **Total Project Cost** | **$54,675,400** | | |

## 3.3 Schedule

Table 3.3 below illustrates the schedule estimate for key phases of the proposed project:

### Table 3.3



| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | **BL England - Lewis 138kV Transmission Project** | **60 mons** | **Mon 10/27/14** | **Fri 5/31/19** |
| 2 | **Phase 1 Conceptual Design & Permitting** | **34 mons** | **Mon 10/27/14** | **Fri 6/2/17** |
| 3 | Team Mobilization and Vendor Procurement | 1 mon | Mon 10/27/14 | Fri 11/21/14 |
| 4 | Routing & Conceptual Engineering | 12 mons | Mon 11/24/14 | Fri 10/23/15 |
| 5 | Survey - Land Acquisitions and Condemnation (if Applicable) - New ROW | 12 mons | Mon 11/24/14 | Fri 10/23/15 |
| 6 | Permitting Process & Approvals | 27 mons | Mon 5/11/15 | Fri 6/2/17 |
| 7 | Sitting Applications and Regulatory Approvals | 27 mons | Mon 5/11/15 | Fri 6/2/17 |
| 8 | Regulatory and Govermment Approval to Proceed | 0 mons | Fri 6/2/17 | Fri 6/2/17 |
| 9 | **Phase 2 Engineering, Design, & Procurement** | **33 mons** | **Mon 8/3/15** | **Fri 2/9/18** |
| 10 | Transmission Line Design | 27 mons | Mon 8/3/15 | Fri 8/25/17 |
| 11 | Substation (s) Design | 27 mons | Mon 8/3/15 | Fri 8/25/17 |
| 12 | Procurement for Transmission Line | 24 mons | Mon 4/11/16 | Fri 2/9/18 |
| 13 | Procurement for Substation (s) | 18 mons | Mon 9/26/16 | Fri 2/9/18 |
| 14 | **Phase 3 Construction & Commissioning** | **23 mons** | **Mon 8/28/17** | **Fri 5/31/19** |
| 15 | Transmission Line Construction | 23 mons | Mon 8/28/17 | Fri 5/31/19 |
| 16 | Substation (s) Construction | 4 mons | Mon 2/11/19 | Fri 5/31/19 |
| 17 | Commissioning and Energization | 1 wk | Mon 5/27/19 | Fri 5/31/19 |
| 18 | Energize Line | 0 mons | Fri 5/31/19 | Fri 5/31/19 |



# END OF CONFIDENTIAL SECTION

## 3.4 Ongoing Transmission Facility Items

### 3.4.1 Operational Plan

PHI has registered memberships with Reliability First Corporation and is considered a Transmission Owner within the PJM Regional Transmission Organization. PHI operates control centers in the States Maryland, Delaware and New Jersey. All operating public utility companies have fully functional 24/7 control rooms staffed with system operators who maintain both PJM and NERC certification.

All operating public utility companies also have fully functional back-up control centers in the event the primary locations must be evacuated. SCADA control and alarm monitoring of each company's Transmission Substations and Transmission Lines is provided by state-of-the-art Energy Management System. In addition, advanced applications available in the Energy Management Systems allow for monitoring of and controlling to System Operating Limits (SOL) as required by the NERC operating standards. Each company's control room personnel with oversight of their field organizations provide monitoring, control, testing, construction and maintenance of all transmission facilities. Each company's control room maintains and administers a state-of-the-art OSHA compliant lock out-tag out system to ensure the safety of workers and the public.

### 3.4.2 Maintenance Plan

PHI has owned, operated and maintained thousands of miles of 138kV circuits and thousands of miles of other transmission voltage circuits for decades. Maintenance on these lines is performed by both experienced in-house overhead transmission crews and experienced contract crews operated under the direction of in-house personnel. In addition, PHI has constructed, operated and maintained existing 138kV lines in the same rights-of-way as the proposed new 138kV line since 1960.

PHI implements comprehensive preventative maintenance programs that meet all regulatory and industry standards. In addition, PHI utilizes a Reliability Centered Maintenance Program that identifies inspections that are to be performed with targeted inspection cycles. The inspections and the inspection cycles are tracked electronically to enable reporting to regulatory agencies. Internal orders are created for the inspection and maintenance within PHI's accounting system to provide a historical log of the inspected asset. Actual reports are then saved an archived to provide both internal and regulatory reports as required.

The types of inspections performed by PHI includes annual flyby inspections, comprehensive inspections at least every five years, warning lighting inspections where necessary, infrared inspections, grounding inspections, wood pole

inspections where necessary and foundation inspections as needed. In addition, separate inspections are made to manage the vegetation on the rights-of-way. Vegetation management is a combination of cutting, mowing, herbicide treatment and selective growth. Inspection is a combination of ground and aerial inspections.

As far as corrective and emergency maintenance is concerned, PHI maintains in-house and contract crews, equipment and material to quickly restore transmission and substation facilities 24 hours a day, seven days a week. PHI currently has safety stock material including structures, conductor and hardware that can be easily transported for restoration. Finally, PHI maintains alliances with outside contractors and other utilities for personnel and material to allow quick restoration in the event of an outage.

## 3.5 Assumptions

PHI made the following assumptions in the preparation of this proposal:

- If PHI is appointed as the Designated Entity to construct the proposed BL England – Lewis 138kV line, the anticipated in-service date is June 1, 2019.
- High level estimates were provided for this Greenfield project. More detailed estimates will be provided upon project award.
- PHI recognizes that unforeseen issues or problems can occur, such as regulatory, environmental, permitting, etc., which are not within the control of the PHI and have the potential to affect the project cost and schedule. PHI has the knowledge and experience to mitigate and overcome such issues, as has been proven on numerous transmission construction projects in the past.

## 4.0 Project Sponsor

### 4.1 Project Sponsor Information

**Pepco Holdings Incorporation**
Corporate Headquarters
701 Ninth Street, N.W.
Washington, D.C. 20068
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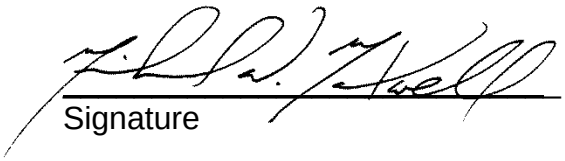
www.pepcoholdings.com

The following party serves as the executive representative on this project.

**Executive Representative:**



Signature

Michael Maxwell
Printed Name

Vice President, Asset Management
Title

### 4.2 Project Contact Information

The following party is responsible for the contents of the project proposal:

**PHI Project Lead**
Jaclyn Cantler
Printed Name

Manager Transmission Planning
Title

Contact Information:
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302-283-6119 (Office)
302-853-0671 (Cell)