Board of Public Utilities
Offshore Wind Transmission Proposal Data Collection Form

Supplemental Information Requested to Support New Jersey Board of Public Utilities (BPU) in the Evaluation of Transmission Projects Proposed to be Developed Under the 2021 State Agreement Approach (SAA)

Document Date and Revision: August 31, 2021, Revision 3

Document Purpose: Bidders proposing to develop a transmission project to support the integration of offshore wind within the state of New Jersey's 2021 State Agreement Approach competitive solicitation must complete this form as one component of the bid submission. This document provides bidders guidance on criteria that will be used to evaluate alternative transmission proposals, collects information necessary for the BPU to evaluate proposed projects, and allows bidders to describe benefits to New Jersey residents and ratepayers.

Submission Instructions: PJM Competitive Planning Process

Submission Due Date: August 13, 2021

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Board of Public Utilities
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SAA Policy Objectives

New Jersey is seeking transmission solutions capable of cost-effectively integrating into the PJM transmission system up to 7,500 MW of offshore wind by 2035. The BPU is undergoing a State Agreement Approach (SAA) process with PJM to receive, evaluate, and select proposals from transmission developers for building out the transmission capability necessary to cost-effectively and reliably interconnect the offshore wind resources. An overview of the process and the PJM Problem Statements that provide additional details on the PJM criteria and transmission upgrades necessary for meeting NJ's offshore wind objectives are available on the PJM Competitive Planning Process page.

As outlined in the Proposal Window Overview document, specific evaluation criteria for proposed solutions to meet the New Jersey public policy requirements under this State Agreement Approach include:

- *PJM system reliability* – ability to provide a solution to the needs defined in the problem statements, additional needs identified by the proposing entities, or the needs associated with alternative POIs and to resolve potential reliability criteria violations on PJM facilities in accordance with all applicable planning criteria (PJM, NERC, SERC, RFC, and Local Transmission Owner criteria), including the solution's ability to (a) resolve identified PJM reliability violations and satisfy any applicable criteria that may impact the performance measurement of the project even if it was not explicitly stated as part of the original problem statement; and (b) reduce the need for must-run generation and special operating procedures, extreme weather outages and weather-related multiple unforced outages, reduced probability of common mode outages due to electrical and non-electrical causes, islanding, power quality degradation.
- *Project constructability* – the extent to which the proposal identifies, addresses, and mitigates (through technical studies and documentation of experience with similar solutions elsewhere) the financing, constructability, execution, technology, environmental, and permitting challenges of the proposed solution, including the need for construction- or other-related outages on related transmission facilities.
- *Project costs* – total cost of proposed solutions and individual elements (partial solutions); quality of proposed innovative cost control approaches (such as phased-in development of project segments, capped project costs or capped revenue requirements, and cost recovery for excess or unused capacity) or levelized cost recovery options (such as trended original costs, which may improve the intergenerational equity of cost recovery); financial commitments regarding rate of return, specific provisions to protect against cost overruns, or other comparable provisions designed to control costs.
- *Project risk mitigation* – ability of the proposed solution to mitigate environmental, permitting, financing, constructability, timing, project-on-project (including the use of financial assurance mechanisms, guaranteed in-service dates or financial commitments contingent on meeting targeted commercial online dates, and delay damage payment provisions), and any other risks that could

increase costs, reduce value, or delay the development and delivery of offshore wind generation for New Jersey.

- *Environmental benefits* – ability of the proposed solution to minimize potential environmental impacts; minimize impacts to marine, nearshore, and onshore habitats, listed species, cultural resources, air (emissions) including potential benefits, water quality, noise, aesthetics, tourism, and navigation; minimize impacts related to fisheries resources and the fishing community and industry.
- *Permitting plan* – ability of the proposed solution to minimize permitting risks, including plan for and likelihood of achieving all State and Federal necessary regulatory agency approvals, permits, or other authorizations; likelihood of meeting projected commercial operation dates, operation and maintenance plans, site control or ability to achieve site control, constructability, project longevity, and project schedule.
- *Quality of proposal and developer experience* – quality of project documentation and proposal description, discussion of commitments and benefits, and supporting analyses and benefits quantifications (including documentation of assumptions and analyses, if any); documentation of developer experience relevant to the successful implementation of the proposed solution.
- *Flexibility, modularity, and option value of solutions* – ability of project proposals to achieve efficient outcomes through combinations of solutions for Options 1a, 1b, 2 and 3 needs, or ways in which proposed solutions, or portions of proposed solutions, can be combined, integrated, and sequenced to more cost effectively achieve the State's overall public policy and risk mitigation objectives; ability of the proposed solution to accommodate future increases in offshore wind generation above current plans; innovative solutions that yield a transmission investment schedule that is optimally aligned with the planned schedule of offshore wind generation procurements.
- *Market value of offshore wind generation* – ability of the proposed solution to maximize the energy, capacity and Renewable Energy Credit (REC) values of offshore wind generation delivered to the chosen POIs, including mitigation of curtailment risks, and the level and sustainability of PJM capacity, congestion, or other rights created by the proposed solution that increase the delivered value of the wind generation or otherwise reduce the total cost of the proposal.
- *Additional New Jersey benefits* – ability of proposed solutions and associated upgrades to provide additional onshore-grid-related benefits, resolve PJM market congestion, and/or otherwise reduce or avoid PJM-related costs and improve PJM market performance; this includes (a) energy market benefits, including energy deliverability of offshore wind production or curtailment, production cost savings, or other benefits; (b) identification of benefits to the transmission system, including synergies with transmission solutions from already-ongoing procurements, opportunistic replacement of aging transmission infrastructure, the creation of valuable transmission-related rights, and other transmission cost savings; (c) capacity market benefits (including CETL increases), improve resiliency/redundancy, avoid future costs (such as future reliability upgrades or aging facilities replacements); (d) other benefits, including state energy sufficiency, improvements in local transmission and distribution outage statistics, reduced utilization of aging infrastructure, improvements in local resiliency.

To submit a proposal to achieve the objectives of this process, transmission developers must submit all of the information requested by PJM through its transmission planning process. Developers can find those materials at PJM's website on the PJM Competitive Planning Process page.

In addition, the New Jersey BPU requests that developers submit additional information concerning their projects that will aid the BPU in evaluating and selecting the projects that best meet New Jersey's needs based on the criteria outlined above.

Project Proposal Identification

Proposing Entities shall include the following information in the BPU Supplemental Offshore Wind Transmission Proposal Data Collection Form:

Proposing Entity Name: **Atlantic City Electric Company ("Atlantic City" or "ACE")**
Company ID: **01**
Project Title: **ACE 01**
PJM Proposal ID: **2021-NJOSW-975**

Project Summary

In addition to the project details requested by PJM, please provide below a narrative description of the proposed project(s) and options; document the projected benefits in terms of design, flexibility, ratepayer costs, and environmental impacts; identify major risks of (such as delay or non-completion risks, including the project-on-project risks created by the interdependence of the proposed project(s) and those of other transmission and offshore wind projects); provide strategies to limit risks to NJ customers; and include cost recovery and containment provisions.

NARRATIVE DESCRIPTION OF PROPOSED PROJECT(S)

Provide a narrative description of the project(s) proposed in response to the PJM Problem Statements describing primary technical features, interconnection points (default or alternative POIs) and the associated transfer capability, timeframe for development, and how the project(s) will support New Jersey's policy to cost-effectively develop 7,500 MW of offshore wind.

Atlantic City Electric Company ("Atlantic City" or "ACE"), along with the other Exelon companies[1], prepared this comprehensive solution consisting of a series of system improvements in response to the 2021 State Agreement Approach ("SAA") Proposal Window to Support New Jersey ("NJ") Offshore Wind ("OSW"). prepared this comprehensive solution consisting of a series of system improvements in response to the 2021 State Agreement Approach ("SAA") Proposal Window to Support New Jersey ("NJ") Offshore Wind ("OSW"). ACE intends to be the Designated Entity for this proposed comprehensive solution, referred to as ACE 05. The components identified to address the PECO and BGE upgrades would be assigned to PECO and BGE while all other identified upgrades would be assigned to the Transmission Owners that own those assets. These PECO, BGE and other TO upgrades are not necessarily integrated with this proposal if New Jersey decides not to sponsor upgrades in other states. This solution will aid New Jersey in its goal to meet 7,500MW of OSW by 2035. Additionally, this proposal conforms to the PJM SAA base case injection total of 7,648MW.

A General Arrangement and one-line for [redacted] is provided in Attachment ACE-1. [redacted]

[redacted] three additional solutions on [redacted] are also proposed. The following four solutions for [redacted] are required:

- [redacted]
- [redacted]
- [redacted]
- [redacted]

[1] The Exelon family of companies are: ACE – Atlantic City Electric Company, BGE – Baltimore Gas and Electric Company, ComEd – Commonwealth Edison Company, DPL – Delmarva Power & Light Company, PECO – PECO Energy Company, Pepco – Potomac Electric Power Company.

The proposed solution also includes two PECO upgrades if New Jersey elects to mitigate these via the State Agreement Approach:

- [redacted]

The proposed solution requires several other upgrades to facilities outside of Exelon's companies' service territory. In total, there are a total of [redacted] network violations identified with the proposal. The [redacted] ACE network violations and the [redacted] PECO network violations are addressed with the components listed above. The remaining violations are outside of ACE's service territory and should be assigned to the respective transmission owners. Please see Attachment ACE-2-Network Violations for a complete list of the identified Network Violations.

The project will support New Jersey's effort to meet its offshore wind goals by enabling 1,510MW of offshore wind to reach the Cardiff substation in Atlantic County, NJ. ACE is confident that this proposal will result in a cost-efficient, reliable, safe, environmentally optimal transmission solution that will serve PJM and New Jersey for many years to come.

The Overview of Project Costs, Cost Containment Provisions, and Cost Recovery Proposals section will address the cost in more detail, but the total cost for the ACE assets is approximately [redacted]. The total 1A costs, inclusive of the ACE work, is approximately [redacted] (non-Exelon upgrade costs were pulled from previous PJM Interconnection Queue Projects for comparison). Detailed cost breakdowns and cashflows for Exelon's network upgrades are provided in Attachment ACE-3.

New Jersey ultimately pays for the entire cost of offshore wind that it intends to interconnect to the grid. Network upgrade costs alone do not represent the full cost that New Jersey must pay to interconnect offshore wind. The transmission to connect the offshore wind from the ocean to the onshore points of interconnection represent a significant portion of the total cost to bring offshore wind to New Jersey. The two active offshore wind Bureau of Ocean Energy Management ("BOEM") lease sites off the coast of Atlantic City, OCS-A 0498 and OCS-A 0499, are geographically aligned and in proximity to southern New Jersey. Injecting all the

potential OSW energy and capacity from these lease sites into southern New Jersey is a better option than building costly long transmission lines into northern New Jersey. Although, the base case, supports New Jersey's effort to meet its offshore wind goals, ACE requests that it consider its alternative proposals PJM Proposal ID: 2021-NJOSW-127 & 2021-NJOSW-929 that result in a much more cost-efficient, reliable, safe, environmentally optimal transmission solution that will serve PJM and New Jersey for many years to come, over the NJ OSW SAA Base Case.

PROJECT OPTIONALITY, FLEXIBILITY, AND MODULARITY

Describe the optionality, flexibility, and modularity offered by the proposed projects, including: ability of project proposals to achieve efficient outcomes through combinations of solutions for Options 1a, 1b, 2 and 3 needs, or ways in which proposed solutions, or portions of proposed solutions, can be combined, integrated, and sequenced to more cost effectively achieve the State's overall public policy and risk mitigation objectives; ability of the proposed solution to accommodate future increases in offshore wind generation above current plans; innovative solutions that yield a transmission investment schedule that is optimally aligned with the planned schedule of offshore wind generation procurements

The ACE 01 solution for the NJ OSW SAA Base Case is a standalone proposal; it allows for interconnection and injection of 1,510MW at Cardiff that was awarded as part of the state of New Jersey's June 2021 Offshore Wind Renewable Energy Credit ("OREC") award Soliciation#2 to Atlantic Shores Offshore Wind, LLC ("ASOW"). ACE will complete all upgrades that will allow for the 1,510MW to Cardiff by 2027. This schedule is meant to accommodate the ASOW project based on the ASOW's estimated schedule. Through that OREC award, ASOW is responsible for bringing the offshore wind energy to Cardiff. The ACE 01 proposal would then resolve the network upgrade issues and connection at Cardiff.

INTERDEPENDENCY OF OPTIONS

Describe any interdependence issues or benefits associated with any other proposal also submitted by your company. Namely, describe whether selection of another specific proposal will impact this proposal, and if so – how. Describe whether your project is severable, and the conditions that would be associated with selection of this single proposal (i.e. one option 1b proposal for one POI). Describe any benefits to cost, cost-containment mechanisms, phasing, or other relevant elements of the proposal that would stem from co-selection of other proposals. Explain any benefits from selection of multiple proposals that may not be available if a single proposal is selected.

The ACE 01 Solution is a standalone proposal; allows for interconnection and injection of 1,510MWs at Cardiff that was awarded as part of Soliciation#2 to ASOW.

[redacted]

OVERVIEW OF PROJECT BENEFITS

Describe the benefits that the project offers in support of New Jersey's policy goals to reduce customer costs, advance offshore wind, maintain reliability, mitigate environmental impacts, and achieve other policy goals as outlined above. Explain how any project options or alternatives offered may create value in furtherance of the BPU's stated policy goals as described above.

ACE intends to design and develop the project in the most reliable, safe, and environmentally optimal fashion. ACE has served southern New Jersey for almost a century and has built and maintained transmission facilities for the benefit of the communities it serves. ACE does not view projects from a private equity perspective but rather a focus on customer service and does not chase cost at the expense of reliability and safety. ACE is a part of the fabric of the communities that it serves. ACE employees respond to emergent events on behalf of our customers and serve our communities. Employees and their families have grown up in these communities and still live in these same communities. We see a benefit to having a member of the community build the project to serve the community.

Foremost, this solution will meet all ACE and PJM Transmission Line and Substation criteria. Where ACE criteria is more stringent than the PJM criteria, the ACE criteria will be utilized. [redacted] mitigates cost overruns and avoids the burden and challenge of constructing transmission lines in new corridors. Visual impact is also minimized since new or modified transmission facilities are added in property that already contains similar transmission facilities. [redacted]

The proposed project also supports New Jersey's public policy goals. The project intends to help implement New Jersey's goal of 7,500MW of OSW by 2035. [redacted].

OVERVIEW OF MAJOR RISKS AND STRATEGIES TO LIMIT RISKS

Identify and describe project-related risks, such as: (a) uncertainties that may cause timeline delays or budget increases; (b) uncertainties that may reduce or delay the benefits to New Jersey customers; and (c) project-on-project risks that may exist between this project and other transmission or offshore wind projects. Describe the strategies that will be utilized to limit these risks and the impacts to New Jersey customers.

Risk Register (Attachment ACE-4) identifies the major risks associated with the project, describes the event that may occur, the consequences of the event, the likelihood of occurrence, the cost/schedule impact, the handling strategy, and the ACE mitigation plan. ACE is in the pre-engineering and early conceptual development phase of this project. At this juncture, we believe that the major risks associated with a timely completion of the project are:

- Permitting
- Environmental
- Engineering

ACE realizes that this is a public policy driven project whose cost will likely be allocated to New Jersey customers and ACE is highly sensitive to risks that can increase capital costs to our customers. [redacted]

Given ACE's vast experience building transmission in New Jersey, ACE plans to assemble a comprehensive, internal multi-disciplinary team, including contractors with significant experience in the region, to identify and capture all the risks. Examples of these risks include: pricing volatility and availability of raw material and labor, constructability, redesign and design changes based on field conditions, and schedule delays. Upon selection, ACE will engage in detailed development activities intended to minimize each risk. [redacted] We have engaged with the NJ DEP and had a pre-filing meeting on September 14, 2021. During our pre-filing meeting, DEP staff noted the following:

- [redacted]
- [redacted]
- The DEP would like to avoid tree clearing and impacts to Green Acres and wetlands; if avoidance is not possible, mitigation will be required. [redacted]
- There seems to be no impact to coastal areas and US Army Corps of Engineers may not be needed unless there are river crossings.
- There seems to be no impact to fisheries as none of our routes start offshore.
- DEP staff would like to be kept in the loop as we progress and develop the proposed projects.

ACE also anticipates encountering risks associated with social dynamics. These risks include opposition by and impact to communities and stakeholders on a local and regional level. ACE will attempt to mitigate these concerns by developing public awareness, public and political support, local community support, and methods of feedback for stakeholders and members of the community.

Project-on-project risk is also a risk that projects may encounter. We are aware of the difficulties that offshore wind developers have recently expressed and the associated delays with multiple offshore wind farms. It is possible that offshore wind developers will continue to encounter delays to the point where the transmission for offshore wind is built but the generation is not ready. Conversely, we know that project-on-project risk can work the other way. For this reason, ACE, as the most experienced transmission developer in southern New Jersey, provides New Jersey customers with the best opportunity to build the transmission facilities needed to interconnect offshore wind on time and on budget. The ability for ACE to build the project at an existing ACE site is a significant benefit and will mitigate the biggest risk that most transmission developers encounter.

OVERVIEW OF PROJECT COSTS, COST CONTAINMENT PROVISIONS, AND COST RECOVERY PROPOSALS

Summarize the project cost, any cost containment provisions that will be utilized to limit cost impacts on New Jersey customers, and the cost recovery approach.

The total 1A project cost is estimated at [redacted], resolves the [redacted] identified network violations and reconfigures Cardiff to BAAH. Please see Attachment ACE-2 Network Violations for a list of all the violations and the assumed cost to resolve each violation. The [redacted] are estimated at approximately [redacted], and the non-ACE owned facilities are estimated at approximately [redacted]. A detailed breakdown of the ACE [redacted] and [redacted] is contained in Attachment ACE-3 Cost Breakdowns and Cashflows and a detail schedule of project costs is provided in Attachment ACE-5 Project Schedule. The [redacted] for the network upgrade on existing transmission facilities not owned by ACE should be assigned to the owner of those facilities. Our estimate for the cost to address these non-ACE and non-PECO violations come from PJM's interconnection queue studies.

ACE is proposing to utilize standard regulated cost recovery and will incorporate these assets into its existing transmission formula rate through its annual capital addition process. PECO would propose to do the same. The ACE proposal does not include any cost containment provisions; however, ACE is sensitive to New Jersey ratepayer costs and is actively seeking to minimize the risk of cost overruns on the project.

Long life-cycle projects, like the one proposed here, are vulnerable to cost overruns not only by way of construction, routing, and environmental costs, but also in the current day via public response and activism. Central to cost containment process is a robust public engagement program that is involved over the entire life cycle of the project. The focus is to build an adaptive and responsive eco-system that ensures that community issues are addressed timely and that as ratepayers they become a valued part of the project success. The key elements of this approach are:

- Dynamic modeling and iterative feedback
- Community engagement
- Information feedback tools
- Training of on the ground personnel
- Mobile first responder teams
- Community investment

Cost containment is based on an integrated architecture the pulls from analysis, engagement, training, and investment. It is forged on being proactive and transparent while providing tangible benefit to the local communities. What results is a project that can meet its cost and time targets while forging relationships with the communities that are enduring.

For the cost estimates, please see note the following assumptions and clarifications:

[redacted]

Proposal Benefits

The PJM submission form provides space to identify the reliability criteria violations that the solution resolves and the Market Efficiency flowgate(s) the proposed project mitigates. We provide an opportunity here to identify additional information concerning the benefits of the proposed project.

- **Reliability Benefits:**
  - Please explain the proposed project's ability to satisfy any applicable reliability criteria that may impact the evaluation of the project even if it was not explicitly stated as part of the original problem statement.

This solution meets all ACE and PJM RTEP criteria. Upon completion, the project will be subject to the North American Electric Reliability Corporation ("NERC") reliability standards and turned over to PJM. ACE, the Designated Entity that will own the proposed ACE facilities is already registered with NERC as a Transmission Owner and will operate and maintain the transmission solutions in a manner that is consistent with good utility practice and applicable reliability criteria for the life of the project.

- Please explain the proposed project's ability to provide additional benefits associated with reliability criteria, including reduce the need for must-run generation and special operating procedures, extreme weather outages and weather-related multiple unforced outages, reduced probability of common mode outages due to electrical and non-electrical causes, islanding, power quality degradation.

[redacted]

- **Public Policy Benefits:**
  - Please explain the proposed project's ability to maximize the energy, capacity, and REC values of offshore wind generation delivered to the chosen POIs, including reduce total costs of the offshore wind generation facilities (including generator leads to the offshore substations), mitigation of curtailment risks, and the level and sustainability of PJM capacity, congestion, or other rights created by the proposed solution that increase the delivered value of the wind generation or provide other benefits.

    The proposed solution was designed to meet the energy and capacity specifications that PJM provided for Solicitation #2.

  - Please explain the proposed project's ability to accommodate future increases in offshore wind generation above current plans.

    [redacted]

- **Market Efficiency Benefits:**

- Please explain for each item below the proposed project's ability to provide additional onshore-grid-related benefits that improve PJM market performance and provide New Jersey ratepayer cost savings.

  - Energy market benefits, such as ratepayer cost savings (the primary evaluation metric); production cost savings; or other benefits:

  Transmission system benefits, such as synergies with transmission facilities associated with ongoing OSW procurements, replacement of aging transmission infrastructure, and other transmission cost savings to New Jersey customers:

Project Scenario	Demand Cost ($M)	Production Cost ($M)	ATC LMP ($/MWh)
ACE 01	[redacted]	[redacted]	[redacted]

[redacted]

Capacity market benefits, that may give rise to New Jersey ratepayer cost savings (which is the primary evaluation metric), including through CETL increases, improved resiliency/redundancy, avoided future costs (such as future reliability upgrades or aging facilities replacements):

ACE does not expect there to be CETL benefits from these upgrades but as mentioned, the ability to close the open bus tie breakers at Cardiff should provide New Jersey with resiliency and redundancy benefits as it allows power to be re-routed during abnormal conditions.

Other benefits, including State energy sufficiency, reduced emissions, less dependence on fossil-based thermal resources, improvements in local transmission and distribution outages, improvements in local resiliency:

Project Scenario	CO2 (Million Short Tons)
ACE 01	[redacted]

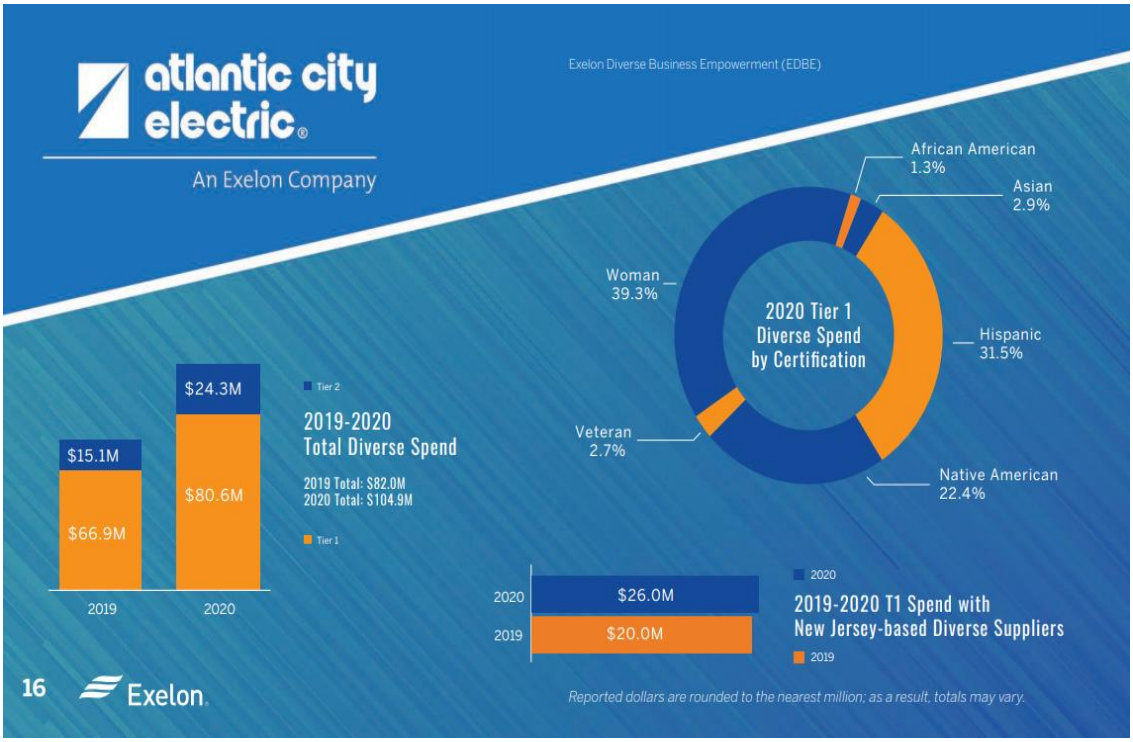
New Jersey Power Plants	ACE 01 (GWh)
Combined Cycle	[redacted]
Conventional Hydro	[redacted]
CT Gas	[redacted]
IC Gas	[redacted]
Nuclear	[redacted]
Pumped Storage	[redacted]
ST Coal	[redacted]

Total CO2 emissions in New Jersey were determined to be [redacted] under the project scenario for 2028. Overall, with the introduction of 7.5 GW of offshore wind, New Jersey will become more energy independent and rely less on neighbors to meet its internal demand as New Jersey's offshore wind will supplement conventional resources.

Please attach any relevant supporting analyses and benefits quantifications (including assumptions and analyses, if any) to support the benefits described above that have not been already submitted through the PJM submission forms.

ACE and the Exelon family of companies takes diversity, equity and inclusion ("DEI") seriously. Environmental justice issues are very important to us and we are committed to the fair treatment of individuals and communities. ACE is committed to the development and growth of small, minority, women and disadvantaged veteran enterprises.

The Exelon family of companies spent $11.2 billion with diverse-certified suppliers across its enterprise from 2016-2020. In 2020, the Exelon family of companies spend of $2.7 billion supported 19,967 jobs and generated an incremental $3.6 billion in revenue and $1.1 billion in wages for local businesses in communities the company serves. 63 percent of the total 2020 spend was local in Exelon's key operating areas, including New Jersey. 71 percent of the Exelon family of companies total 2020 diversity-certified supplier spend was with Tier 1 contractors, which are defined as diverse contractors with a direct supply contract with Exelon. The below summary shows ACE's 2019 and 2020 diverse spend.



In 2021, Exelon launched the Green Lab Grants program to advance STEM education in under-resourced communities where the Exelon family of companies operate, including New Jersey. The program provides grants of up to $50,000 each for public and private schools as well as nonprofit organizations that operate out-of-school programs serving Title I-eligible students, to invest in hands-on educational spaces where students can prepare for careers in science, technology, math and/or engineering. The grants will total $1 million annually. Additionally, Exelon and its family of companies was named to:

- Fortune's Most Admired Companies (2021 – 14th year on the list)
- DiversityInc's list of the Top 50 Company for Diversity and Inclusion (2020 & 2021)
- Forbes list of Best Employers for Diversity (2020)
- Forbes and JUST Capital's list of Marica's Most Just Companies (2020)
- Human Rights Campaign's list of Best Places to Work
- Center for Public Accountability's CPA-Zincklin Index, Trendsetter List (2020)

ACE brings more than just it's unmatched experience and knowledge to this proposal, it also brings its commitment to promote diversity, equity and inclusion withing the company and in the communities it serves in southern New Jersey. ACE and the Exelon family of companies are committed to projects in its communities and investments in organizations and institutions working to create a more just world.

Proposal Costs, Cost Containment Provisions, and Cost Recovery

Proposals with cost containment options that limit New Jersey ratepayer exposure to cost overruns are strongly preferred. Examples of cost caps or cost control measures that the developer should consider proposing include, but are not limited to:

- Total or partial construction cost caps, similar to the cost control measures requested by the PJM submission forms;
- Total or partial operations and maintenance cost caps;
- Limits on capital structure and return on equity (ROE);
- Fixed revenue requirements over the expected life of the project; and
- Innovative cost recovery approaches.

Developers can propose several (equally-acceptable) alternative cost control and cost recovery mechanisms for each proposal. Such cost control and cost recovery alternative may include:

1. *Standard Regulated Cost Recovery*: If developers are requesting cost recovery via a standard revenue requirement, please submit projected project and financing cost information and any proposed cost-cap mechanisms via the PJM submission forms. Indicate below that standard regulated cost recovery will be requested.

   Proposers should include the following information via the PJM Competitive Planner submission tool when submitting projected project and financing cost information, any proposed cost-cap mechanisms, and whether values are estimated or firm commitments.

   Please provide the following:

   Please see Attachment ACE-6 Illustrative Revenue Requirement. The attached spreadsheet provides an illustrative revenue requirement calculation for the ACE assets and addresses the questions below regarding O&M, Capital Structure, Depreciation, Taxes, and Revenue Requirement. We note that this is an illustrative example using variables from ACE's current FERC approved transmission formula rate. When the proposed facilities begin commercial operation, currently forecasted in 2027 and 2028, the FERC approved variables at that time will be utilized.

A. O&M, G&A Costs

a. Cost estimates for Operations, Maintenance, and G&A FERC US of A 560-570 series, 920 series.

ACE has a significant existing O&M program that covers all its assets in New Jersey. The incremental O&M, or G&A costs, for this proposal are minimal. In essence, there will virtually be no noticeable change in ACE's O&M or A&G spend for incorporating these assets into its rate base.

An important advantage exists for ACE regarding O&M and G&A. A non-incumbent entity that builds a new project in New Jersey will have to create an O&M program from scratch. This can impose significant annual cost to New Jersey ratepayers. ACE can incorporate new assets into its O&M program at an insignificant marginal cost.

b. O&M escalation rates

No O&M escalation rates are included as ACE will incorporate these assets into its current O&M program at an insignificant incremental cost.

c. Clarification if O&M, G&A expenses are covered in cost containment

ACE does not propose any cost containment language pertaining to O&M or G&A. However, from our answer to a and b above, for rate making purposes, we assume the O&M and G&A costs associated with the addition of the proposed assets is virtually 0. This does not imply that ACE intends to ignore O&M for the assets, it's just the opposite, ACE intends to operate the assets using good utility practices and will be able to address all the O&M needs for the assets with the current ACE O&M program without the need to increase O&M costs.

Philosophically, ACE has concern with any transmission asset that is built but the owner/operator chooses to ignore or defer O&M needs. The consequences of ignoring O&M can be severe and poses a cascading risk to reliability across the transmission system. Caps on O&M are concerning and should be carefully examined to make sure the intent is not to ignore or defer needed maintenance.

B. Capital Structure

a. Debt-to-Equity ratio

ACE proposes to incorporate these assets into its existing transmission formula rate through its annual capital addition process. We can't forecast what debt-to-equity ratio FERC will approve for ACE in 2027 or 2028, when these assets are scheduled to go into service, but ACE's current FERC approved capital structure is 50 percent debt to 50 percent equity.

b. Cost of debt

ACE proposes to incorporate these assets into its existing transmission formula rate through its annual capital addition process. We can't forecast the cost of debt for ACE in 2027 or 2028, when these assets are scheduled to go into service, but ACE's current FERC approved cost of debt is 4.40 percent.

C. Depreciation

a. Book life by asset class

We are in the pre-development phase for the project and do not yet have a depreciation schedule by asset class for all the components. To calculate an illustrative revenue requirement for the project, we assumed an overall 40-year project life.

b. Tax depreciation method e.g., 5-year MACRS, half-year convention

We do not know what the appropriate depreciation method will be in 2027 and 2028, but to calculate an illustrative revenue requirement for the project, we assumed a 20-year MACRS schedule.

c. Book and tax depreciation schedule for CapEx and On-going CapEx

Please see Attachment ACE-6 Illustrative Revenue Requirement for the book and tax depreciation schedules.

D. Taxes

a. Federal and state income tax rates

ACE proposes to incorporate these assets into its existing transmission formula rate through its annual capital addition process. We can't forecast the federal and state income tax rates applicable to ACE in 2027 or 2028,

when these assets are scheduled to go into service, but ACE's current FERC approved formula rate uses a federal income tax rate of 21.00 percent and a state income tax rate of 9.00 percent. To calculate an illustrative revenue requirement for the project, we assumed the tax rates from ACE's current FERC approved formula rate.

b. Property tax rate

[redacted]

c. Deferred income tax schedule, if appropriate

Please see Attachment ACE-6 Illustrative Revenue Requirement for a forecast of the deferred income tax schedule.

E. Discount Rate

[redacted] Please see Attachment ACE-6 Illustrative Revenue Requirement for our assumption on the revenue requirement.

F. Revenue Requirement

a. Estimated annual revenue requirement for each proposed solution from commercial operation through the book life of the plant.

Please see Attachment ACE-6 Illustrative Revenue Requirement; it contains the annual revenue requirement schedule for the assumed life of the project.

b. Provide revenue requirement build-up workbook, including depreciation, cost of debt, return on equity, federal and state income tax, property tax, and other costs e.g., O&M, A&G, other income tax.

Please see Attachment ACE-6 Illustrative Revenue Requirement; the workbook contains the requested information.

G. Incentive adders

a. Describe any incentive adders and what it applies [redacted]

ACE proposes no project specific incentive adders.

H. Exceptions to Cost Cap

[redacted]

2. *Pre-determined Revenue Requirements*: If developer is requesting cost recovery via pre-determined, pre-committed revenue requirements, please submit the committed-to annual revenue requirement amounts over the economic life of the assets below. In this case, the developer does not need to submit project and financing cost information via the PJM submission forms.

[redacted]

3. *Alternative Cost Recovery*: If developer is requesting an alternative cost recovery (e.g., levelized regulated cost recovery, fixed-priced contract costs, or other mechanism), please submit the projected cost recovery information via the PJM submission forms and describe the alternative cost recovery approach below.

[redacted]

Based on the approach, please provide the following information for the BPU to evaluate the costs of the proposed solutions to New Jersey ratepayers:

Any additional cost information not included in PJM's submission forms, including ongoing capital expenditures:

ACE has no additional cost information. At this time, we do not anticipate ongoing capital expenditures.

For the cost estimates submitted via PJM's submission forms, the cost estimate classification and expected accuracy range consistent with AACE International standards:

[redacted]

<u>The estimated energy losses of the proposed facilities:</u>

The proposed facilities are substation upgrades and would not produce meaningful loss savings.

The physical life and/or economic life (i.e., length over which the facility will request cost recovery) of the facilities:

ACE anticipates an initial overall life of 40 years.

A description of each cost structure proposed for the project, including cost containment mechanisms and cost recovery approach:

ACE proposes to incorporate these assets into its existing transmission formula rate through its annual capital addition process. This will be regulated cost recovery through ACE's FERC approved formula rate. [redacted]

If a fixed revenue requirement is being requested, files specifying the annual revenue requirements over the economic life of the proposal. Similar to the proposed cost cap mechanisms submitted to PJM, please include proposed contractual revenue requirement commitment language to be included in the Designated Entity Agreement. The Contractual revenue requirement commitment language must be identical to that submitted in the PJM Competitive Proposal Template.

[redacted]

Please explain how the costs of the proposed projects may be impacted by selection of a subset of the options versus the entire proposed project:

This is a standalone Option 1a proposal and not dependent on any other option. The cost is not impacted by the selection of any Option 1b, Option 2 or Option 3 proposal. If the BPU elects to select a portion of this ACE 1a proposal, the cost will change based on what elements of the proposal the BPU elects to select. ACE is willing to work with the BPU and provide and updated cost after the BPU informs ACE of the elements that it would like to keep.

Please explain any additional cost control mechanisms provisions for the BPU to consider that were not included in the PJM submission forms:

[redacted]

Project Risks and Mitigation Strategy

Please provide the following items to describe the project's risk and risk mitigation strategy:

Discuss the project's plan for site control and the ability to achieve site control.

[redacted]

Identify whether the project will require the issuance of a right-of-way, a right of use and easement, or similar authorization from the U.S. Bureau of Ocean Energy Management ("BOEM"), and the project's plan and timetable for obtaining such any required authorization.

The proposed project is an Option 1a proposal that is located inland. It will not require authorization from BOEM.

Discuss the project stakeholder engagement plan's ability to minimize public opposition risk from the fishing industry, coastal and beach communities, and other stakeholder groups.

The proposed project is an Option 1a proposal that is located inland. It will not directly impact the fishing industry or the coastal and beach communities. However, other stakeholder groups may be impacted, and ACE will perform extensive public outreach to minimize public opposition. Outreach will occur throughout the life of the project from the routing phase to post-construction.

Public outreach will begin with a comprehensive project analysis and route model. Early public engagement will be established with a feedback system including but not limited to the following:

- Open houses
- Community working groups
- Project interactive website
- Project hotline phone number
- Written project notifications and mailings
- Social media interaction
- Community / stakeholder surveys

Public engagement and outreach are not static endeavors and require adaptive strategy development to ensure long-term success. The methods to be used in the project are

centered on defining the specific stakeholder needs, and then developing strategies to address the potential vulnerabilities. Once the strategies are developed, means to deploy the strategies are then formulated to ensure maximum reach and effectiveness within the given area of interest. As the strategies become operational, a parallel effort is put in place to track success.

Success is tracked through on the ground observations and engagements, to surveys, to digital analysis and results in a feedback process to educate the effectiveness of the developed strategies. This provides near real-time information to update and/or modify the public engagement approach to maintain relevancy within the area of focus. Over the life cycle of the project, the strategies can be modified, successes benchmarked, and emerging challenges/opportunities identified and addressed in a way that is linked to local community needs and concerns.

The design of the public engagement program is based on approaches to address and forge public partnerships. At the core of the program is data analysis and visualization, which leads to trend analysis, supported by on the ground assessments and evaluations that are integrated into a comprehensive view of the area. These results are then independently challenged to consider alternate perspectives to identify gaps in approaches and to achieve a better understanding of the impact of each strategy that is used. This methodology ensures a continual cycle of assessment and critique, ensuring that the stakeholders are kept at the center of the project's success. This public engagement program will develop a strategy in the local community to support the project's success and for offshore wind in general.

To reach the communities successfully requires a layered approach and a range of mechanisms. The affected communities will be kept informed using a variety of information mechanisms that will be essential; however, the public engagement program will not be successful with information alone. Communication tools, in addition to information, will allow the community to be involved in the ongoing discussion. These tools will include web forums, surveys and face-to-face engagements such as open houses and community working groups that will provide vehicles for the community to voice feedback. Information and feedback collected through these tools and forums reinforces the adaptive focus of the public engagement program. The goal is to forge a relationship so that the community feels that its concerns are heard and valued by the project team. The relationship is furthered through direct and indirect

community investment; the financial commitment made by the project team improves overall project success.

Identify any construction techniques will be needed – benthic substrate, long HDD spans, existing cables, pipelines or other infrastructure, sandwaves/megaripples, contaminated sediment, dredging, or onshore waterbody crossings – that may result in project delays or cost overruns

The proposed project is an Option 1a proposal that is located inland. It will not require construction techniques that may result in project delays or cost overruns. The construction activities are typical transmission activates and should not involve uncommon construction practices.

Identify known or potential time of year restrictions on construction activity, particularly related to listed species or beach restrictions.

The proposed project will encounter time of year restrictions on construction activities. Until a full environmental analysis and comprehensive engineering work is completed, the full extent of construction restrictions is not known. [redacted] Upon selection, ACE will immediately begin substantial development activities and will update the BPU once this information is available.

Identify anticipated construction-related outages and expected duration on existing PJM transmission facilities.

The proposed project will require outages. Coordination with PJM is required to assess the number or outages, the duration, and the timing of the outage. Until this occurs, the full extent of outage related information is not yet known. However, the Exelon Transmission System Operations organization is highly adept at managing the Exelon utilities transmission grid, including dealing with planned and unplanned outages. Upon

selection, ACE will immediately begin substantial development activities and can leverage the Exelon Transmission System Operations organization to study and submit outage requests that coordinate with other scheduled outages or implemented when they are the least impactful to customers.

Identify supply chain constraints or material procurement risks that may impact the project.

At this time, we are not aware of any supply chain constraints or material procurement risks that may impact the project. However, we are aware of the global supply and labor challenges affecting many industries. We believe that some impact will be felt here but as a member of the Exelon companies, ACE will take advantage of Exelon's robust procurement process and the experience capable of managing this risk. Exelon subsidiaries and affiliates typically procure well over $1 billion in materials and services every year and can manage supply chain constraints. Upon selection, ACE will commence development activities and will be able to more accurately gauge supply chain constraints that may directly affect this project. Additionally, included in Attachment ACE-4: Risk Register, we've identified other risk areas of possible concern.

Identify project-on-project risks related to the timing or completion of other transmission and offshore wind projects built to achieve the New Jersey public policy requirement.

We are aware of the difficulties that offshore wind developers have recently expressed and the associated delays with multiple offshore wind farms. It is possible that offshore wind developers will continue to encounter delays to the point where the transmission for offshore wind is built but the generation is not ready. Conversely, we know that project-on-project risk can work the other way. For this reason, ACE, as the most experienced transmission developer in southern New Jersey, provides New Jersey customers with the best opportunity to build the transmission facilities needed to interconnect offshore wind on time and on budget. [redacted]

Describe and provide proposed contractual language for any project schedule guarantees, including but not limited to guaranteed in-service date(s), financial assurance mechanisms, financial commitments contingent on meeting targeted commercial online dates, and delay damage or liquidated damage payment provisions, that have been proposed.

ACE is not proposing any project schedule guarantees.

Identify any additional risks associated with the project that could lead to increased costs, reduced project benefits (reliability, market efficiency, and/or public policy), or delayed development and delivery of the proposed offshore wind generation.

Please refer to Attachment ACE-4 Risk Register for a list of additional potential risks which identifies the major risks associated with the project, describes the event that may occur, the consequences of the event, the likelihood of occurrence, the cost/schedule impact, the handling strategy, and the ACE mitigation plan.

Provide any relevant technical studies or documentation related to efforts taken to mitigate the risks identified above.

Technical studies have not been performed, but upon selection, these activities will commence. The answers provided to the other Project Risks and Mitigation Strategy questions offer a good narrative describing the plan we intend to pursue to mitigate risk.

Identify compensatory mitigation estimates needed for wetland impacts and any potential risk with availability of wetland credits.

A full analysis of wetland impacts has not been performed. We will commence this analysis upon selection. [redacted]

Environmental Impacts and Permitting

Please provide a Environmental Protection Plan which describes all associated onshore and/or offshore environmental impacts from the planning, construction, and operation phases of the project, including, but not limited to:

Physical Resources- air quality, electric and magnetic fields (EMF), geological resources, airborne sound, water quality, underwater acoustics, wetlands and waterbodies.

[redacted] While environmental and permitting issues need to be addressed, the

impact is lessened because [redacted] Upon selection of this project by the BPU and PJM, ACE intends to commence environmental work that addresses all applicable physical resources, as required by federal, state, and local regulation. An illustrative environmental work plan is included below that indicates some of the environmental topics that ACE plans to address.

Biological Resources- avian and bat species, benthic and shellfish, coastal and terrestrial habitat, finfish and essential fish habitat, marine mammals and sea turtles, terrestrial wildlife

[redacted] The entire project is located inland and should not impact benthic and shellfish, coastal habitat, finfish and essential fish habitat, or marine mammals and sea turtles. A preliminary review of Sensitive Species data layer mapping available through the NJDEP Landscape 3.3 mapping displays the potential for Rank 5 species. Based on the map findings of the existing woodland area, a Habitat Assessment will be conducted to complete an investigation of available habitats in proximity [redacted] and discern any potential direct/ indirect impacts as a basis for possible avoidance, minimization and mitigative strategies to avoid regulatory delays and/or seasonal surveys for targeted species.

Upon selection of this project by the BPU and PJM, ACE intends to commence environmental work that addresses all applicable biological resources, as required by federal, state, and local regulation. An illustrative environmental work plan is included below that indicates some of the environmental topics that ACE plans to address.

Cultural Resources- above-ground historic properties, marine archaeology, terrestrial archaeology

[redacted], available secondary source information through NJDEP Geoweb and the LUCY historic database indicates [redacted] was reviewed in 2017 and was found to be not eligible.

Upon selection of this project by the BPU and PJM, ACE intends to commence environmental work that addresses all applicable cultural resources, as required by federal, state, and local regulation. An illustrative environmental work plan is included below that indicates some of the environmental topics that ACE plans to address.

Socioeconomic Resources- visual resources, commercial and recreational fisheries, commercial shipping, environmental justice, land use and zoning, existing cables, tourism, public health & safety, workforce, economy, demographics

[redacted] The entire project is located inland and should have no impact to recreational fisheries, commercial shipping, tourism, public health & safety. Additionally, the project components are proposed to be built on ACE property that already contain transmission infrastructure, therefore, visual impact should be minimal. Environmental justice issues will be minimized as we are not proposing to purchase additional land or acquire new right-of-way and plan to perform construction in a way that minimizes impacts to the local community and improves infrastructure where possible. ACE does not expect the project to result in any sort of adverse environmental or socioeconomic impacts on any racial, ethnic, or socioeconomic group.

GIS Desktop Study of potential impacts to sensitive resources including tabular summaries of acreage and distance calculations

Based on a desktop review of GIS generated freshwater wetlands mappings for the area, the project team determined that [redacted] However, much of the upland area surrounding [redacted] consists of deciduous woodlands which could comprise a variety of critical habitats that may generate a review of and assessments for threatened and/or endangered flora and fauna species.

Shapefiles of cable routes, landfall locations, offshore platforms, and onshore interconnection points that show:

This is an Option 1a proposal anticipated to be wholly contained on an [redacted] Initial indications show no wetlands impact at Cardiff, but tree clearing is required.

Width of individual cable routes or shared power corridors

This is an Option 1a proposal anticipated to be wholly contained on an [redacted]

Footprint of onshore substation including expansion needed and acreage calculations of habitat disturbance, especially related to wetlands, forested areas, or other sensitive habitats

This is an Option 1a proposal does not include the construction of a new onshore substations. [redacted] Initial indications show no wetlands impact at Cardiff, but tree clearing is required.

Descriptions of cable installation methods with locations identified

This is an Option 1a proposal and ACE does not expect to install cable for the proposed scope of work.

General footprint and extent of Horizontal Directional Drilling (HDD) boreholes and cable landings

The entire project is located inland; this question does not appear to be applicable. There are no HDDs or cable landings associated with the proposal.

Footprint and extent of associated pre-construction and construction activities

[redacted] pre-construction and construction activities will localized to the [redacted] and other local ACE-owned laydown yards.

Projected vessel traffic and/or vehicles needed for project surveys, construction, operation, and project closeout including emissions estimates from vessel and/or vehicle activity

The entire project is located inland; this question does not appear to be applicable.

Any needed exclusion zones around project infrastructure including offshore platforms

The entire project is located inland; this question does not appear to be applicable.

Plan to address the identified impacts described above, including innovative measures to avoid, minimize or mitigate impacts.

Illustrative Environmental Work Plan

Wetland Impact

Wetland impact would be assessed along the entire project corridor and along the needed existing, new, or to-be-improved access roads, as appliable. For the purposes of this work plan, [redacted] All temporary staging areas would be within the existing ROW or in previously paved or graveled sites. ACE also assumes that addressing the violations occurring on transmission facilities not owned by ACE will not encounter significant wetland issues.

ACE will address wetlands issues using the appropriate regulatory requirements in New Jersey and by the federal government. Wetland cover types and significant nexus (or lack thereof) to a Traditionally Navigable Waterway ("TNW") will be documented. Streams will be delineated using the U.S. Army Corps of Engineers' ("USACE") guidance on ordinary high water mark ("OHWM") identification (USACE Regulatory Guidance Letter 05-05). Stream flow (perennial, intermittent, and ephemeral), substrate type, water depth, Section 10 status, and significant nexus to a TNW will also be documented.

Appropriate personnel will flag and map aquatic resource boundaries using Global Positioning System ("GPS") technology. All GPS equipment units used during the wetland impact study will have pre-installed matching data dictionaries to ensure consistency of field data gathered. Typical data collected for large projects such as this include start and stop points for field personnel and data log tracking to ensure the entire corridor is mapped, along with data on jurisdictional status of features, wetland class, and flow regime of streams. Data from GPS devices are easily incorporated into GIS databases; therefore, survey data gathered in the field contains attributes that increase efficiency and accuracy of report preparation. In addition, ACE's survey teams will use electronic field data collection methods to increase efficiency. All field crews will also carry cellular data-enabled portable devices for electronic data collection and navigation.

Following field work, a report will be prepared to document the existing aquatic resources within the project limits. The report will describe aquatic resources and upland habitat in the project area, include wetland determination data forms and a detailed aquatic present table, and present representative photographs. Maps documenting the locations of aquatic resources will be included in the report. GIS shapefiles of aquatic resource boundaries, along with a GPS accuracy layer, will also be prepared. The report will be suitable for regulatory review and inclusion in permit applications and will be submitted to USACE for a preliminary Jurisdictional Determination (pJD) from USACE.

Threatened and Endangered Species

The project is located within the vicinity of several protected species. Each of these species has unique protection statuses, preferred habitats, and survey requirements (e.g., time of year and personnel requirements). ACE understands the requirements associated with each individual species and is experienced navigating projects through regulatory approval processes. The first step in the threatened and endangered (T&E) regulatory approval process is submitting an information request to the appropriate state agency's and completing a review through the U.S. Fish and Wildlife Service's ("USFWS") Information, Planning, and Consultation (or IPaC) system. These processes are completed to obtain information relative to known occurrences of state and federally listed species within the vicinity of the project.

Using the information obtained, ACE will conduct a desktop analysis of the project corridor to assess the habitat suitability for all listed species known to occur within the vicinity of the proposed Project. The desktop analysis will highlight portions of the corridor containing potentially suitable habitat. Mapping will be prepared for use by field staff, who will review all suspect areas during field surveys.

The T&E field habitat surveys will be completed concurrently with wetland impact work. The field survey teams will consist of experienced wetland personnel assisted by T&E species biologists. The field surveys will refine the desktop analysis; biologists will ground-truth suspect areas to determine actual habitat suitability. Each suspect area will be classified as either unsuitable or potentially suitable. Unsuitable areas will be thoroughly documented with rationale supporting the classification. This information will be adequately gathered for use in coordination with regulatory agencies.

In the event potentially suitable habitat is identified by field staff or additional review is needed during a more appropriate survey period, the ACE team will review each of these areas to determine the project's potential effect on rare species. The team's approach for addressing potential conflicts with T&E suitable habitat will be to develop avoidance, minimization, and mitigation strategies for each instance.

[redacted]

Documentation to support the T&E survey findings will be prepared and include a package prepared consistent with USFWS criteria for determining a project's potential to affect federally listed species. This document will be submitted to USFWS for formal review and comment. State-listed species consultation will be addressed within the state application process. The application will include a summary of ACE's findings and recommendations.

Cultural Resources

Agency Consultation and Tribal Coordination

ACE will consult with appropriate agencies and interested Native American Tribes, if applicable. The ACE team will include cultural resource specialists who have significant experience with the local community in Southern New Jersey.

Archaeological Survey

The Phase archaeological survey will involve background research and fieldwork within the project area. [redacted]
The required background research will be conducted using applicable state cultural resource information's systems and other repositories as necessary. ACE will complete a field reconnaissance of the project area ("Area of Potential Effect" or "APE") and off-corridor access roads.

After completing the background research and review of the project area, areas of archaeological sensitivity will be identified, and ACE will conduct an archaeological survey. The primary goal of the investigation is to identify whether any archaeological sites lie within the project area. ACE would determine which percentage of the project area is considered archaeologically sensitive. For this effort, ACE will place shovel tests arrayed within a pre-determined testing grid in all sensitive areas that correspond to planned disturbances. As appropriate, the archaeological sensitivity assessment will refine and delineate areas that may necessitate further investigation and define what areas appear to have been affected by modern development.

Shovel tests will be arrayed in a pre-determined testing grid and in an area corresponding to each new pole located in archaeologically sensitive areas. Shovel tests in sensitive access road locations will be aligned within a linear transect and spaced appropriately. Shovel tests will be excavated to sterile subsoil. All soils will be screened through a hardware cloth. If sterile subsoil is not identified, shovel tests will be excavated to the maximum possible depth allowed by obstructions or 1 meter, whichever is shallower.

If artifacts are found during fieldwork, it may be necessary to conduct additional shovel tests in each concentration area. The number of shovel tests depends on the size of the concentration. The goal of additional testing includes determining the vertical extent of the deposits (e.g., are intact subplowzone deposits evident) and identifying whether any horizontal patterning (e.g., loci) can be ascertained. Additional shovel tests can also be used to confirm an isolated find.

Field observations and excavation data will be recorded on project-specific standardized form. Excavated soils will be recorded and described in terms of both texture and color, using U.S. Department of Agriculture A soil classifications and Munsell charts. Photographs of the site area and excavations will be taken as appropriate. All excavations will be backfilled upon completion, and all safety regulations will be strictly followed during the investigations.

The results of the archaeological survey will be documented in a technical report prepared in accordance with professional standards and in accordance with regulatory requirements. The cultural resource specialists who will perform this work will meet or exceed the qualifications required to perform the work. The report will include recommendations regarding any cultural resources identified as well as specific treatment options for those resources (e.g., avoidance) that may be required.

At all times, any human remains, if encountered, will be handled with respect and according to all prescribed procedures. ACE will adhere to all regulatory requirements and any applicable Tribal policies. Any work provided in association with the investigation of human remains will be coordinated and negotiated with the appropriate agencies and interested tribes.

Health and safety will be addressed in a site-specific Health and Safety Plan. The Occupational Health and Safety Administration mandates preparation of this plan. The Health and Safety Plan identifies and evaluates health and safety hazards that may exist in a project area and provides procedures and equipment to be employed to minimize worker exposure to the potential hazards. In addition, field personnel will follow ACE safety policies and protocols and have all required training before commencing work on the project.

It is anticipated that any archaeological sites identified through the investigation will be avoided and no site evaluation or data recovery efforts will be required. Upon completion of all work, any collections recovered, and all field notes, will be prepared for permanent curation at the required repository, presumably a state or local museum. If the museum, or other approved repository, does not accept an archaeological collection for permanent curation, ACE will determine final disposition.

Visual Impact Assessment

ACE will identify how many scenic and aesthetic resources of statewide significance are located within the vicinity of the Project, including municipal and county parks, trains, and recreation areas; state parks, recreation areas, and wildlife management areas; national parks and wildlife refuges; and properties listed in the National Register of Historic Places ("NRHP"). ACE will conduct a visual impact assessment for the project potential impacts on these and other identified potentially sensitive resources as necessary.

ACE typically conducts a viewshed analysis for the entire study area. The viewshed analysis is prepared using GIS data and software to determine the extent of visibility of the proposed project structures and ROW from each of the aesthetic and scenic resources of significance. After determining which scenic and aesthetic sites are within the viewshed of the project, ACE will then prepare photo simulations at those locations. The GIS-based viewshed analysis will not consider the effects of vegetation because photographic evidence from each site will provide greater accuracy for assessing vegetative screening effects.

Photographs are typically taken at each of the scenic and aesthetic sites within the project viewshed in the directions where potential visual impact concerns are indicated by the viewshed analysis. Views will be considered and documented if necessary, from the entire affected area. Additionally, photographs will be taken of each site's primary elevation. Photo-simulations will be prepared to simulate the visual impacts of the transmission line sites. The photographs selected for simulation will demonstrate what was perceived to be the greatest possible obstruction to the property's viewshed from the proposed project.

ACE will prepare a Visual Impact Assessment Report, which will include an inventory of the scenic and aesthetic sites in the study area, aerial imagery depicting the location of each site in relationship to the project, results of the viewshed analysis, photo-simulations, elevation drawings of the proposed towers, a narrative containing descriptions of the resource and setting, a discussion of the significance of potential impacts, and, if necessary, proposed mitigation measures.

While this is a typical description of a visual impact assessment, we note that the proposed project is assumed to be [redacted] which already contains [redacted]. Construction of the proposed project should not significantly impact the current visual impact.

Noise Analysis

In accordance with applicable New Jersey regulatory requirements, ACE will describe existing noise conditions based on land use mapping and typical urban, suburban, and rural background. Federal and state noise impact criteria will be described. ACE will research and summarize the local noise ordinances (if any) of the municipalities crossed by the project. Construction impacts will be discussed based on the typical equipment requirements commonly associated with transmission lines. ACE will identify the worst-case locations where residences or other noise-sensitive land uses are located closest to potential construction activity. The analysis will also describe the efforts made to locate and design appurtenant structures to avoid or minimize any potential for noise disturbance in the adjoining areas.

The noise analysis assumes that no existing conditions noise monitoring will be conducted and that existing conditions will be characterized based on land use and proximity to roadways.

Traffic Plan

During construction, the project will be accessed using various road crossings and via existing access roads or new access roads constructed specifically for the project. Construction access points from local roads will be located to ensure maintenance of safe traffic operations at those road crossings. To ensure safe and continued traffic flow and maintain access to any local residences or businesses that could be affected during construction, a Maintenance and Protection of Traffic ("MPT") plan will be developed for each location where construction vehicles will frequently access the project from local roadways to provide a safe construction work zone in any areas near the edge or within a traffic lane for construction activities within the road right-of-way (e.g., removal of existing structures/conductors and stringing of new conductors). The MPT plan will identify temporary signage, lane closures, placement of temporary barriers, and traffic diversion patterns during construction activity. Traffic control measures will be developed as part of the final design of the project and will be incorporated into the environmental management and construction plan. The MPT plan will be discussed with Atlantic and Camden Counties and any affected municipalities prior to and during construction to ensure all parties are in agreement and coordinated with the schedule for road closures.

Invasive Species, Land Cover Type Mapping, and Merchantable Timber Studies

In addition to the environmental studies described above, ACE will conduct additional studies, such as an analysis of land use and vegetative communities along the project, to satisfy all

requirements. ACE will use light detection and ranging ("LiDAR") data, aerial photographs, and GIS data to conduct a desktop analysis of land use and vegetative communities along the project area. GIS specialists will map land use categories, which will then be field checked during wetland field surveys. Vegetation composition of land use categories will also be compiled. In addition, biologists will conduct a general inventory of invasive species during wetland field surveys. This inventory is not intended to be a presence/absence survey with a complete mapping of invasive species locations but, instead, is intended to provide a general inventory of the types of invasive species and general prevalence in the project area. Additionally, during field surveys, large stands of merchantable timber will be identified. ACE does not propose to estimate the value of timber and include it as part of the project.

Illustrative Environmental Management and Construction Work Plan

In preparation for preparing the Environmental Management and Construction Plan ("EM&CP"), ACE will coordinate and conduct site walk overs with interested agencies, including the NJ DEP and NJ BPU. The purpose of the site walk overs will be to collect input from agency representatives on construction-related concerns in the corridor that will be addressed in the context of the EM&CP documentation.

ACE will prepare an EM&CP, in compliance with applicable requirements, that consists of a narrative and set of detailed plan and profile drawings. The EM&CP will illustrate and describe the site-specific locations of all proposed facilities and the environmental protection measures that will be implemented during construction. The narrative is anticipated to include a detailed description of the project, as well as construction, operation, and maintenance procedures. The EM&CP narrative will also provide a description and statement of specific techniques, procedures, and requirements to protect resources within the project area including:

- Erosion control
- Petroleum and hazardous substances
- Fugitive dust
- Herbicide
- Agricultural areas
- Stream and wetland crossings
- Access roads
- Clean up and restoration
- Invasive species control
- Protection of traffic

- Floodway/flood hazard areas

The EM&CP will describe the environmental supervision that will occur during project construction and provide sample construction documentation forms that will be used to provide periodic updates to interested regulatory agencies during construction.

It is assumed that the EM&CP will be accepted as complete upon submittal and that no deficiencies will be identified.

Please provide a description of the anticipated environmental benefit of a particular transmission proposal in comparison to radial lines:

How does the project reduce environmental impacts to fisheries, habitat, and sensitive resources in comparison to radial lines?

This is an Option 1a proposal and is not intended to be a substitute for radial lines. The proposed project complements radial lines or a network transmission system that can deliver offshore wind energy from the Atlantic Ocean to the Cardiff.

What is the reduction in impacts (approximate area) compared to radial lines, temporary and permanent?

This is an Option 1a proposal and is not intended to be a substitute for radial lines. The proposed project complements radial lines or a network transmission system that can deliver offshore wind energy from the Atlantic Ocean to the Cardiff.

A description of whether and how the project infrastructure, including offshore platforms, could provide direct ocean and ecological observations throughout the water column;

This is an Option 1a proposal; we believe this question is not applicable to the project.

Please provide a Fisheries Protection Plan that must include the following information:

A scientifically rigorous description of the marine resources that exist in the Project area, including biota and commercial and recreational fisheries, that is informed by published studies, fisheries-dependent data, and fisheries-independent data, and identifies species of concern and potentially impacted fisheries;

This is an Option 1a proposal; we believe this question is not applicable to the project.

A scientifically rigorous plan to detect impacts to marine resources, including biota and recreational and commercial fisheries;

This is an Option 1a proposal; we believe this question is not applicable to the project.

Identification of all potential impacts on fish and on commercial and recreational fisheries off the coast of New Jersey from pre-construction activities through project close out;

This is an Option 1a proposal; we believe this question is not applicable to the project.

A plan that describes the specific measures the Applicant will take to avoid, minimize, and/or mitigate potential impacts on fish, and on commercial and recreational fisheries;

This is an Option 1a proposal; we believe this question is not applicable to the project.

An explanation of how the Applicant will provide reasonable accommodations to commercial and recreational fishing for efficient and safe access to fishing grounds;

This is an Option 1a proposal; we believe this question is not applicable to the project.

A description of the Applicant's plan for addressing loss of or damage to fishing gear or vessels from interactions with offshore wind structures, array or export cables, survey activities, concrete mattresses, or other Project-related infrastructure or equipment.

This is an Option 1a proposal; we believe this question is not applicable to the project.

Please provide a description of how the Applicant will identify (or has identified) environmental and fisheries stakeholders, and how the Applicant proposes to communicate with those stakeholders during preconstruction activities through project closeout, as well as a plan for transparent reporting of how stakeholders' concerns were addressed.

This is an Option 1a proposal; we believe this question is not applicable to the project. However, we do intend to develop a public outreach strategy. As already discussed throughout the application, public involvement is critical. Public involvement reduces risk to the project, maintains project schedules, and helps maintain the accuracy of cost. ACE has developed the following outline of its public outreach procedures to ensure that the public is aware and engaged in the project. This outline summarizes the steps ACE and ACE's public outreach contractors will take to implement its public involvement plan, including identifying key stakeholders, establishing a comprehensive project website to serve as a depository of information, and implementing a process for identifying and planning protocols associated with public meetings. These activities will promote a healthy and engaged discourse with the public about the proposed project.

Public Involvement Plan

ACE's community affairs team will develop a comprehensive Public Information Plan that will ultimately be submitted to New Jersey regulators.

The Public Information Plan will include:

- General Project information (e.g., Project summary and need)
- Identification of key stakeholders
- Media coverage
- Project schedule summary
- Public meetings
- Government outreach
- Notification procedures
- Establishment of field offices (if necessary)

Identification of Stakeholders

In accordance with the applicable regulation, ACE's public outreach contractors will identify stakeholders to the project. These groups will include organizations in the vicinity of the project area and will be supplemented with local elected officials, local institutions, and other organizations intended to provide wide coverage of the potentially affected communities.

ACE typically identifies a robust list of stakeholders which may be briefed on the Project. Some of these stakeholders may include, but is not limited to:

- Federal representatives
  - U.S. Senators
  - U.S. Congresspersons
  - U.S. Army Corps of Engineers
  - U.S. Department of Energy
  - U.S. Fish and Wildlife Service
  - Federal Energy Regulatory Commission
- State Representatives
  - Governor's Office
  - New Jersey Board of Public Utilities
  - New Jersey Department of Environmental Protection
  - New Jersey State Senators
  - New Jersey State Assembly Members
- Pinelands Commission

ACE may also provide electronic copies of the NJ DEP submission to relevant interested parties. ACE's stakeholder outreach will take place throughout the entire project planning, siting, permitting, approval, and construction and operation phases of this project. ACE is committed to open and transparent outreach with stakeholders.

Distribution and Posting of Written Information

ACE and ACE's community affairs team will develop a comprehensive project website devoted to the dissemination of project information to interested parties and stakeholders. The project website will incorporate the following information:

- Project summary
- Factsheets and frequently asked questions
- All public documents pertaining to the Project, including
  - Press releases
  - Route maps
  - Background information about the Project
  - Public documents with regulatory bodies on file
- Contact information, including an e-mail address and telephone numbers, for people to request more information and a tool to allow people to sign up to receive e-mail updates about the Project
- Project specifications, including information on the technology being employed, cable placement and engineering, and field work activities
- A Project schedule and list of public meetings as well as public hearings

Public Meetings

ACE and its public outreach contractors will hold a to-be-determined number of public meetings along the proposed route for the project. Stakeholders will be consulted during the planning phase for input on the meeting locations. Notices for each meeting will be placed in local newspapers, on radio, and on local public-access television channels.

The format of each meeting will be consistent to ensure the uniformity of the information disseminated. ACE staff and consultants will be on hand to explain the project and answer questions from participants. Project factsheets and handout materials will be made available to all attendees.

Additional Media Coverage

ACE and its community affairs team will monitor news outlets for coverage of the project.

Please provide an analysis showing that project infrastructure will not impact overburdened communities in a disproportionate fashion.

This is an Option 1a proposal anticipated to be [redacted] therefore, we anticipate no disproportionate impact to overburdened communities either during construction or once the projects are completed. For additional information on ACE's commitment to fairness and a focus on diversity, equity, and inclusion, please see the response in the Socioeconomic Resources subsection in the Environmental Impact and Permitting section. ACE is committed to projects in its communities that are just.

Please provide a description of the applicant's permitting plan that includes the following:

Identify all local, State and/or Federal permits and/or approvals required to build and operate the Project and the strategy and expected time to obtain such permits and/or approvals;

Please see Attachment ACE-7 Permitting Requirements for a list of approvals required to build and operate the project. Additional work is required to determine the timeline as some approvals are dependent on needed studies and upon selection of this project by the BPU and PJM, ACE intends to initiate the needed studies and will follow-up with the specific timeline for each approval. However, ACE is confident that all approvals will be obtained in a timely fashion to ensure a phased in overall project in-service of 2027 and 2028.

Provide documentation of consultation with USACE beach replenishment projects and sand borrow areas, if applicable;

This is an Option 1a proposal; we believe this question is not applicable to the project.

Identify all applicable Federal and State statutes and regulations and municipal code requirements, with the names of the Federal, State, and local agencies to contact for compliance;

Please see Attachment ACE-7 Permitting Requirements

Submit a land use compatibility / consistency matrix to identify local zoning laws and the consistency of applicant's activities in each local jurisdiction;

This is an Option 1a proposal anticipated to be wholly contained in an existing ACE easements and rights-of-way. The scope of this question may not be applicable as the parcels that will be impacted are already zoned for this type of activity.

Identify each appropriate State or Federal agency the Applicant has contacted for land acquisition issues and provide a summary of the required arrangements;

ACE has not contacted any State or Federal agency pertaining to land acquisition as we anticipate the project to be wholly contained in an existing ACE easements and rights-of-way.

Include copies of all submitted permit applications and any issued approvals and permits; and

ACE has not yet submitted any permit applications and has not been issued any approvals or permits. Upon selection of this project by the BPU and PJM, ACE intends to initiate the work needed to submit all required permit applications.

Include copies of all filings made to any other regulatory or governmental administrative agency including, but not limited to, any compliance filings or any inquiries by these agencies.

ACE has not submitted filing with any regulatory or governmental administrative agency pertaining to the project.

Appendix A: DEP Checklist Items

Prior to the Pre-Submission meeting with DEP, bidders should complete and submit to the NJDEP Appendix A of the BPU Offshore Wind Transmission Proposal Data Collection Form.

NATURAL AND HISTORIC RESOURCES

Is any portion of the project site on land owned or administered by the NJDEP? [redacted]

If yes, please visit https://www.nj.gov/dep/greenacres/pdf/Request_to_Use_NJDEP_Property_2019.pdf for information on initiating a request to use NJDEP property. The submission of a request to use NJDEP property is a prerequisite to the scheduling of a pre-application meeting.

Green Acres Program

Is any part of the project site on land that is subject to a Green Acres restriction? [redacted] If yes, please describe. _____

Does the project require the use of property funded with federal Land and Water Conservation Funding? TBD, no impacted properties have yet been identified. If yes, please describe. _____

Does the project include activities that are under the jurisdiction of the Watershed Property Review Board? TBD, no activities have yet been identified. If yes, please describe. _____

Has the Watershed Property Review Board made a jurisdictional determination for the project site? No.

Does the project include a beach crossing? If so, please consult with the Green Acres program regarding potentially Green Acres encumbered parcels. No.

Office of Leases & Concessions

Is the temporary use of DEP lands administered by the Divisions of Parks & Forestry and/or Fish & Wildlife required for pre-construction, construction and/or post construction activities? [redacted]

If yes, please describe. _____

State Historic Preservation Office – SHPO

Is the site a Historic Site or district on or eligible for the State or National registry? No.

Will there be impacts to buildings over 50 years old? No.

Are there known or mapped archeological resources (including submerged) within the Project Area? No.

Division of Fish and Wildlife

Has the applicant utilized New Jersey's Landscape Project mapping (v3.3) to determine if their subject property or the land immediately adjacent contains any Rank 3, 4, or 5 polygons, Vernal habitat, or Freshwater mussel habitat? Yes, project team has reviewed New Jersey's Landscape Project mapping (v3.3); [redacted]

If yes, please identify the species which these habitats are valued for. [redacted]

Has the applicant utilized the NJDEP – Surface Water Quality Standards (SWQS) to determine if their project footprint contains any (streams, brooks, or rivers) that are classified as Trout Maintenance or Trout Production or other surface waters that are trout stocked or inhabited by other fish species, including any migratory species that are regulated by the DFW? Yes, the project team consulted the NJDEP - SWQS database. [redacted]
If yes, what Surface Water Quality Standard(s) or fisheries resources are identified on the site? _____

Has the applicant applied for a NJDEP, Office of Natural Lands Management (NLM) Natural Heritage Database data request for endangered and threatened species of flora and fauna? No.
If yes, please include a copy of the NLM database response with this submission. _____

Has the applicant consulted the DFW's Connecting Habitat Across New Jersey (CHANJ) project mapping available at https://www.nj.gov/dep/fgw/ensp/chanj.htm
and considered designing the project in a manner that incorporates concerns regarding wildlife habitat connectivity? The CHANJ mapping data was consulted and no CHANJ Stepping Stone areas or Road Segments [redacted]

Is the project located on a New Jersey Division of Fish and Wildlife, Wildlife Management Area (WMA)? No.
A list as well as a map of WMAs can be found by going to the following link:
https://www.nj.gov/dep/fgw/wmaland.htm

If you have consulted with the New Jersey Division of Fish and Wildlife on the proposed use, please include any correspondence with this submission. No.

New Jersey's Landscape Project mapping (v3.3) and the Surface Water Quality Standards (SWQS) can be viewed for free by visiting the NJDEP – Geo Web, GIS interface. Failure to provide the information requested above may impact the DFW ability to provide formal consultation/comments regarding potential impacts to Threatened and Endangered Species.

DIVISON OF LAND RESOURCE PROTECTION

Does the project involve development at or near, or impacts to the following; describe the type and extent of development in regard to location and impacts to regulated features:

Water courses (streams) No.

State Open Waters? No, [redacted].

Freshwater Wetlands and/or freshwater wetland transition areas? Based on our previous work, Pineland's approvals, follow-up investigations, soils information and NJDEP GIS mapping, the [redacted]

Flood Hazard areas and/or riparian buffers No.

Waterfront development areas No, [redacted]

Tidally Flowed Areas No.

Bureau of Tidelands Management: No.

The CAFRA Planning Area? No.

DIVISION OF COASTAL ENGINEERING

Will the project impact any Army Corp of Engineers beachfill projects or sand borrow areas either onshore, nearshore, or offshore? No.

Is the project being proposed in the vicinity of any shore protection structures such as jetties, groins, seawalls, revetments, bulkheads, reefs, or outfalls? No.

Does the project propose any cabling through inlets or areas that are regularly dredged for maintenance? No.

What if any restrictions will be placed on anchoring and navigation around proposed cables? None.

Have you contacted the USACE or NJDEP Division of Coastal Engineering regarding your proposed project? No.

COMMUNITY ENGAGEMENT

The Department is committed to the principles of meaningful and early community engagement in the project's approval process. The Department has representatives available to discuss community engagement issues with you and we encourage this communication to take place at the earliest possible time.

(a) What community groups and stakeholders have you identified that may be interested in or impacted by this project? Pinelands Commission

(b) How have you or will you engage community and stakeholders in this project? Yes, once the project is selected, ACE plans on engaging the local community and stakeholders in the vicinity of the project

(c) What are the potential impacts of this project on the community? [redacted]

(d) What are the community concerns or potential concerns about this project? Specific concerns have yet to be identified but ACE will work to mitigate those concerns while meeting the required in-service dates

(e) How do you intend to address these concerns? ACE intends to develop a community engagement program to inform local residents and businesses and gather feedback on construction windows and mitigate any identified concerns to the best of ACE's ability.

(f) As part of this project, do you plan to perform any environmental improvements in this community? If yes, describe. [redacted] Exact specifics have yet to be determined.

Please provide the Department with an additional narrative description function and its local/regional environmental, social, and economic benefits and impacts. Also, what sensitive receptors are present and how might they be affected by this project?

[redacted] The number of trees removed will be dependent [redacted] and preparation of a special tree location survey. Tree clearing is governed by both the Pinelands Commission and Egg Harbor Twp. Tree removals will be carefully planned, with attention

to not only the bulk clearing but also the removals of stumps and underlying root system. It is likely we will need to survey the extent of tree removals as a condition of Pinelands and municipal approvals. This would include land surveys and T&E species/habitat surveys. Furthermore, Egg Harbor Twp will likely require any trees cut, to be replaced elsewhere in the township, following applicable cut-to-plant ratio guidelines. We would expect significant coordination with Pinelands staff in advance of full preparation of plans, to evaluate the potential for approval given the level of clearing.

Air Quality

Will activity at the site release substances into the air?

We are in the pre-development phase and specific activities at the construction site that may release substances into the air have not been studies; it is likely that substances will be released into the air.

Does the project require Air Preconstruction permits per N.J.A.C. 7.27-8.2(c)?

We are in the pre-development phase and this has not been studies. We will comply with all applicable regulation if the project is awarded to us.

Will your project require Air Operating permits (N.J.A.C. 7:27--22.1)?

We are in the pre-development phase and this has not been studies. We will comply with all applicable regulation if the project is awarded to us.

Will the project result in a significant increase in emissions of any air contaminant for which the area is nonattainment with the national ambient air quality standards (all of NJ for VOC and NOx; 13 counties for fine particulates), thereby triggering the Emission Offset Rule at NJAC7:27-18?

We are in the pre-development phase and this has not been studies. We will comply with all applicable regulation if the project is awarded to us.

Will the project emit hazardous air pollutants and/or toxic substances above reporting thresholds listed in NJAC7:27-17?

We are in the pre-development phase and this has not been studies. We will comply with all applicable regulation if the project is awarded to us.

Will the project result in stationary diesel engines (such as generators or pumps) or mobile diesel engines (such as bulldozers and forklifts) operating on the site? If so, which?

We are in the pre-development phase and this has not been studies. We believe that cement trucks, bulldozers and forklifts may be used, but a complete inventory of construction machinery has not been compiled. If the project is awarded to us, we will develop this list and can present it then

Attachment ACE-1: [redacted]

[redacted] General Arrangement and One-Line

[redacted]

[redacted] Conceptual GA

Peach Bottom
Conceptual GA.pdf

[redacted] One-line and [redacted]

[redacted]

Attachment ACE-2: Network Violations

Network Overloads - Base Case.xlsx

Attachment ACE-3: Cost Breakdowns & Cashflows

Attachment ACE-3
Cost Breakdowns ar

Attachment ACE-4: Risk Register

Attachment ACE-4
Risk Register (1510C

Attachment ACE-5: Project Schedule

[redacted] Schedule

[redacted]

[redacted] Schedule

[redacted]

Attachment ACE-6: Illustrative Revenue Requirement

Attachment ACE-6
Illustrative Revenue

Attachment ACE-7: Permitting Requirements

Attachment ACE-7
Permitting Requirem