ATLANTIC POWER
TRANSMISSION LLC

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RESPONSE TO:

New Jersey
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)

Proposal: APT First 1200MW

Date Submitted: September 17, 2021

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I. Project Proposal Identification

- Proposing Entity Name: Atlantic Power Transmission LLC
- Company ID: ATLPWR
- Project Title: APT First 1200MW
- PJM Proposal ID: 2021-NJOSW-210

II. Project Summary

Building 7,500MW of offshore wind generation for connection to PJM in New Jersey is a significant challenge. This proposal by Atlantic Power Transmission, a portfolio company of Blackstone Infrastructure Partners L.P. ("BIP" and together with Blackstone Inc. and its other affiliates, "Blackstone"), provides technically sound and economically efficient means to help ensure that New Jersey can meet this challenge.

- Atlantic Power Transmission ("APT") proposes to build up to three state-of-the-art HVDC circuits to bring offshore wind power from the New York Bight region offshore New Jersey to the onshore power grid at the Deans 500KV substation in New Jersey.
- The well-proven, scalable HVDC design uses a ±320KV DC system rated for 1,200MW and building all three of these HVDC circuits will enable a total of 3,600MW to be connected to PJM's bulk power system.
- The entire route will utilize submarine and underground transmission to minimize the impact to both local communities and the environment. APT has secured support from all the communities along the route, as well as full site control for the three onshore convertor stations at a 40-acre site adjacent to the existing Deans Substation.
- APT's proposals provide unprecedented, comprehensive risk mitigation to New Jersey's ratepayers in the form of fixed annual revenue payments to include all direct and indirect costs incurred (without limitation) for development, permitting, construction, start-up and commissioning, operations and maintenance, taxes, and financing costs.
- APT's fixed revenue requirements (with a low fixed escalation factor) provide complete cost certainty for the 40-year economic life of the project, with project pricing that is highly competitive relative to standard FERC regulated cost recovery.
- APT's projects will increase competition among offshore wind generators in future solicitations run by the New Jersey Board of Public Utilities ("BPU"), while providing bidders into those solicitations the flexibility they need to optimize their generation design.
- APT is offering a total offshore wind transmission solution of up to 3,600MW, provided in three phases (projects) of 1,200MW each, allowing the pace of transmission development to efficiently match the pace of wind generation development.
- APT's alliance partners include Hitachi/ABB Power Grids, Aibel, and Nexans – companies with significant experience working in the offshore wind industry and in developing transmission projects.
- APT has worked with the New Jersey unions required for construction and assembly of offshore HVDC stations, jacket foundations, onshore converter stations and underground transmission lines to ensure maximum local economic benefit. APT is committed to supporting the New Jersey Wind Institute in further developing the local workforce necessary to ensure New Jersey's clean energy goals.
- APT is confident that after PJM's and the BPU's thorough analysis of submitted bids, this proposal will provide the most compelling and attractive option for New Jersey.

APT looks forward to engagement with the BPU on the delivery of these exciting projects in support of New Jersey's clean energy goals.

Narrative Description of Proposed Project(s)

Overview

APT is proposing three, 1,200MW HVDC offshore wind transmission systems, or circuits, providing a total offshore transmission solution to connect 3,600MW into the 500kV backbone of New Jersey's power grid. Each 1,200MW system is being offered as its own project proposal, enabling the BPU to select either a 1,200MW, 2,400MW or the full 3,600MW solution, as best suited to meeting New Jersey's 7,500MW offshore wind target. The three 1,200MW proposals are identical in every way, with the exception of the price offering and the suggested means to interconnect into the same existing Deans Substation (as there would be three new connections into one existing substation). This "3 X 1,200MW" approach fits well with BPU's offshore wind generation procurement schedule, allowing the development of offshore wind transmission capacity to efficiently match the development of offshore wind generation capacity.

Importantly for system reliability, the three transmission systems are physically and electrically isolated from each other at all points, each circuit will be able to operate independently from any other, and all cables associated with the project are buried.

All three 1,200MW proposals use the same parcel of land, adjacent to the existing Deans Substation, for their onshore converter location. All three 1,200MW proposals use a shared cable corridor for all of the onshore route, all of the offshore route through state waters, and most of the route in Federal waters. Once the shared cable corridor reaches a central area in the vicinity of current and future wind lease areas, APT's shared corridor ends. Instead of going to a dedicated transmission facility platform at a location specified at this time, APT is proposing that the location of the offshore platforms be established after the BPU selects the next wind generator to serve New Jersey. When bidding in the BPU's generation solicitation, the wind generation developers will be able to stipulate the location of the offshore platform, allowing them to optimize design of their offshore wind farm.

APT's electric service platform ("ESP") will support both the HVDC transmission equipment as well as the connection point for the wind generator's turbines, eliminating a second platform in the water and thereby reducing costs and potential environmental impacts.

Because APT's cables share the same corridor, environmental impacts are reduced compared to what would otherwise consist of three separate cable routes from offshore to onshore New Jersey. Furthermore, APT's cables make landfall at a former industrial pier in the Raritan Bay, avoiding any ocean beach landings.

APT: Experienced Management and Sponsor, Best-in-Class Technical Partnership

APT's proposal draws on the deep and relevant offshore wind experience of the APT management team, Blackstone's greenfield and energy investment acumen, and the proven technical solutions of the APT alliance partners.

The APT team is made up of leaders and innovators in offshore wind infrastructure. The team brings a wealth of knowledge and first-hand U.S. offshore wind development experience to New Jersey. The team has had direct experience in several of the earliest U.S. offshore wind projects and has collectively spent over 30 years in offshore wind.

BIP is APT's investor and is supporting this project effort in conjunction with its Blackstone affiliates. BIP has $16 billion assets under management as of June 30, 2021. BIP has an open-ended structure, allowing for it to deploy permanent capital and target long-term investment opportunities. Blackstone is a publicly traded alternative investment firm and a global leader in developing and financing energy infrastructure, with significant experience directly relevant to the success of the APT's project. Relevant Blackstone experience includes:

- Development, construction and operation of the 288MW Meerwind offshore wind farm in Germany's North Sea
- Development of two transnational transmission projects between Hydro-Quebec and New England/New York, by APT affiliate Transmission Developers International ("TDI"), both of which are underwater/underground HVDC systems which secured all necessary Federal permits, including Presidential Permits
- Investment in GridLiance, a transmission holding company, during which time the business built 700 miles of transmission lines and related substation facilities

In addition, Blackstone has committed to or invested in over $10 billion into energy transition companies or projects since 2019, and since 2005, Blackstone has invested in greenfield energy projects worth over $20 billion.

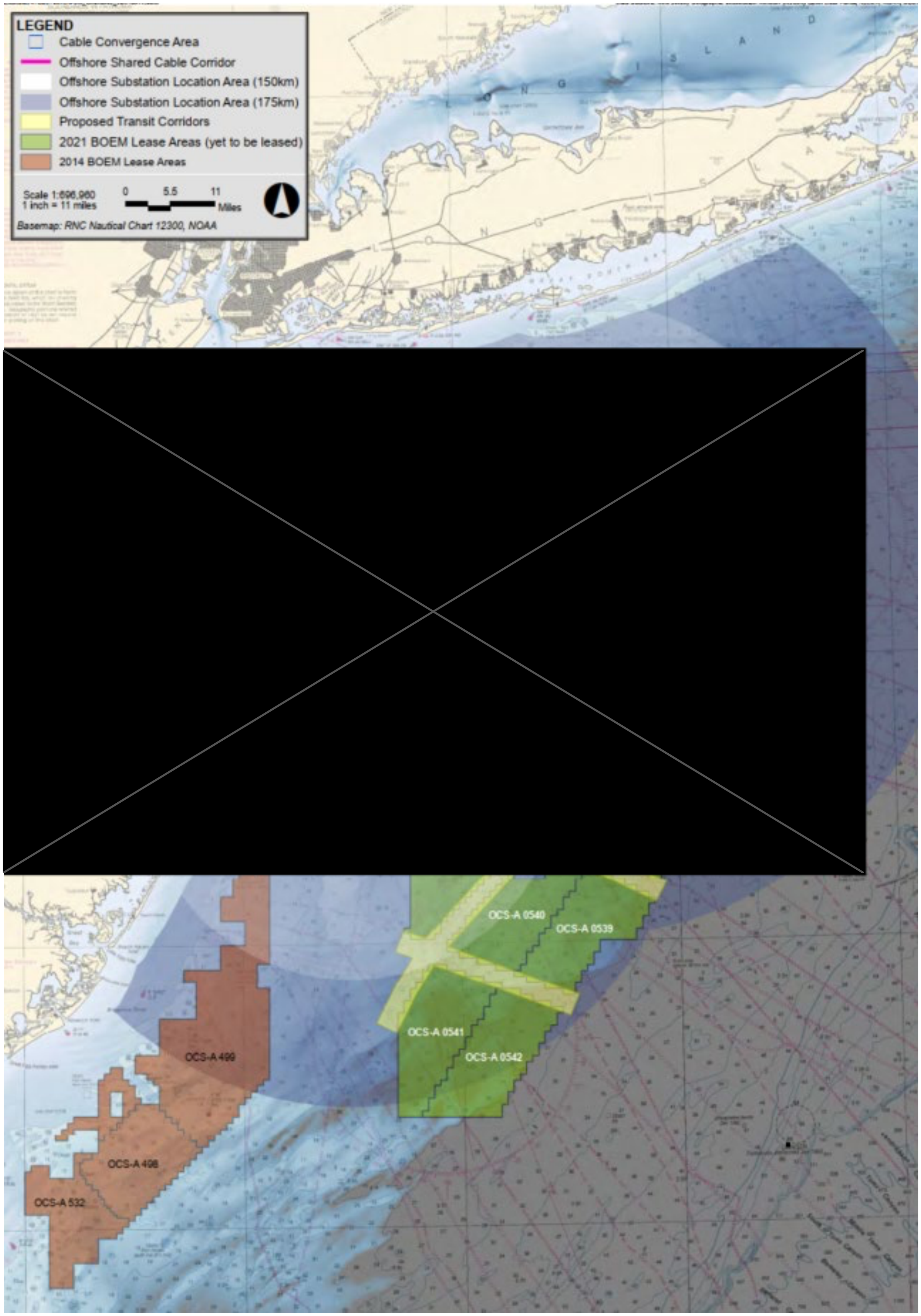
The technical consortium which underpins the HVDC system proposed by APT is best-in-class. APT sought out Hitachi ABB Power Grids, Aibel, and Nexans as partners for the project given each firm's experience in energy transmission planning, permitting, construction, and operations. The organizations have worked together many times and have delivered numerous projects which use buried HVDC and HVAC transmission technology.

For further details about the strength of the APT Team in providing this project to New Jersey, please see the full Qualifications Statement provided in Attachment 1.

Shared Cable Corridor

Starting from the offshore location in the NY Bight, the planned 1,200MW HVDC cable circuits begin sharing a common route at a point on the northwest corner of six offshore wind lease areas that were recently announced by BOEM. From there, the cable corridor runs generally to the west, then turns north along the New Jersey shore, then turns west [redacted], then continues west [redacted]. APT's system would also have the flexibility to connect with a second project in the Atlantic Shores lease area, as well as the two new lease areas just south of Long Island by using an alternative branch of the shared cable corridor. Figure II – 1 indicates the shared cable corridors. APT's price offering includes enough cable to locate an ESP within the 150km radiuses shown around the end of the share cable corridor ("cable convergence area"); APT is prepared to make available longer distances as well, as illustrated by the 175km radiuses.

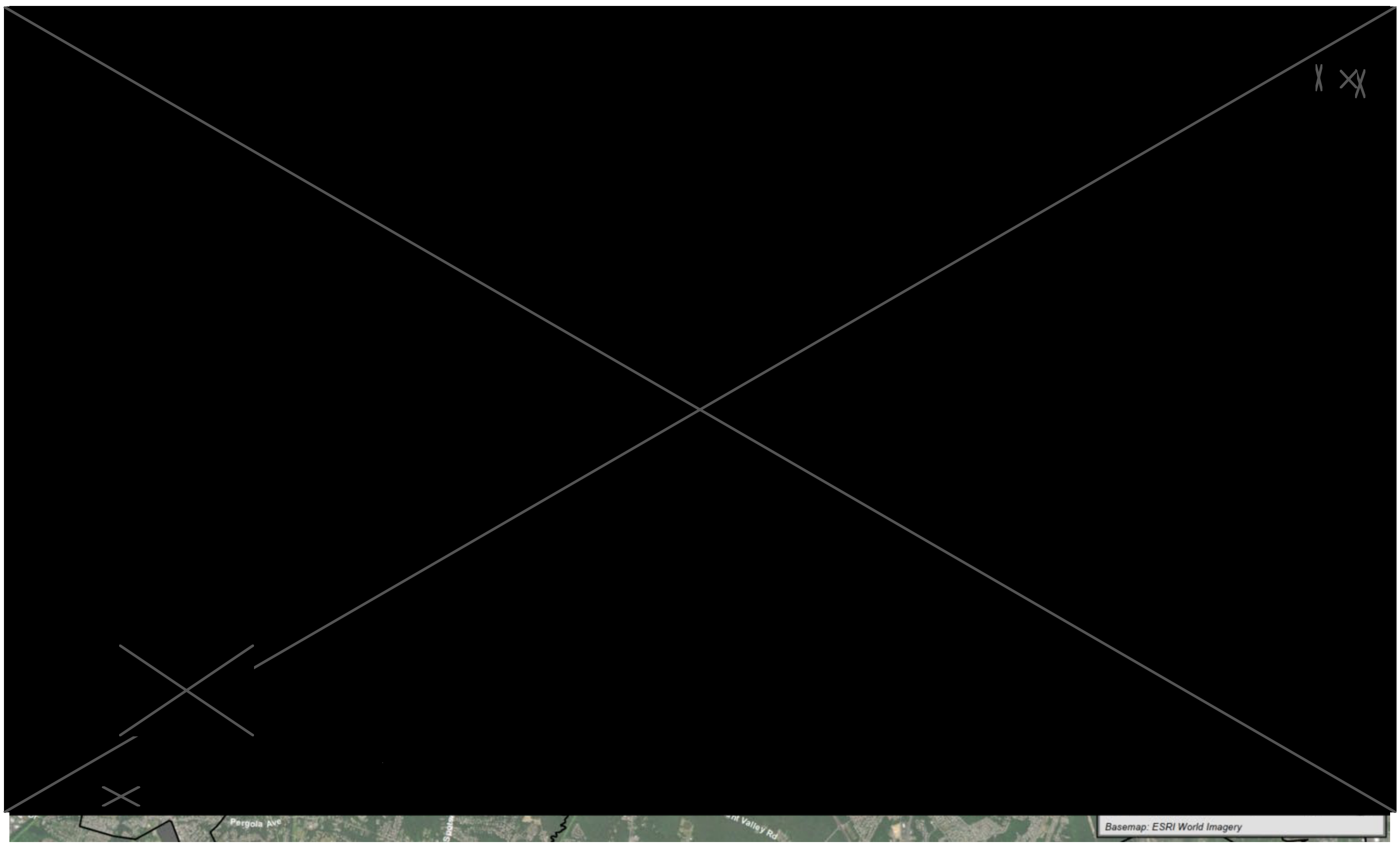
[redacted]


LEGEND
Cable Convergence Area
Offshore Shared Cable Corridor
Offshore Substation Location Area (150km)
Offshore Substation Location Area (175km)
Proposed Transit Corridors
2021 BOEM Lease Areas (yet to be leased)
2014 BOEM Lease Areas
Scale 1:696,960
1 inch = 11 miles
0
5.5
11
Miles
Basemap: RNC Nautical Chart 12300, NOAA
OCS-A 0540
OCS-A 0539
OCS-A 0541
OCS-A 0542
OCS-A 499
OCS-A 498
OCS-A 532

The transition from submarine to onshore cable is accomplished via the use of Horizontal Directional Drilling (“HDD”); use of this installation technique avoids and reduces construction impacts in the nearshore area [redacted] The HDD origination point is a currently vacant and unused pier on the [redacted] waterfront. The area of the HDD site is next to the [redacted] APT looks forward to supporting the City in its exciting waterfront redevelopment, which would also be the landing point for New Jersey’s clean energy corridor under this proposal.

From the landfall, the cable corridor will follow the existing [redacted] corridor south for approximately 13 miles as shown in Figure II -2. The right-of-way (“ROW”) passes [redacted] and all of these communities have provided letters of support for the project. Use of the rail corridor avoids most environmental impacts as well as construction disturbances to the local community during installation.

Figure II – 2. [redacted]



[redacted] At that location, less than a mile from Deans Substation, APT has secured the rights to a 40-acre parcel for the location of up to three 1,200MW HVDC converter stations. See Figure II – 3, which shows this route as well as alternatives that APT has identified.

[redacted]

[redacted]

APT analysis has found that using the existing transmission ROW is a very direct route which would minimize construction disruption and environmental impacts. An alternative route largely parallels, but is outside of, the ROW until it gets to [redacted] along Interstate 95, at which point it is buried in the roads. Routes using only roads for this approximately three-mile section area are also feasible.

Onshore HVDC Converter Station

The converter station parcel is located in South Brunswick Township, which has also provided a letter of support for the project. The purpose of this convertor station is to receive the incoming HVDC electricity from offshore New Jersey and convert it into the AC electricity used in by the region's power grid. The converter station will be an advanced, compact facility. Visual screening will be used to maintain the character of the road.

From the converter station, a short, buried AC line will connect the wind transmission system to the existing Deans Substation, which abuts the converter station parcel.

Project Optionality, Flexibility, and Modularity

Advantages of Phased Deployment of a Large Offshore Transmission System

APT's modular approach allows for a cost-effective offshore transmission to meet New Jersey's 7,500MW offshore wind goal, while maintaining the flexibility developers need to design efficient wind farms. APT's modular approach provides the opportunity to quickly get to a large scale of offshore wind transmission, while also limiting risks to just one 1,200MW particular project. This modular, phased approach to 3,600MW also allows the development of offshore transmission to be best aligned with the development of offshore wind generation.

Selecting the 2,400MW or 3,600MW total proposal options would allow New Jersey to lock-in access to supply of components in the constrained HVDC and submarine cable market, ensuring build-out to reach state goals. Selecting the 2,400MW or 3,600MW total proposal options would also alleviate project-on-project risk as APT's second and third transmission facilities would be in a very advanced state of development by the time of the fourth- and fifth-generation solicitations.

While selecting the 1,200MW or 2,400MW would not optimize these benefits, these selections would provide some benefit in that much of the cable corridor and other infrastructure would be available and ready to serve offshore wind in the future.

Interdependency of Options

APT is proposing three separate but linked project proposals to provide up to 3,600MW in new transmission capability to support New Jersey's procurement of offshore wind-generated power. The three linked project proposals are as follows: First 1200MW (PJM Proposal ID 2021-NJOSW-210, or "Phase 1"); Second 1200MW (PJM Proposal ID 2021-NJOSW-172, or "Phase 2"); and Third 1200MW (PJM Proposal ID 2021-NJOSW-769, or "Phase 3"). APT's linked proposals provide New Jersey with the option to select 1,200MW, 2,400MW, or 3,600MW of new transmission capability. As proposed by APT, the projects are additive to each other and must be selected sequentially. To illustrate, if New Jersey seeks only 1200MW of capability, it will select APT's First 1200MW project proposal. If New Jersey opts for 2,400MW of capability, APT's First 1200MW and Second 1200MW project proposals would be selected. APT's Third 1200MW proposal would only be selected if New Jersey sought 3,600MW of new transmission capability.

Because nearly all responses and bid materials herein describe the same transmission system, this response form is also identical for each of the three proposals. This approach both reduces the amount of material for a reviewer to examine and makes it easier to consider the advantages of the three systems working together. In the two topic areas where there are differences between the proposals, regarding the connection at the Deans Substation and the price offerings, these differences are described so that the benefits of selecting one, two, or all three of the proposals can be evaluated.

Overview of Project Benefits

Benefits of Three Transmission Lines, But the Impact of One

APT's design features three independent, high-voltage, direct current cable systems, all sharing the same corridor for nearly their full-length, onshore and offshore, enabling connection of the same amount of offshore wind energy as three independent systems, with the impact of just one. This approach achieves significant reduction in environmental impact, permitting risk and disruption from construction, while quickly optimizing use of the available interconnection capacity at Deans Substation. A study by Hitachi ABB Power Grids has confirmed the feasibility of connecting 3,600MW into the Deans Substation; this study is provided in Attachment 18.

De-Risked Route

APT's project design and pre-development strategy seeks to ease permitting risks and build community buy-in up front. The design incorporates:

- [redacted]
- [redacted]
- Installation along existing linear infrastructure – reducing environmental and community impacts
- No visual impact – full burial of HVCD lines also eliminates EMF-related safety concerns
- Impact mitigation in the offshore cable route – avoiding heavily fished areas, fewer offshore structures than generator-based transmission systems

As a result of reducing known stakeholder concerns and investing in early outreach, APT has been able to secure letters of support from all the communities along the onshore cable route in advance of bid submittal. In addition, APT has a signed purchase agreement for the parcel targeted for converter station construction next to Deans Substation.

Increasing Competition and Reducing Cost in the Next Offshore Wind Generation Solicitations

With APT's solution, competition in the next New Jersey offshore wind solicitations will come down to one thing: lowest cost of generation. Developers will not need to build in a risk premium for permitting and executing their grid interconnection and difficult to estimate and potentially large system upgrade costs. At the same time, the generators will maintain full flexibility in determining their offshore platform location and wind farm optimization. In addition, APT's proposal is to combine the generator's intra-array collection system platform with the transmission system platform, eliminating a structure in the ocean and thereby reducing costs and potential environmental impacts.

APT is not affiliated with any offshore wind developer or potential off-taker, and therefore can establish an open, trusting, unconflicted relationship with all participating offshore wind bidders to ensure they can make the best use of the APT transmission solution to provide the lowest electricity generation bid price. With decades of experience in offshore wind development, APT management is ideally positioned to work effectively with offshore wind generators to find cost savings and help ensure on-budget generation projects.

Reliability of System

The APT project is designed with a number of features that enhance the reliability of the offshore transmission system. All of the cables, both onshore and offshore, DC and AC, are fully buried. Burying all the cables this way essentially eliminates risk from increasingly severe weather events as well as reduces risk of terrorism or sabotage. Just in the past decade New Jersey has suffered significant weather-related damage from Hurricanes Irene and Ida and Superstorm Sandy.

High reliability begins with good design. The HVDC equipment system proposed by APT was designed for high total system reliability levels by making each individual component highly reliable and having in-service redundancy of critical components, such as transformers, allowing the system to continue to operate even if one component goes out. The Grid Connection System (GCS) has a high level of designed redundancy that allows most scheduled maintenance to occur with GCS in-service. Onshore cable installation will utilize thermal backfill to prevent thermal degradation and ensure long cable life.

The fabrication and installation will also be carried out with reliability as a critical objective. APT will use independent Quality Assurance/Quality Control inspections during transmission cable manufacturing and installation, to ensure no damage during transport or installation. Owner's engineers and other third-party inspections will ensure quality fabrication and installation that is built to last. Critically important will be an on-board owner's representative during cable installation, to confirm that cables are buried to correct design depth, or protective measures put in place.

Reliability will be APT's core mission during the operations of the facility, as described in the Operations and Maintenance Plan (see Attachment 17). An effective offshore logistics program will be put in place to ensure that the large crews needed for regular maintenance can complete their work safely and on schedule, as well as provide rapid, all-year access in the event of an unscheduled outage. APT will have a rapid response plan with systems to support both onshore and offshore unscheduled outages, including long-term support from the HVDC equipment provider. A well-trained Rapid Responder will always be within a short distance of the onshore facility, with "on stand-by" access available to the offshore facility. Transformers, replacement cable, and other long lead time spare parts will be procured and stored by APT to facilitate quick repairs.

Other APT projects' reliability benefits include reactive control provided by the convertor station, and an offshore converter station design that facilitates interconnecting among offshore substations in the future to provide cable redundancy.

Positive Economic Impacts for New Jersey Exceeding $1 Billion

With the commitment to construct, own and operate the project, APT envisions an ongoing, long-term partnership with New Jersey's leaders, business community and residents to achieve the multiple goals of this SAA solicitation as well as the broad offshore wind enterprise in general, consistent with the goals of the New Jersey Offshore Wind Masterplan: catalyzing the state's supply chain, reinvigorating port facilities, generating high-quality jobs and ensuring equitable access to opportunity.

APT commits to maximizing New Jersey content and job creation and has identified several specific targets for accomplishing this. APT is actively pursuing the following:

- [redacted]

[redacted]

The construction of these three offshore components and associated local labor opportunities will extend over several years. These activities are incremental to substantial local spending in New Jersey during the project's installation, such as construction of the onshore converter stations, onshore cable installation, and shallow water cable works. In addition to construction period jobs and economic activity, APT anticipates 26 permanent full-time operations and maintenance positions over the lifetime of the project. Combined with other anticipated community investments and property tax payments associated with the onshore cable installation, the value of APT's investment in the New Jersey economy is approximately $1.3 billion. A detailed breakdown and analysis is found in Attachment 3.

Figure II – 4 illustrates the offshore jacket as it might be seen leaving New Jersey for installation offshore. These jackets will be about 50m high and have a footprint of 40x40 meters. Figure II – 5 illustrates how this jacket supports the offshore substation, also often referenced as an ESP, after installation is completed. The ESP is about 40m high with a footprint of 70 x 40 m

Figure II – 4. ILLUSTRATION OF TYPICAL JACKET INSTALLATION USING A BARGE.

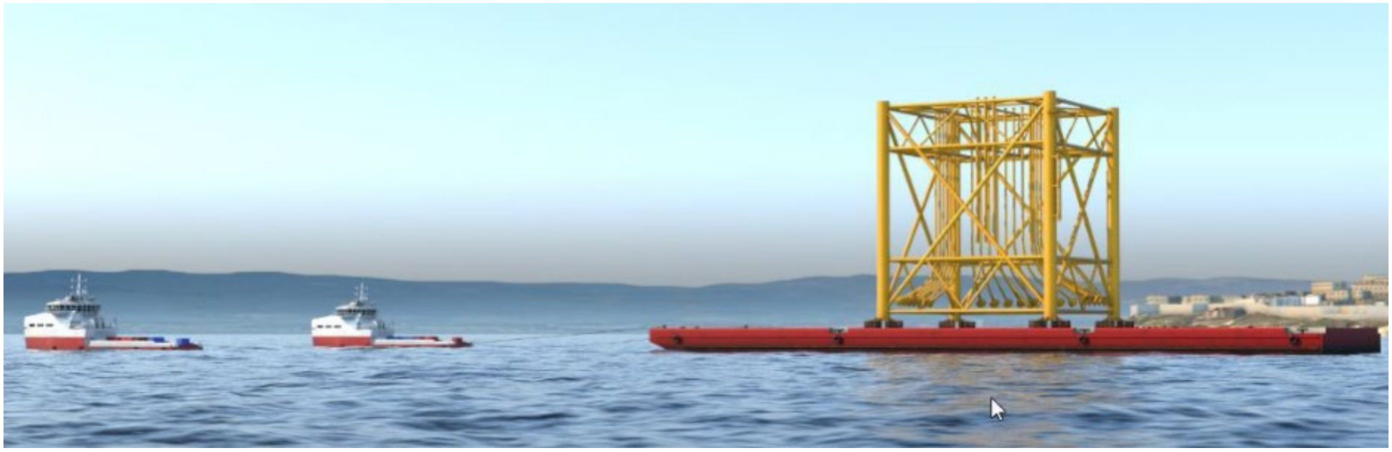


Figure II – 5. ILLUSTRATION OF A TYPICAL ESP, SHOWING THE OFFSHORE TRANSMISSION EQUIPMENT BEING SUPPORTED BY THE JACKET.

APT has an executed MOU to use Union labor, and the Project has the full endorsement of the United Brotherhood of Carpenters and Joiners of America, the International Union of Operating Engineers and the Ironworkers. Letters of support from these unions are found in Attachment 23. These New Jersey unions are actively participating in joint efforts to maximize local economic benefit, [redacted]

To complement these economic development benefits which are directly driven by APT's offshore wind transmission solution, APT is proposing a significant multi-year investment to build New Jersey's capacity to train students for a broad range of long-term opportunities in technology, engineering, construction trades, the power sector, maritime operations and project development. These fields will underpin the State's offshore wind enterprise.

One of the key recommendations in the New Jersey Offshore Wind Strategic Plan is to:

> *"… Develop and utilize the WIND Institute to act as a centralized hub for offshore wind workforce development and champion research and innovation that unlocks market potential."*

APT proposes to endorse this smart, centralized capacity-building approach through a [redacted]. This funding stream will enable targeted workforce development investments in New Jersey's diverse and exceptional technical education, training and research institutions, to be administered by the New Jersey WIND Institute with the ongoing engagement and support of APT personnel.

The expertise and programmatic resources of APT's alliance partners will also be available to support high-impact new opportunities for the future technical and professional offshore wind workforce through advising, internships and apprenticeships.

Overview of Risks and Strategies to Limit Risks

Certainty of Execution

Certainty of execution of this transmission solution is critically important to meeting New Jersey's offshore wind targets and managing project-on-project risk. APT has developed a highly capable finance and construction team, which will work to a robust schedule that ensures each of the transmission facilities are ready to serve offshore wind generation as it becomes operational. The perpetual structure of BIP allows for the development of high-quality infrastructure assets and the ability to act as a long-term partner and owner. APT's pre-bid commercial alliance with Hitiachi ABB Power Systems, Aibel and Nexans ensures access to the supply chain and quality, on-time fabrication and installation of the project. These partners are supported by a project management and permitting team with experience in permitting current U.S. offshore wind projects and other major infrastructure in New Jersey.

APT has developed a detailed Project Execution Plan that addresses construction management, construction risks mitigation, and an overall project schedule (including financing, permitting, long-lead procurement, and installation) that ensures the APT transmission project will be ready to serve New Jersey's next offshore wind provider selected under the BPU's next wind generation solicitation, and subsequent solicitations. This Project Execution Plan is provided in Attachment 16.

By carefully designing its transmission solution to address the most serious stakeholder concerns and environmental impacts upfront, APT has significantly mitigated against most typical permitting risks, as well as achieving site control of the converter station development parcel. A well-developed permitting plan (see Attachment 7) lays out a clear pathway for efficiently securing all local, state and Federal authorizations. Early outreach to cable corridor host communities has already yielded letters of support from local elected officials.

APT Addresses Inherent Project-on-Project Risk

- APT's proposal addresses project-on-project risk by:
- High certainty of project execution
- Ratepayers do not pay until project is completed.
- Ability and commitment to work closely with generation developers and BPU
- Permitting plan that ensures construction on transmission project cannot begin until a generator that may use the system has first received their permits.

APT is sensitive to the concerns around project-on-project risk and has designed a permitting and development process that creates an opportunity for partnership between APT, the BPU and the offshore wind developers that will limit and mitigate project-on-project costs.

An advantage of APT's plan to acquire the BOEM right-of-way is that the permits that would subsequently be issued to use that ROW will provide an important, binding check to avoid project-on-project risk i.e., project does not go into construction until generator also has permits.

The APT approach also eliminates the risk that New Jersey ratepayers will have to pay for an unsuccessful project. Ratepayers do not pay until project is completed. In the very unlikely event that APT does not deliver the project on-schedule, the risk is significantly mitigated because under the terms of APT's price offering, the project will not receive any payments until the project is commercially operational.

Overview of Project Costs, Cost-Containment Provisions and Cost-Recovery Proposals

The APT proposals consist of three 1.2 GW HVDC offshore circuits to connect offshore wind generation to the PJM grid. APT is submitting a Pre-determined Revenue Requirement proposal to provide cost certainty to New Jersey ratepayers. Ratepayers will have no risk related to APT's costs, including development, permitting, construction, maintenance, and financing.

The APT proposal includes a 40-year economic life for each project. [redacted] In addition, the price of each project (phase) decreases materially for each incremental 1200MW project phase that is selected.

APT's proposal will also have positive impacts on the pricing received during BPU's upcoming generation solicitations, given that the APT solution offers considerable flexibility to wind generators to locate their offshore platform, as well as removes risks and uncertainties for the generation bidders around system upgrades and securing a cable route. APT's solution will facilitate a robust competition among generators which should lead to lower OREC prices for New Jersey ratepayers.

Conclusion

APT's proposals provide a highly reliable, cost-effective offshore wind transmission solution that will increase competition among wind generation developers and better ensure New Jersey will meet its 7,500MW by 2035 target.

APT's proposed solutions will provide certainty and cost control to interconnecting large amounts of offshore wind directly to the 500kV backbone of New Jersey's power grid. APT's solution will enable a highly competitive solicitation among future wind generation developers and remove OREC price premiums related to grid connection. APT's proposal provides price certainty for the 40-year economic life of the transmission system, delivered by an alliance of strong partner companies, in collaboration and coordination with New Jersey labor unions. A shared cable corridor for the buried cable route, landing at a former industrial pier and then following a rail corridor and other existing infrastructure, will limit any environmental impacts. This cable route design also ensures that the project will be well received by communities along the cable route, as has already been evidenced by letters or resolutions of support from all of the communities along the route.

APT stands ready and committed to work with the State of New Jersey to help it deliver on its offshore wind deployment goals.

III. Proposal Benefits

The State Agreement Approach to offshore wind transmission initiated by New Jersey, in partnership with PJM, provides the opportunity for the state to undertake a major infrastructure development initiative that addresses a much broader range of public interests than a typical transmission expansion project. APT's proposed transmission solutions ensure that New Jersey rate payers will benefit from the full suite of long-term cost-saving and impact-reducing benefits realized through this precedent-setting, strategic approach to bringing offshore wind power to shore from multiple competitive projects.

These benefits include ensuring cost-effective and reliable interconnection of up to 3600MW of wind generation capacity needed in order to reach the state's 7500MW objective. This transmission capacity needs to be brought on-line in a relative short time in order to meet this 2035 objective and needs to be done in a manner that is environmentally responsible and welcomed by local communities. And New Jersey seeks to seize on this offshore wind build-out as an opportunity to bring an entire new manufacturing and construction industry to the state.

APT's three offshore wind transmission proposals, totaling 3600MW of capacity to connect offshore wind to New Jersey, will offer substantial support to the state in achieving all of these beneficial policy objectives, as well as offering a reliable and cost-effective transmission solution.

APT is prepared to partner with the New Jersey Board of Public Utilities (BPU) to ensure a highly competitive offshore wind generation solicitation, while at the same time providing the wind generators the flexibility and technical support they need to develop the best generation projects for the state. APT is also committed to building New Jersey's supply chain and workforce development infrastructure. APT's project provides a broad range of long-term benefits for New Jersey residents, as further detailed in Section II and throughout this submission.

1 | 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.

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.

APT engaged the Power Consulting business within Hitachi ABB Power Grids to conduct a conceptual analysis and limited feasibility study regarding the viability to increase the offshore wind injection capacity at the Deans POI from 2,542MW to 3,600MW OSW (the "3600MW-Deans" case) while simultaneously decreasing the capacity at the Larrabee POI from 1,200MW to 142MW using the PJM-supplied models and reliability criteria. With these changes, the total OSW MW injections at the default four POIs stay the same, i.e., 6,400MW. The Deans and Larrabee Substations are electrically close with connections through the Smithburg 500/230kV Substation. The proposed changes appear to have minimal impact on the power grid in reference to the base case supplied by PJM. A version of the study report (with CEII material redacted) is provided as Attachment 18 – 3600MW Offshore Wind Connection to NJ Analysis & Feasibility Study; the unredacted version has been submitted through the PJM Competitive Planner.

The following studies were performed to evaluate the system impacts:

Generator Deliverability Test

Generator deliverability analysis was performed under both single and common mode contingencies for the 2028 Summer and Winter load conditions.

Long-Term Deliverability Analysis

Long-term deliverability analysis was also performed to consider the impact of PJM load growth through 2035. Both Summer and Winter load conditions were considered in this study.

[redacted]

[redacted]

The report also contains a summary of additional benefits associated with the design, including the use of a fully underground DC and AC circuits construction, which essentially eliminates risk from increasingly severe weather events as well as reduces risk of terrorism or sabotage. Other benefits include reactive control provided by the convertor station, and an offshore converter station design that facilitate interconnecting offshore substations in the future in order to provide cable redundancy.

2 | 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.

APT is prepared to partner with the BPU to ensure a highly competitive offshore wind generation solicitation, while at the same time providing the wind generators the flexibility and technical support, they need to develop the best generation projects for the state. Two key advantages of the APT proposal are the use of one offshore platform for both array collection and transmission equipment instead of two, and the flexibility the generator developers have in determining the location of that platform and controlling the permitting of that platform (which is anticipated to be in their lease area). APT believes the shared structure approach and the platform location flexibility will help New Jersey to run a highly competitive solicitation process amongst the generator developers, while also ensuring the generator developers can develop an optimal design for their projects.

Once selected, APT would welcome an opportunity to support the BPU in developing its next OSW generation solicitation to ensure a fair, highly competitive solicitation process. APT would seek to engage with current leaseholders and prospective bidders in the upcoming New York Bight auction to explain APT's development framework, identify and resolve concerns, and identify opportunities for efficiency. APT's approach will be one of openness and fairness among the potential generation bidders, and we will be motivated to support the BPU in having many high-quality, low-cost generation bids from which the BPU can choose.

By providing a complete transmission solution to the generation bidders, the bidders will not need to include a price premium for risks associated with permitting their own generator lead line, or uncertainties around system upgrade costs that they might be responsible for.

APT is well suited to be a collaborative and trusted partner for the generation developers selected to provide energy to New Jersey. APT is not an offshore wind generator (nor is it currently affiliated with a generator). APT is not affiliated with the local grid owner or potential off-taker. At the same time, APT's senior management understands offshore wind generation issues because they themselves come from the offshore wind generation sector, with a number of APT senior managers having roles ranging from managing the construction of the Block Island Wind Farm, to leading the planning and permitting of the Vineyard Wind project, to leading the financing and procurement of an operating offshore wind project in Germany.

In addition to enabling heightened competition among well designed generation projects, APT's solution provides benefits regardless of which generation projects are ultimately selected. The APT projects, each three 1,200MW systems, will enable the BPU to connect up to 3,600MWs of offshore wind resources at Deans substation with one onshoring location at [redacted]. This is the most northern Point of Interconnection (POI) under consideration in New Jersey, and because of the proximity to the highest electric load, APT's projects have the best ability to maximize energy value for the offshore wind MWh delivered to New Jersey's ratepayer. LMPs in PJM have historically been higher in northern New Jersey where the population is the most concentrated and the electric load the highest.

Other benefits include the valuable potential for the BPU and New Jersey to avoid up to three or more sensitive beach crossings with APT's three 1,200MW projects. Avoiding beach crossings is of significant value, both to local environments but also to the communities that would otherwise be disturbed by the work required to bring generator tie lines ashore for each generation solicitation. Early engagement with beach communities in New Jersey by offshore wind developers has identified some pockets of strong resistance, so the ability to avoid this type of disruption to multiple communities would undoubtedly hold significant value.

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

The APT projects, once constructed, will enable offshore wind generation to be studied in PJM's interconnection queue in a simplified and more effective fashion. Generation projects that have successfully competed for state sponsorship under one of the future competitive solicitations will be able to utilize APT's transmission assets to facilitate its connection to the PJM's electric grid in New Jersey. The three studies of increasing detail (Feasibility, Impact, and Facilities) that ultimately provide the scope, costs, and schedule to perform the interconnection/network upgrades to connect the generation to the bulk power system would still occur, but because the generation would be using the capacity created by APT's projects, the process would be straightforward, simpler and less time consuming.

PJM's current generation interconnection queue process was developed over twenty years ago in response to the Federal Energy Regulatory Commission's (FERC) policy of 'open access transmission' and various state policies of generation restructuring and retail electric competition. Back then, new generation projects were mostly large, combined cycle natural gas. Now the needs of connecting large amounts of clean energy projects quickly are creating significant delays in the queue process.

Without committing to transmission solutions that are designed separately from each generation solicitation, the prospective bidders for New Jersey's generation solicitations would all be putting projects into the limited number of POIs along the coastline, with the projects competing for solicitation awards, without knowing what the extent of system upgrades needed for connection of the generation contained in each bid. This would translate to significant transmission scope, cost and scheduling uncertainty that would be unresolvable during New Jersey's evaluation of bids and which would result in time, buildability, and financial risk that the BPU would either have to accept directly or indirectly in the form of risk premiums in the bids. All of this can be avoided with New Jersey's selection of APT's projects under PJM's SAA RTEP open window.

3 | 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.

HVDC technology allows for controllability that is far more precise than generation adjustments, especially wind generation connected through AC lines. This will allow PJM to maximize the market benefits and run the system in the most efficient manner possible. In addition, the fact that Deans is a strong 500KV connection to the grid should reduce the need for curtailments due to local outages or conditions.

A transmission system economic benefits study conducted by Daymark Energy Advisors provides a detailed study of the value of 1,200MWs, 2,400MWs, and 3,600MWs of offshore wind resources injected into the Deans substation. The amount of reduction in New Jersey load payments from these wind resources is substantial across the 40-year life of the APT projects, starting at $31 million per year for 1,200MWs, going up to $181 million per year with 3,600MWs. These values were calculated using energy market simulations from a PROMOD case provided by PJM in the SAA RTEP open window. Please see Attachment 19 – Transmission System Economic Benefits Study for the full report.

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

As reported in the Daymark Energy Advisors study (Attachment 19), the New Jersey ratepayer savings associated with the 3,600MWs of offshore wind facilitated by the APT projects were modeled with energy market simulations using PROMOD data provided by PJM, reached a total of $181 million per year, with production cost savings PJM-wide ranging from $170 million per year to $401 million per year.

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:

The proximity of the converter substation being adjacent to Deans will significantly reduce transmission costs as well as provide more reliability with fewer above-ground facilities.

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):

As pointed out in the Daymark Energy Advisors study (Attachment 19), there are some minor capacity cost savings related to the construction of APT's project, however, they do not appear to be significant enough to consider in presenting this project's many benefits.

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:

APT believes that its projects will best position New Jersey to reach its goal of 7,500MWs of offshore wind by 2035. Reaching this goal will go a long way in making New Jersey self-sufficient in its energy needs, creating a large cache of in-state carbon-free generation. These wind resources with zero fuel costs, will put pricing pressure on fossil-based thermal resources, making them more likely to retire before they otherwise would without as much offshore wind. Additionally, the increase in more carbon-free electric generation will assist New Jersey's efforts to lower emissions related to the proliferation of electric vehicles and supporting the decarbonization of the transportation industry, one of the largest carbon-emitting sectors.

IV. Proposal Costs, Cost Containment Provisions, and Cost Recovery

1 | APT Approach and Benefits

APT is responding to this solicitation with a Pre-determined Revenue Requirement. APT has focused on several guiding principles.

1. APT understands the BPU's need to provide cost certainty to ratepayers, while eliminating the risk of cost and scheduling overruns. The APT team and shareholders have extensive experience in greenfield transmission and power generation projects and have developed with the APT Alliance Partners a capital investment plan and 40-year operating budget which they are prepared to stand behind. APT is prepared to protect ratepayers with a Pre-determined Revenue Requirement which fully caps the project's procurement, construction, maintenance, and financing costs for New Jersey ratepayers.
2. APT is proposing recovery over an economic life of 40 years based on the useful life of various components of APT's project as well as the useful life expectations of the offshore wind generation facilities. To the extent a longer service life is requested, APT would be interested in understanding the driving factors and could provide an extended recovery schedule.
3. [redacted]

APT has sought to provide a least-cost solution by working closely with the APT Alliance Partners to provide the most competitive and predictable project offering overall. Forming an alliance at pre-bid stage with proven market leaders, Hitachi ABB Power Grids, Aibel and Nexans, has enabled the APT project to ensure reliable project delivery and full application of the European learning curve. Early collaboration with local contractors, communities and an established partnership already formed with New Jersey unions will secure proven US construction capabilities, de-risking the project and enabling strong safety leadership.

2 | Proposed Schedule

The annual Pre-determined Revenue Requirement schedule is provided in the table below. For illustrative purposes only, the table provides the implied $/kW-mo based on nameplate capacity of the system. This schedule utilizes a commercial operations date ("COD") of March 2030 for Phase 1 (First 1200MW) and March 2031 for Phase 2 (Second 1200MW) and Phase 3 (Third 1200MW). APT's proposal assumes monthly payments based on a fixed revenue approach over 40 years.

[redacted]

[redacted]

3 | Adjustments to the Revenue Requirement Schedule

APT's proposal seeks to minimize risk to ratepayers by electing a Pre-determined Revenue Requirement. The Revenue Requirement Schedule will not be subject to change other than the limited exceptions below. There are two items outside of APT's control which could lead to downwards or upwards adjustments to the APT Revenue Requirement Schedule prior to a notice to proceed:

1. Several components in the APT system have exposure to currency due to their location of manufacture (e.g., Sweden, Norway, Thailand, Switzerland). Furthermore, these components will experience fluctuations in price, increases or decreases, as a result of commodity price changes (e.g., steel, lead, copper). While APT has undergone intensive and extensive deliberations with the APT Alliance Partners to ensure that APT can assert high confidence in its Pre-determined Revenue Requirement, the cost of the transmission system will remain subject to commodity prices and currency exchange rates until the engineering, procurement, and construction ("EPC") contracts are executed, and the project has reached notice to proceed ("NTP") – this is anticipated for 2025. At this stage, APT would be in a position to hedge or otherwise manage future currency and commodity fluctuations post-NTP. APT proposes to collaborate with the BPU regarding an appropriate formulaic change to the Revenue Requirement Schedule which will pertain only to movements in exchange rates and commodity prices.
2. The APT transmission system is structured to provide a turnkey solution with up to 150 km of subsea cable to the BPU. Based on APT calculations, this cable distance will accommodate the vast majority of the 9 lease areas likely to serve New Jersey. To offer flexibility, APT can increase the offshore cable length, which would result in a one-time adjustment to the Revenue Requirement Schedule to account for the change in distance depending on the BPU's choice of generator. This would qualify as a Directed Scope Change as defined under the Designated Entity Agreement, which is discussed later in this document.

As stated above, Table IV-1 above assumes the project begins to receive revenues in March 2030 (Phase 1) and March 2031 (Phases 2 and 3). Absent material changes to this assumption based on PJM and BPU feedback, no adjustment would be applied to the schedule. If the commencement dates were to be altered, the Revenue Requirement Schedule would be modified.

4 | Additional Cost Information

Capital cost assumptions underpinning the schedule provided above can be reviewed in APT's Competitive Planner submission. In addition, we assume annual operating costs across Phases 1, 2, and 3 are cumulatively [redacted] in the first full year of operations, with projected growth in line with general inflation. We also expect to incur and absorb material component replacement and upgrade charges approximately halfway through the system's 40-year recovery period at no additional charge to ratepayers.

5 | Cost Estimate Classification and Expected Accuracy Range

The project follows the principles of an integrated approach to portfolio, program and project management, consistent with AACE International standards. The expected accuracy range is indicated on a line-item basis via PJM's submission forms. Due to the innovative and site-specific nature of the project, most cost estimates range in the higher-Class levels, mostly Class 3 and Class 4, with lower accuracy.

Whilst these primary characteristics are highly relevant for a predictable project delivery, the Pre-determined Revenue Requirement approach offered by APT provides extensive ratepayer protection from construction and operation cost overruns.

6 | Estimated Energy Losses of the Proposed Facilities

The HVDC cable system proposed by APT is the best solution for minimizing energy losses resulting from transmitting power over long distances from offshore wind facilities to the 500kV backbone of New Jersey's power grid. While all transmission facilities create energy losses during the course of transmitting power, HVDC systems create significantly less losses compared to High Voltage Alternating Current ("HVAC") systems when power must be transmitted beyond distances of 50-60 miles, as will be the case for future wind farms serving New Jersey.

APT and its Alliance Partner Hitachi-ABB have calculated estimated losses for the 1,200 MW APT system using values for cable length and other factors anticipated to apply if the system were bringing power to New Jersey from one of the Hudson South lease areas. This analysis found losses to be less than 2.5% at cable power levels above 50% (600 MW), and at or below 2.0% at power levels below 50%. This analysis was based on "AC-in-offshore to AC-out-onshore" power levels, and so accounts for all losses from the point the power is delivered by the wind farm to the offshore platform to point of interconnection where APT will deliver the power to the New Jersey grid.

How this power loss translates into annual energy loss is very much dependent on the characteristics of the offshore wind generation. To make an energy loss estimate, APT engaged global leading wind resource consultants Natural Power to perform atmospheric modelling of the Hudson South lease areas and use that information to generate energy production estimates that could be expected from a wind farm using the APT transmission system. This energy production information was then applied to the losses at various power levels discussed above to generate an estimate of losses on an annual energy basis. This calculation found that on an annual energy basis, losses from the transmission system are expected to be about 2%.

One of the advantages of the APT proposed system is that it is capable of delivering the full 1,200 MW at the point of interconnection in New Jersey by receiving even higher power levels offshore. Such higher power levels are achieved by having more than 1,200 MW of wind generation capacity deliver energy to the offshore converter station. For example, given the losses described above, in order for 1,200 MW of power to be delivered to the New Jersey grid, approximately 1,230 MW of power is delivered from the wind generation to the offshore converter; this is the assumption used in making the energy loss calculation described above.

Building more wind generation capacity offshore than the maximum power level at the point of interconnect in New Jersey can be an effective strategy to both provide more "firm" wind power to New Jersey as well as make more efficient use of the APT transmission facility. This strategy requires careful consideration of wind farm design and control mechanisms, as well as an analysis of overall economic value of the arrangement, and so needs to be developed in close cooperation with the wind generator. APT stands ready to work closely with any of the wind generators selected by the BPU to ensure the APT transmission system provides the most reliable, cost effective, and efficient means of delivering wind energy to New Jersey.

7 | Physical Life and/or Economic Life of the Facilities

APT is requesting cost recovery over an economic life of 40 years. Design and industry standards have been verified by the APT Alliance Partners and steel weight has been increased to validate a design life of 40 years for all components. In addition to regular maintenance intervals, a major system upgrade is planned to take place around year 20 to ensure continued reliability.

40 years fits well with the needs of the offshore wind industry. It aligns with the life cycle of approximately two turbine generations. It will allow for long-term use of the BOEM lease areas obtained by generators. Given the substantial investment required and environmental factors, APT viewed a long economic and design life as prudent and appropriate for this project.

If there is a desire to prolong asset life further, APT may be able to make selective investments to extend the useful life and to present an alternative revenue requirement.

8 | Cost Containment Approach Commentary

As a cost containment commitment, APT proposes a fixed annual transmission revenue requirement ("Fixed ATRR") for each of the 40 years of the proposed transmission service term. The Fixed ATRR for each year is set forth in Table IV-1. [redacted] The Fixed ATRRs would be inclusive of all costs of the project, including (without limitation) development, permitting, construction, start-up and commissioning, operations and maintenance, taxes, and financing costs. Thus, APT's proposal protects New Jersey ratepayers by providing an "all-in" price.

As reflected in its proposed language to document this cost containment commitment, APT proposes that the Fixed ATRRs proposed in this bid would be adjusted on a one-time basis to account for changes – both increases or decrease – in certain commodity costs and foreign exchange rates that may occur between the date of this bid and APT issuing a notice to proceed to its engineering, procurement, and construction ("EPC") contractors. APT will propose a formula that transparently addresses the specific commodity price and currency exchange rates that are reflected in the EPC contracts. APT is proposing this one-time update to ensure that its proposed "all-in" price accurately accounts for changes that may occur after APT submits its bid. This update is limited to specific cost elements outside of APT's control which, as noted, are subject to further negotiation in definitive projects agreements.

APT also proposes two limited exceptions to the Fixed ATRRs, which are reflected in Section 1.5 of the draft language requested in Question 9 below. First, APT may propose to recover increased costs and expenses due to Uncontrollable Force events. Second, APT may propose to recover increased costs and expenses if the agreed-upon Scope of Work is modified by PJM or the New Jersey Board of Public Utilities. In both cases, APT would only be permitted to pursue recovery of "but for" costs and expenses. APT also proposes to net any insurance proceeds against increased costs and expenses.

Because APT is proposing a Fixed ATRR, it is not seeking any incentive adders, but may apply to the Federal Energy Regulatory Commission for the abandoned plant incentive to recover the full amount of prudently incurred costs of transmission facilities that are cancelled or abandoned due to factors beyond the control of APT.

Language to document APT's cost containment commitments for inclusion in Schedule E (Non-Standard Terms and Conditions) of the Designated Entity Agreement ("DEA") is set out in Attachment 20.

APT notes that the structure of the proposed cost containment commitment and the proposed language to document the commitment are the same for all three of the proposals submitted by APT. The only difference among the proposals is the schedule of Fixed ATRRs, which is specific to each proposal.

Please see further cost containment measures through proven project execution principles, application of the European learning curve and the cost base benefits of the Dogger Bank (3x1200MW HVDC sister project in the UK currently under construction) in Section 11, "Additional Cost Control Mechanisms Not Included in the PJM Submission Forms".

9 | Language for Designated Entity Agreement

Table IV-1 provided the annual revenue requirements over the economic life of the system. Section 3, "Adjustments to the Revenue Requirement Schedule", provided commentary on how this proposal may be subject to adjustments in the near-term. See Attachment 20, Proposed Contractual Revenue Requirement Commitment Language for the Designated Entity Agreement.

10 | Cost Impact from Selection of Subset of Options vs. Entire Proposed Project

As illustrated by APT's Revenue Requirement Schedule over 40 years for Phases 1, 2 and 3 (Table V.2-1), there are substantial commercial economies of scale and environmental efficiencies achieved by selecting all three APT phases. APT is able to offer lower pricing for consecutive projects because the high fixed costs of transmission development and permitting will be meaningfully reduced on the Second 1200MW Phase or the Third 1200MW Phase. The added efficiencies in engineering, supply chain, fabrication, marine logistics, optimized mobilization and ongoing maintenance provide substantial cost savings.

As a result, APT's Second 1200MW Revenue Requirement provides a 24% rate discount relative to the First 1200MW. APT's Third 1200MW Revenue Requirement provides a 29% rate discount relative to the First 1200MW.

Using the first year of each project phase as an example, the revenue for the Second 1200MW is [redacted] than the First 1200MW. The revenue for the Third 1200MW [redacted] than the First 1200MW.

Beyond direct cost benefits, scaling the project to full capacity also provides continuity of local clean energy jobs and strengthens the case for growing New Jersey-based fabrication, such as final assembly of welded jacket foundations and offshore substations. Larger transmission projects also provide a stronger position in the global competition for HVDC transmission components, as the global market anticipates construction of more than 250GW of new offshore wind capacity by 2030.

11 | Additional Cost Control Mechanisms Not Included in the PJM Submission Forms

Although APT's Pre-determined Revenue Requirement is structured to protect ratepayers from project execution and O&M risks, a safe and reliable project execution is critical to fulfill contractual obligations and stakeholder expectations. APT and its Alliance Partners have taken significant steps during the pre-bid stage to prepare for safe and predictable execution of this large-scale project, and this is demonstrated by the ability to offer robust cost protections. APT's project execution approach is further discussed in Attachment 16, the Draft Project Execution Plan.

V. Project Risks and Mitigation Strategy

APT's team has top-rank experience and expertise across all areas relevant to de-risking the project, including permitting and stakeholder engagement, financing, procurement and construction management, transmission operations, and the offshore wind sector generally. Risk reduction and risk mitigation is at the core of Atlantic Power Transmission's development philosophy. This is in large part due to the culture of APT's senior management, who largely come from the finance and construction management sectors. Please see the APT Alliance Qualifications Statement, provided as Attachment – 1, for full details on the project team's extensive qualifications.

APT's management team has been active in identifying and managing risks across a number of areas including:

Site control and permitting

APT has secured site control of the parcel for the onshore converter stations and has a letter of support from the [redacted], where the cables will make landing. A plan to acquire the offshore right-of-way has been developed by expert legal counsel and confirmed in consultations with the Bureau of Ocean Energy Management's ("BOEM's") legal representative. Early, effective stakeholder engagement is the key to managing risk of local opposition, and APT has reached out to all the municipal and county governments along the route, and as a result secured letters or resolutions of support from all these communities. Onshore route planning identified a route which uses a rail corridor for approximately 80% of the route, avoiding the use of local roads. Offshore, the risks of permit delays have been minimized by APT's detailed route study and analysis.

Financing

Blackstone Infrastructure Partners ("BIP"), APT's sponsor, is among the largest infrastructure funds globally and has an open-ended, permanent structure which allows for the development of high-quality infrastructure assets. Blackstone has significant experience in the development and operation of power transmission and other linear infrastructure, providing highly relevant experience and know how to APT, along with strong financial backing in a format well-suited for cost-effective and reliable energy infrastructure. Blackstone has committed or invested in $10.8 billion of energy transition companies or projects since 2019, aside from APT. Blackstone's capital markets expertise and scale will ensure that APT has robust access to financing solutions throughout project development.

Procurement and Construction

APT has formed an alliance (the "APT Alliance") with three of the world's leading transmission component supply and installation companies – Hitachi ABB Power Grids Ltd. ("Hitachi-ABB"), Aibel AS ("Aibel"), and Nexans S.A. ("Nexans"). In addition to the high quality and significant experience that Hitachi-ABB and Aibel bring to the project, this alliance approach limits procurement and construction risk by ensuring APT's access to critical supply chain. APT has also developed a detailed project deliverability plan which, along with the risk register mentioned above, is an effective way to think through and address risks during the procurement and construction phases.

System Reliability

Given that system reliability is of utmost importance, APT is managing reliability risks from the very earliest stages of project development. At the current stage, system reliability risk management is mostly a matter of careful project design. For example, both the HVDC cables from offshore as well as the 500kV connectors from the onshore converter station to the Deans substation are fully buried, ensuring no damage or outage in even the most severe of storms. The buried solution also protects against potential terrorism or sabotage. APT's detailed offshore route analysis mentioned above further serves to protect against cable damage which could occur if cable were not buried to the specified depth during installation or became unburied after installation. The HVDC equipment is designed for high reliability, and where appropriate has redundant components.

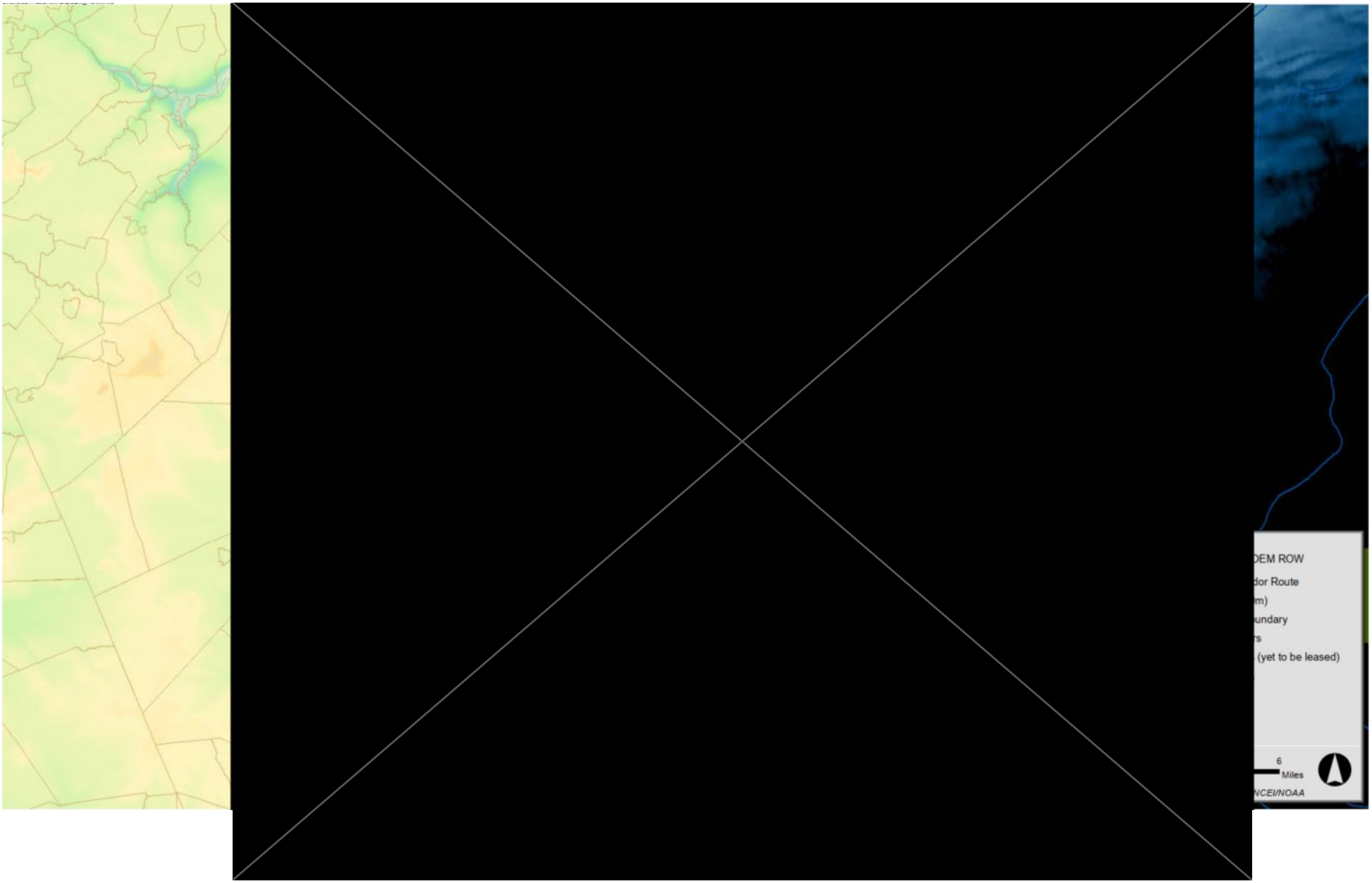
1 | Discuss the project's plan for site control and the ability to achieve site control.

APT has developed a rigorous plan for site control that is already well progressed. As described below, site control for the onshore converter station has already been secured and the preferred plan for the onshore cable route relies on securing rights from only one private landowner, with whom APT has had detailed discussions. APT has also developed an innovative strategy that will ensure access to the offshore electrical service platform ("ESP") site and offshore right-of-way ("ROW").

The major elements of the project's site control strategy are below:

Offshore ESP and offshore route: As described in greater detail in response to question 2 of this section, APT has developed an innovative strategy to ensure access to the ESP site and the route for the submarine cable through federal waters. APT intends to secure a ROW for the portion of the cable route which will serve as a shared corridor along with the two other transmission systems planned by APT for the total 3600MW offshore transmission solution. This shared cable corridor route is shown as a magenta line in Figure V – 1 Shared Cable Corridor. The dotted magenta line indicates the route continuing into New Jersey state waters, where a BOEM ROW is not required.

Figure V – 1. SHARED CABLE CORRIDOR



[redacted]

This corridor is situated in an area which can accommodate additional cable systems aside from APT's three systems. Therefore, APT's selected corridor location greatly minimizes the risk that BOEM would make a determination of competitive interest for the route. Site control for the cable route going from the shared cable corridor to the substation location, and the substation site, is proposed to be provided by the leaseholder who will be served by the transmission system (i.e., the wind generation developer). This strategy ensures APT will have access to the necessary offshore land rights while providing the leaseholder with total flexibility in determining where the ESP and cable to the ESP should be located.

APT has completed the necessary offshore route design work and environmental analysis for the BOEM application for the route of the shared cable corridor. APT has also engaged legal counsel with expertise and experience in BOEM matters to support with the ROW application.

Cable landfall: The offshore cable is proposed to make landfall at a currently unused, former industrial pier in [redacted], with an alternative location identified just inland of this pier. Importantly, unlike the majority of the proposed offshore wind projects along the Atlantic coast, APT's cable landfall solution avoids a beach crossing. The land from which the pier extends, and approximately 25% of the pier area, is owned by the [redacted] The remaining portion of the pier is owned by a redevelopment company that was designated by the City and is now working in close coordination with the City to redevelop the pier and the adjacent surrounding area. The land owned by the City extends a short distance from the cable landing area to a site adjacent to the start of the cables' onshore route to the converter station. A recent photograph of the pier is shown in Figure V – 2. [redacted]

[redacted]

[redacted]

A letter from the [redacted] supporting the use of this pier for the APT cable is provided in Attachment 2. As noted in the Mayor's letter, the City is supportive of the cable making landfall on the City's property and has committed to discuss a partnership with APT for the purpose of realizing the project. If the redevelopment company does not make these rights available despite the Mayor's support, then the alternative cable landing area already identified by APT will be used.

The Mayor and his staff have confirmed that APT's cable landing plans are compatible with the overall redevelopment plans for the area, including those areas where redevelopment construction is already underway. APT has presented the Mayor with an architectural rendering showing how the pier could be transformed into a waterfront park after installation of the APT cables. This rendering is shown in Figure V – 3. [redacted] pier redevelopment after cable installation. APT has proposed a partnership with the City that could result in a waterfront park (as shown in this figure) or a similar public use destination, to be integrated with the cable landing installation. This would transform the pier into an attractive landmark destination for visitors and residents, offering panoramic views of New York City and [redacted], while simultaneously allowing for the transmission of offshore wind energy to the New Jersey power grid.

PUBLIC [redacted]

[redacted]

[redacted]

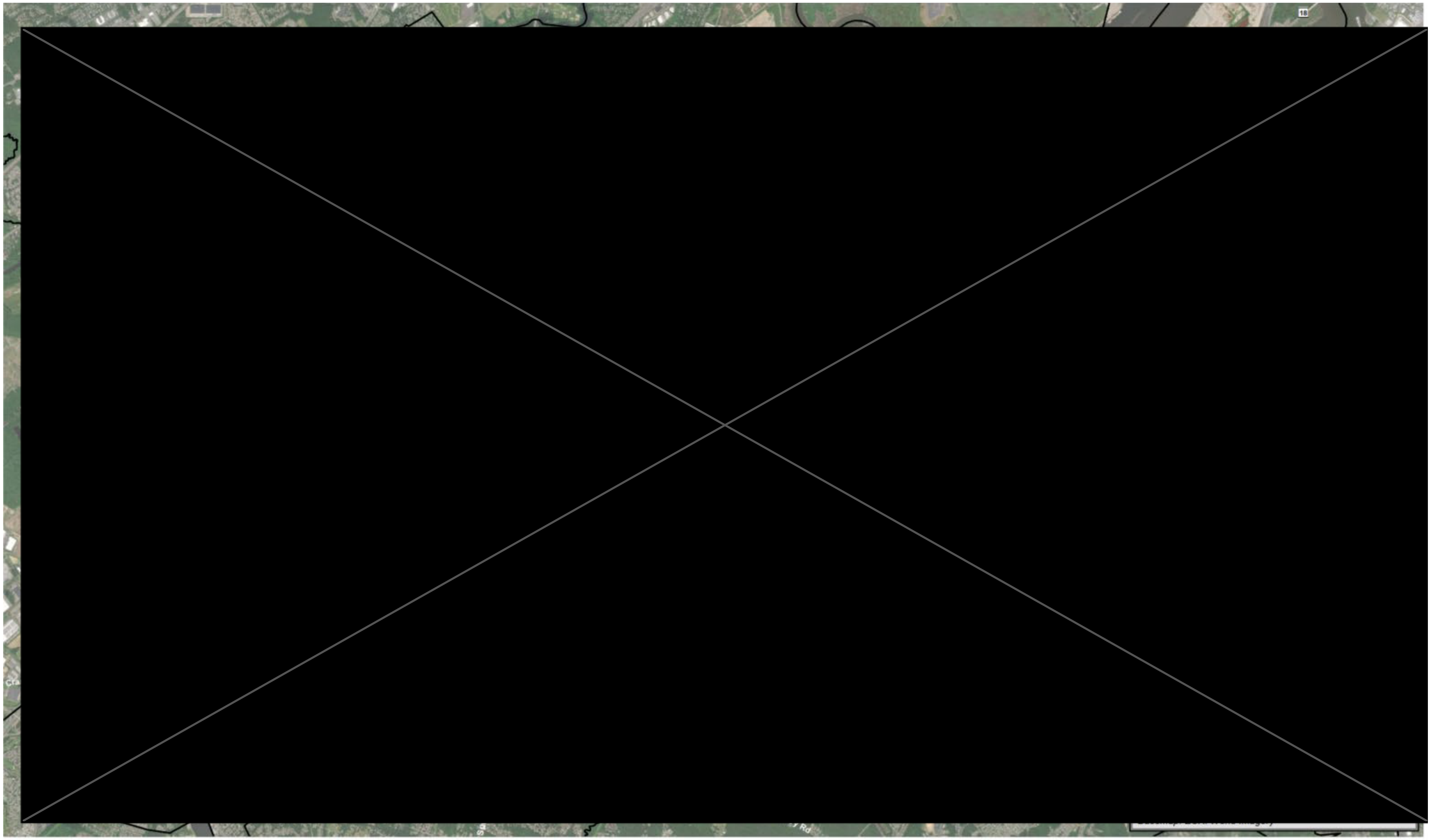
APT anticipates community support for the cable installation and related park project. The pier has been closed to the public for many years and is currently unsafe for any sort of recreational use. The nearest public beach (or public waterfront access of any type) is over one-half mile away, and that beach is oriented so that beach goers look away from the direction of the pier. There will be no above-ground structures resulting from the cables' installation. Given the opportunity to transform the pier into any number of compatible and attractive uses, APT does not believe a local constituency will emerge to object to the use of the pier for the APT cable landing. To the contrary, APT's project is expected to be welcomed as an opportunity to both transform the [redacted] waterfront and to give [redacted] a leadership role in New Jersey's clean energy transition.

Given this strong support from [redacted], as evidenced in the Mayor's letter, APT is highly confident that it will be able to secure necessary land rights for the cable landing at its preferred location on the [redacted] pier.

Onshore cable route, rail corridor section

The onshore cable route is composed of two main sections, the first of which is located within an existing rail corridor which extends from the cable landing site described above for approximately 13 miles, to the [redacted] area. This route design mitigates against potential opposition from local communities, as this rail corridor brings the cable route to within approximately three miles of the Deans Substation and allows the route to traverse 13 miles with very minimal use of public roads (limited to rail crossings only). Rights to locate the cables in the corridor will come from an agreement with [redacted]. APT and [redacted] have been in discussions for use of their rail corridor for a number of months. As part of this early coordination, [redacted] arranged for an APT engineering and environmentalist team to visit the entire length of the rail line where the cables will be installed. Please see a letter of support for offshore wind transmission from [redacted] to PJM provided in Attachment 9. This route is shown in Figure V – 4: Rail Corridor Section of Route.

Figure V – 4. [redacted]



[redacted]

Onshore cable route, rail corridor to converter station

APT has identified three general route options for the approximately three-to-four-mile section of the corridor between the railroad line and the converter station location [redacted] Having several options provides assurance that APT will be able to secure rights for this section of the corridor, as each of the options have different land ownership dynamics, providing several different regulatory and commercial paths to securing necessary land rights. In addition, each of these general route options can be combined into "hybrid" options, such as using a ROW over private land for a portion of the route and then following public roads. These options are described below and shown in Figure V – 5. Route Options from Rail to Converter Stations.

- **Buried within existing overhead transmission line right-of-way:** This route option entails burying the cables within, most likely along the edge of, an existing, cleared ROW. This is the preferred option, as it would have the fewest environmental and community impacts. Use of this ROW is not expected to require permission or additional rights from the underlaying landowners, although APT would seek an affirmative, positive relationship with each of the underlaying landowners as consistent with its stakeholder outreach plan, described in Section VI. Use of this option will require obtaining permission or rights to locate the APT cables within the ROW pursuant to the existing easements establishing the ROW. As a first, preferred strategy for obtaining these rights or permissions, APT will, immediately upon award under this solicitation, initiate discussions with the existing holder of these easements.
- **Buried alongside or parallel existing overhead transmission line right-of-way:** This route option entails following the same general route as the existing overhead ROW, but not being within the ROW itself. Analysis of this route option has found it would likely have greater environmental impacts than using the ROW itself, because the ROW is already cleared and disturbed from construction and maintained in a cleared condition. Depending on the specific arrangement of route option, acquiring rights for this route option would require obtaining rights from about four to five landowners. Two of these landowners are government entities: [redacted] Given the presence of two overhead power lines and a gas line that follow the generally same route, obtaining these rights is considered feasible given that the HVDC cable has a much smaller footprint than this other existing infrastructure, and could be aligned with the paths of the existing infrastructure.
- **Buried beneath public roads:** Two roadway options are being studied, although several other options exist. [redacted]. The other option leaves the railroad [redacted] reach the converter station parcel. The two road segment routing alternatives are similar in length and general characteristics. If these road routes are utilized, APT would seek to enter into a Host Community Agreement with the local governments, provisions of which would include ensuring access to the roads for this purpose.

Figure V – 5. [redacted]

[redacted]

On-shore converter station

APT has fully secured land which is ideally suited for the project's converter station and related electrical equipment. Specifically, APT has executed a binding purchase and sale agreement for [redacted] Further information regarding this purchase and sale agreement is provided in a memo from APT's legal counsel, and which is provided as Attachment 8 - Onshore Converter Station Site Control: Legal Confirmation.

The parcel is adjacent to the Deans substation [redacted] Given that the parcel is approximately 40 acres, the parcel provides the necessary ~15 acres needed for three converter stations and the associated infrastructure for APT's total 3600MW solution and related operations and maintenance buildings. The parcel size also allows for visual and (if needed) acoustic screening, while minimizing impacts on wooded or mapped wetland areas.

AC Interconnect between converter station to Deans substation

In order to complete the connection to the New Jersey grid, APT's plans call for a buried 500kV AC circuit from the converter station, at the location described above, to the Deans substation. The converter station parcel described above is [redacted]. APT is proposing to bury the AC cable circuit within that same ROW, following its route to the substation fence. Whether using this particular route or another route which follows the same general path but over the same parcels of land, APT anticipates securing necessary rights to this section of the route as it is customary for substation owners to allow access to the point of interconnect.

2 | 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.

Acquiring necessary rights from BOEM is the first step in the federal permitting process for APT's project and is a critical element of the overall project plan and ultimate success.

Given the importance of the BOEM process for project success, APT engaged Ella Foley Gannon, a partner at the law firm of Morgan Lewis with exceptional knowledge and experience in working with BOEM, to develop a plan for acquiring the necessary rights and subsequent permits. Ms. Gannon is intimately familiar with BOEM's offshore wind regulations and is supporting other similar projects progressing in the region, as well as other energy infrastructure projects subject to the same federal environmental protection statutes; please see the Qualifications Statement submitted as part of this proposal for full details on Ms. Gannon's credentials in this area. Ms. Gannon consulted directly with BOEM's legal counsel at the Office of the Solicitor in the Department of the Interior in developing the plan. A memo from Ms. Gannon providing the legal basis for the plan and full details regarding the anticipated schedule is provided as Attachment 13 – BOEM Permitting and ROW Strategy and Review.

Decisions made early in the BOEM process set the stage for the entire life of the project, and so have the potential to hinder or advance the project's success, and decisions need to be carefully considered and well-informed. In its planning, APT sought to strike the right balance between schedule, flexibility, and certainty of execution. Working with Ms. Gannon, APT has developed an innovative approach to securing rights and permits needed by the project, and which achieves an ideal balance among these factors.

The plan is as follows:

[redacted]

Rights to place the cables from any particular lease area to a cable convergence area will already be held by the leaseholder of the lease from which the cable is coming from, by way of their BOEM lease agreement. These leaseholders will acquire the necessary permits to install the cable through the same application process as permitting their wind generation project.

[1] BOEM issued ROWs only apply in federal waters, and so the BOEM ROW will begin where the cable corridor passes out of state waters and into federal waters, forming a continuous corridor through state and federal waters.

[2] [redacted]

The convergence areas provide a natural point where responsibility for permitting the cable installation changes from the leaseholder to APT. In addition to permitting the cable in the shared cable corridor, APT will be responsible for permitting all the state waters and onshore aspects of the transmission cable. These onshore and nearshore sections of the cable route are more challenging and often take longer to site than the cable route section in federal waters. At the same time, siting and permitting the wind turbines in the lease area are the long-lead, more challenging components to site and permit in federal waters. The convergence areas therefore provide for a natural division of labor between APT as transmission project developer, and the leaseholder as generation developer. Each of the two project sponsors, transmission and generation, can in parallel focus on the aspect of the total endeavor they are best equipped to address. This better ensures on-time, lower-risk siting and permitting offshore wind transmission and generation for New Jersey.

The cables running from the lease areas, to the convergence areas and shared cable corridor and then into state waters and the South Amboy cable landing are physically one long cable. They will be supplied and installed by APT during one installation campaign, eliminating any project-on-project risk. There is no need for a structure at the convergence area or anywhere else along the cable route.

The single offshore electric service platform (ESP) for APT's HVDC equipment is to be located within the generator's lease area, and as such APT will not need to acquire a right of use and easement (RUE) for the ESP. The generator will determine the ESP location and be responsible for permitting the ESP, as part of permitting its wind turbine project. However, APT will design, own, install and operate the ESP, as well as the cable bundle going from the ESP to the cable convergence area and for the remainder of the route to the onshore converter station.

Key benefits of this plan include:

- **Expediency.** APT expects to be able to obtain the ROW for the shared cable corridor in approximately ten months, as described in Attachment 13 - BOEM Permitting and ROW Strategy and Review. This will provide ample time to validate the plan and confirm details in advance of New Jersey Board Public Utilities' ("BPU's") next offshore wind generation solicitation.
- **Single platform solution.** The plan enables the use of just one electrical service platform (ESP) to serve both the generator's array cable system, as well as APT's HVDC transmission equipment. This eliminates the need for two separate offshore platforms, reducing costs, construction risks, and environmental impacts.
- **Streamlined permitting processes.** All rights and consents needed to build all three 1200MW cable systems that comprise APT's 3600MW total solution for New Jersey are secured simultaneously. This will facilitate reaching the state's 7500MW goal on schedule[3]. By coordinating the siting and permitting responsibility for the ESP between APT as transmission developer, and the leaseholder as generation developer, the plan achieves maximum flexibility for the generation developer while reducing total permitting efforts and

[3] Even if APT's 3600MW total solution is not selected through this 2021 SAA solicitation, the project's ROW and permits would be available to provide connections to future wind generation projects.

environmental impacts. If APT were to attempt to site and permit a large number of potential ESP locations to provide flexibility, the result would be higher costs, longer permitting duration, and more environmental impacts[4], but still very limited flexibility for the generation developer.

- **Flexibility for optimal energy production and more competition.** The location of the ESP can be determined by the generation developers, and there is no regulatory limit to where the ESP might be located so long as it is within a BOEM-designated wind lease area. Given that HVDC can transmit power for very long distances (100s of miles) with little losses, there are few technical limits to where the ESP could be located. As the generator will be able to determine the precise location of APT platform within their lease area, they will continue to have the flexibility they need to design an efficient wind park layout with optimal energy production and efficient array cable design.
- **Avoid permitting delays and risk.** By allowing permitting to be controlled by the generation developer, the APT approach minimizes complications that would likely arise if two different projects were seeking to permit pile driving activities in close proximity and at effectively the same time. Permitting pile driving is perhaps the most challenging aspect of permitting offshore wind projects in the U.S. North Atlantic, due to potential impacts to the highly endangered North Atlantic right whale (NARW) and other marine mammals and turtles. Permitting the pile driving requires extensive acoustic modelling of particular pile dimensions using particular tools and mitigation methods. The seasonality of the NARW's presence in or around the work area, as well as other potential pile driving in the region, must be taken into consideration when determining potential impacts, appropriate mitigation, and work schedule. BOEM's review of the pile driving is detailed and extensive and would be further complicated and potentially delayed if BOEM had to analyze and align two separate permit applications. For all these reasons, it is clearly advantageous for one applicant to secure permits for the pile driving. And because the generator will be determining the location of the ESP, and because the generator will have many more pilings to install than are needed for APT's ESP, it is advantageous to overall success to have the generation developer permit the ESP along with all the other pile driving within their lease area.
- **Minimize environmental impacts.** By placing three cable bundles in the same offshore cable corridor, environmental impacts will be reduced and contained compared to an alternative scenario whereby each generation developer places the cables in separate routes. APT's offshore platform also serves as the platform for the generator's array cable (collector) system, thereby eliminating the need for a separate platform for the generator and for the transmission system, as has typically been done in offshore transmission arrangements. Eliminating the need for a second platform reduces costs for New Jersey ratepayers, and reduces environmental impacts. In addition, by deferring the siting of the ESP location and the cable route from the convergence area to the ESP until the generation developer is selected by the BPU, only the area that is going to be used for a project is subject of offshore surveys. In contrast, if APT were to permit a number of different routes and ESP locations to provide flexibility in ESP location, a much larger area would need to be surveyed, and there

[4] The data collection needed to permit offshore installations requires geophysical and geotechnical surveys which may have environmental impact that need to be assessed during the permitting process.

would be larger environmental impacts. This is because the data collection needed to permit offshore installations requires geophysical and geotechnical surveys which may have environmental impacts.

APT expects that this plan may serve as a template for other states to implement a shared or planned transmission strategy for offshore wind. The plan provides maximum flexibility for the generation developers, mitigates project-on-project risk, has reduced costs and environmental impacts, and also captures all of the benefits of a shared transmission approach. APT looks forward to implementing this plan in partnership with BPU.

The time needed to proceed through the process to obtain the necessary ROW from BOEM is expected to be about 10 months. Please see Attachment 7 - Permitting Plan for a detailed timetable to obtain this ROW and related permits.

3 | 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.

APT's stakeholder plan will minimize public opposition risk because the plan is designed to quickly and accurately identify stakeholder concerns and continue to receive stakeholder input as APT makes a concentrated effort to address those concerns whether through providing information, changes in the project's plan or design, or through mitigation. Early stakeholder outreach can also facilitate establishing trusting relationships with community leaders. This stakeholder engagement approach, coupled with a transparent development process, can create a positive feedback situation in which stakeholders see APT as truly engaging with and being responsive to stakeholder concerns, even if a particular concern is not their own. This in turn puts the project in a positive and productive standing with more stakeholders, leading to a collaborative tone in resolving stakeholder concerns generally. Even if one particular stakeholder group takes a highly adversarial position against the project, this transparent and responsive stakeholder engagement can prevent adversaries from winning allies, and can possibly even win allies for APT.

APT's stakeholder engagement approach has already demonstrated considerable success. Table V – 1. Status of local government outreach indicates the significant level of support APT has already earned from all of the municipalities and the county through which the onshore cable passes.

Table V – 1. [redacted]

Local Government	Status
[redacted]	
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

In order to best realize ongoing and robust communication throughout the planning, permitting and construction phases of the project, APT intends to build long-term, trusted, mutually beneficial partnerships with local officials, residents, businesses, and other stakeholders in the areas in which APT will be working, both onshore and offshore. To this end, shortly after defining the onshore cable route, APT reached out to officials at every municipality and the county along the route, providing information regarding APT's plans at the time, and requesting input and offering to meet and further discuss the proposal. At the time of this writing, APT representatives have met with officials from all of the municipalities and the county on the cable route, in some cases multiple times, and APT executives have participated in many of these meetings.

APT's current Stakeholder Engagement Plan is provided in Attachment 4. The plan is considered a living document that is continuously being updated and revised in response to new information and lessons learned.

As described in the Plan, stakeholder concerns expressed during the development of other, similar projects can provide valuable insights to inform the early design concepts for new projects such as being proposed here. By using this approach, the project design proposed here has already successfully addressed several likely stakeholder concerns. For example, the project avoids any sensitive beach or ocean coast crossings, or roads important to local tourist economies. In addition, APT is proposing an onshore cable installation that is not only fully buried but also will minimize work in public roadways generally, as well as an offshore cable route that avoids areas of high fishing activity.

APT's early and successful outreach to communities and stakeholders along the cable routes will be increased and sustained as the project moves to further development. As further described in the plan, APT will be hiring staff who are residents of the project area to serve outreach and liaison functions with key stakeholder groups and residents to actively seek out their input, answer questions and address concerns throughout the development process. This will be particularly important during periods of construction, when temporary disruption to particular onshore areas and specific marine user groups will occur. APT will work early-on with affected stakeholders to understand the most effective communication methods to employ in each context and be prepared to address any unanticipated issues in real time.

The commercial fishing industry is a unique stakeholder group in that, based on the APT team's considerable experience working with this group, early outreach is not necessarily helpful and can in some instances be counterproductive. The reason for this is because commercial fishermen cover a wide area of the ocean in their work, and so intersect with multiple projects, all of them in various stages of development. Consequently, commercial fishermen have consistently called for more streamlined and efficient communication with the offshore wind sector generally. Fishermen often complain that they lose valuable fishing time meeting with project's proponents, often providing the same information as in other meetings and hearing no definite plans in return. Meanwhile, a number of fishing/wind stakeholder groups have been initiated, and also the wind projects currently under development offshore New Jersey have their own fishing outreach underway. Given these considerations, and the fact that APT-shared cable corridor is not in an area of intense commercial fishing (as described in Section VI), APT will defer its fishing outreach until a clearer timeline and plans can be communicated. When APT does undertake outreach to the commercial fishing sector, it will largely be through established relationships, working groups, and other channels and venues, for the reason described above.

APT's initial stakeholder mapping process, described in the plan, has already identified a wide range of communities, fisheries organizations, and environmental groups throughout New Jersey with which to engage as APT implements its stakeholder engagement plan.

4 | 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.

Based on field studies of the onshore route and an extensive desktop study of the offshore route, the entire route is considered generally well understood for the current stage of development. APT engaged GeoSubsea Consulting, which has considerable experience surveying for submarine linear infrastructure in the region, to perform a feasibility study and a technical routing analysis to identify and validate the offshore cable routes. These reports are provided in Attachments 11 and 12, respectively. A key objective of this work is avoiding and minimizing passing through the types of situations listed in the question, and the offshore routes selected are generally successful in doing so. Onshore, APT engaged E&LP to undertake a construction feasibility study of the route, and which identified no fatal flaws; this report is provided in Attachment 10.

While construction techniques specialized for all of the various situations listed in the question are anticipated, the fact that they have been identified and considered in the budget and schedule means that they are not expected to create delays or cost overruns. While each of the applicable construction techniques are considered specialized, they are at the same time mature techniques, and costs and durations for their application are well understood.

APT and its team of subject matter experts have conducted numerous routing workshops in designing the cable route. Each of the features indicated has been accounted for and where possible avoided, or their effects minimized as far as reasonably practicable based on the information. Significant further studies and surveys, including detailed route engineering studies, bathymetric, geophysical, and geotechnical surveys, environmental studies, including contaminated ground sampling, will be required to establish the exact form and nature of the route during the course of finalizing designs and construction plans.

The following subsections address each of the features or situations listed in the question, summarizing what is known on each, and applicable construction techniques. In addition, a section is included addressing debris along the route area, which APT has determined will also be a frequently encountered condition that will require specialized preparation prior to the cable installation.

Benthic Substrate

In general, the benthic substrate is expected to be conductive to jet trenching activities. Depending on the nature of the glaciofluvial sediments and the extent of deep (>5ft) trenching required, other trenching techniques may be required but are not at this time anticipated. No areas of hard bottom (resistant to trenching) that are expected to necessitate cable protection have been confirmed, although small areas of potential hard bottom (coarse deposits, man-made debris) have been identified for further investigation.

A route-specific geotechnical and geophysical survey will be undertaken along the route corridor to determine the ground conditions. However, the geology of the region is generally well understood, as broadly described below, based on available data and experience of members of the APT working on other submarine infrastructure projects in the area. Descriptions below focus on the seafloor and shallow subsurface where the cables will be installed.

In [redacted]

Recent marine sediments (upper 0-2 m): black, soupy, organic-rich mud that has been affected by anthropogenic stress on the region. The high organic content of the black silty sludge is related to modification by pollutants and industrial sewage and waste that has accumulated in [redacted]

Holocene estuarine sediments (2-7 m): clay-silt-sand deposited as the Bay flooded during sea level rise. The mud becomes finer upwards as the depositional environment changed from a fluvial system to an estuarine system during the last marine transgression.

[redacted]

Recent marine Holocene sediments (0-3 m, variable): surficial sediments are coarser around [redacted], predominantly sand with larger size remnant glacial material locally. Around [redacted], thickest accumulations are in the bedform fields occupying some of the shoals. Farther offshore on the shelf, a lack of deposition in the area combined with currents and storms have removed the Holocene sediments in places exposing the underlying deposits.

Pleistocene/Cretaceous sediments (0-20 m): minimal to no Pleistocene sediment record remains off the New Jersey coast due to glacial erosion and reworking, which exposes the Cretaceous coastal plain deposits in places on the shelf. These materials tend to be sand and gravels ranging from loose, unconsolidated sediments to more compact, semi-lithified units.

Long HDD Spans

A single section of long HDD (>1000m) will be required for the cable landing at a disused industrial pier in [redacted] APT has engaged the services of an HDD expert who has confirmed the practicality of performing this HDD. There is available upland space for the HDD set-up.

The onshore route will require numerous HDDs due to the urban nature of much of the route, as well as overpasses, underpasses, bridges, and water bodies. However, none of these HDDs are considered long, with the most significant being at major roads and Interstate 95, which may require distances on the order of several hundred meters. There is available space for the HDD set-up and the geology is considered acceptable.

Existing Cables and Pipelines

A sewage outfall pipe is located south of the cable landing pier. A detailed plan of the pipe has been obtained from the sewer authority. The pipe is close enough to the pier and shallow enough that going under the pipeline with the cable landing HDD is considered feasible. Further study and consultation with the owner is required, but crossing is considered readily feasible.

The [redacted] run west-east and parallel to each other through the central and southern portion of the [redacted] and continue east-northeast past [redacted] and across the [redacted] entrance toward Long Island. In addition, it is surmised that a power cable runs north-south connecting the fixed [redacted]. Offshore on the continental shelf, heading south and parallel to the Jersey coast, there is a cable corridor that runs northeast from the Shrewsbury River and a single cable route shown heading generally east and offshore from the Shark River. There are also many cable routes charted generally north-south in the vicinity of the shipping lanes to and from New York Harbor. Manasquan, New Jersey is a focal point of landfalls for numerous transatlantic cable crossings that run west-east across the shelf. Many of these cables are old telegraph cables that are likely abandoned. There could be as many as 45-55 cables potentially crossing an export corridor on the continental shelf, and the ratio of in-service to out-of-service is unknown.

Extensive pre-construction surveys will be required to understand the location and condition of these cables.

Crossing of pipelines and cables will be performed using well established techniques, generally performed by pre-lay concrete mattressing or pre-lay rock placement followed by post lay concrete mattressing or post lay rock placement. Removal of out-of-service cables will be considered where possible in accordance with ICPC guidelines.

Sand waves/ megaripples

Mobile seabed features (bedforms including ripples, megaripples, and sand waves) are known to exist close to Sandy Hook, and detailed multi-year bathymetric surveys will be required to establish the scope and nature of the works which will be required to facilitate cable lay and burial. Existing publicly available datasets will also be utilized to assess the historical seafloor changes and, together with the site characterization surveys, be used to develop bedform migration rates and a risk assessment for the installation and cable life span.

The construction techniques proposed to bury the cable may require modification depending on the specific form of the features, e.g., height, amplitude, length, etc. Specific installation tools can be leveraged to increase burial depth through adverse bottom conditions such as these, and thereby reduce the risk to the cable over the long term.

Similar to the other offshore factors discussed in this section, areas of extensive and large bedforms are planned for avoidance, but given all the constraints to the cable routing, this may not be possible in all places. Deeper burial is normally achievable when necessary, through surficial sand sheets and is a condition frequently dealt with for submarine cable installations.

Contaminated Sediment

Heavy metals and other contaminants are known to be present within Raritan Bay and outer New York Harbor, and a detailed environmental study will be required to be undertaken to confirm the exact form and nature of the contamination together with development of specific mitigation techniques to ensure that risk of disturbance caused by cable installation is reduced to levels As Low as Reasonably Practicable (ALARP).

In general, it will be preferrable to avoid these features by performing further detailed routing exercises, but this may not be possible in all cases due to the constrained nature of the development area.

In specific cases where no other routing can be found, it may be that the trenching methodology is modified from the base case of jet trenching to reduce the potential for suspended sediment in the water column.

Dredging and Shipping Channels

The route crosses one shipping channel [redacted]. Periodic maintenance dredging occurs in this federal channel and for this and other reasons the U.S. Army Corps of Engineers (USACE) typically requires deeper burial of transmission lines of up to 15 feet below the channel mudline. This burial depth is considered achievable with specialized tools. The route avoids mapped sand borrow resources or other known dredged material areas.

Onshore Water Body Crossings

The terrestrial route along the railroad crosses water bodies three times, with two of these being significant crossings of [redacted]. In order to construct the cable route in these sections, HDDs underneath the waterways will be required. Sufficient space for the HDD set-up is available on adjacent upland properties, and this technique is commonplace for avoiding coastal and inland waterways and minimizing environmental disturbance.

Debris

There are many designated dump sites, disposal areas, and fish havens in New York Bight where dredged sediments and building deconstruction materials have been purposely discarded on the seafloor, as well as an abundance of man-made debris that did not make it to these designated sites and was disposed of on the way out of New York Harbor. Obstructions are plentiful on the nautical charts, and members of the APT team have personally conducted numerous surveys in this area that confirm a high concentration of man-made debris is present throughout.

These localized patches of abundant debris are planned for avoidance, but in some cases, mitigation may need to be done prior to the cable installation as outlined below.

To facilitate cable lay and trenching activities it is typical that all boulders and debris greater than 0.3m (1ft) are relocated from the lay and trench corridor to ensure that there are no free-spans created and trenching can be completed successfully. Typically, boulder and debris relocation can be undertaken by an “orange peel” grab type of mechanical claw. Pre-lay grapple runs are also typically used to locate and remove discarded wire, rope, and other man-made objects which may be partially buried and not readily identifiable from geophysical surveys.

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

APT's environmental consultants, Epsilon Associates (Epsilon), have carefully reviewed all aspects of the project's design and construction methods, both onshore and offshore, and identified no known or likely time-of-year restrictions that would represent a significant constraint on construction activity related to environmental protections. Epsilon is familiar with potential time-of-year restrictions that might be encountered in a project such as APT's cable system, based on its experience permitting both wind projects offshore New Jersey and New England, as well as its experience permitting transmission and gas lines in the Northeast. Typically, these types of restrictions would be related to the life cycle of a listed species. Epsilon researched New Jersey's GIS database of listed species and their habitats within the project footprint, and while habitat for several protected species is documented to exist along the inland cable route, none are considered to represent a significant impediment to construction. This is based on the understanding that crossings of protected habitats along the onshore cable route are a small segment of the total cable route length, that all Project-related impacts would be temporary and not result in a permanent loss of habitat, and that time-of-year restrictions or environmental monitoring may be applied to allow work to proceed in such areas. The Project team is highly experienced at transmission cable construction and understands the specific industry-standard techniques and procedures to advance work in sensitive habitat, and is confident that through detailed construction activity scheduling and implementation of well-established Best Management Practices work may proceed without interruption following initiation of onshore cable construction.

APT's construction management consultants did not identify any potential time-of-year restrictions. APT's cable route and cable landing does not cross over any beaches, or through any roads of high seasonal usage. In consulting with [redacted] to ensure the project was constructable alongside the active train tracks, [redacted] identified no seasonal change in rail traffic.

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

The only construction-related outage anticipated is at the existing Deans substation, in relation to breaker bay addition and connecting the AC cable circuit(s) from the onshore converter station to the existing 500kV section at that substation. Each of APT's 1,200MW HVDC onshore converters will have a single 500kV AC cable circuit running from the converter station to the Deans substation; each of these cables would be buried for the approximately one mile from the converter station to the Deans substation. While there would only be one new 500kV AC cable circuit to Deans under this 1,200MW proposal, there would be three new 500kV AC cable circuits to connect the full 3,600MW of APT's total solution to Deans substation.

APT has studied aerial imagery of the existing configuration of the Deans substation and has developed a suggested plan for connecting the single 500kV AC buried cable circuit that will come from the 1,200MW HVDC converter to the Deans substation. This plan would minimize construction-related outages of the 500kV substation while also allowing for the connection of all three of 1,200MW HVDC systems required for APT's total 3,600MW solution.

The suggested plan outlined below is one possible way to modify the Deans 500kV switching station for the addition of three, 1,200MW HVDC links. However, other plans may have advantages over the one suggested below, and APT anticipates the station owner, in consultation with PJM, will make the final determination for modifications of their station.

[redacted]

Connecting one 500kV cable circuit from a 1,200MW converter into Deans will require two new breakers in one new breaker bay. The proposed scheme once completed is shown in Figure V – 6. Scheme for connecting one 500kV circuit into Deans.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

With proper safety procedures in place, and using the plan suggested above, it should be possible to construct the new breaker bay or bays without a lengthy outage of the existing 500kV switching station. The outage would be limited to the final connection, energization and commissioning of the new breaker bay(s). However, the owner of the Deans substation is best positioned to determine the most efficient construction plan and estimate durations of any outages that might result. APT stands ready to support and work with the substation owner in finalizing these plans and minimize any short-term availability impacts during construction.

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

HVDC equipment, offshore HVDC platforms and both submarine and terrestrial HV cabling are in high demand in all markets. With a global forecast of over 250GW of offshore wind to be installed by 2030, supply chain and logistics limitations are expected to increase substantially over the next decade with the increased application of HVDC grids, therefore resulting in market capacity risk driven by the limited number of proven suppliers and scarce manufacturing capacity.

One of the principal advantages of APT's Alliance Partner approach is the early engagement of three global leaders in the HVDC transmission market, which reduces the risk of supply chain constraints and material procurements risks compared with a traditional competitive tender style procurement approach. With each Alliance Partner committed to the project from its inception and continuous engagement with the Alliance Partners through capacity reservation and monitoring of potential for capacity constraints, this allows APT and the Alliance Partners to actively plan and mitigate such risks well in advance of the constraint occurring.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Commodities. Availability and price of key materials – Steel/Copper/Aluminum/Lead, etc. – All EPC contractors require significant quantities of metals for the fabrication of the critical components of the project. There is exposure to price and availability volatility. APT will agree upon contractual mechanisms with each contractor to ensure the most efficient procurement strategy to secure all materials on time and implement close monitoring.

8 | 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.

APT's proposed solution creates no project-on-project risks related to the timing or completion of other transmission projects.

All plans to provide offshore wind transmission connecting offshore generation to the onshore grid have an inherent project-on-project risk. Even when an offshore wind generator builds its own grid connection, there is an element of project-on-project risk to the extent the grid connection has distinct permitting, manufacturing, and installation risks from those of the wind turbine generators.

That being said, an effective offshore wind transmission policy will seek all measures available to avoid and mitigate project-on-project risk of any one project, and APT offers a number of such measures and mitigation strategies.

Certainty of execution

APT's documented site control and local community acceptance for the proposed route, coupled with its highly accomplished team for permitting, financing, and constructing the project provide a high degree of confidence that the project will be ready on schedule to provide grid connection for New Jersey's next offshore wind project.

APT has already acquired necessary rights to the parcel of land needed for the converter station and is highly confident of acquiring rights to install its cables[redacted] For the remaining ~20%, a number of route options exist, including use of public roads, if necessary. Please see response to Question 1 of this section for further details describing how APT's land route is well progressed if not fully secured.

APT consulted with a legal expert regarding the Bureau of Ocean Energy Management to develop a detailed plan for acquiring the offshore right-of-way (ROW) quickly and with minimal regulatory risk. Based on this plan, the expectation is that the offshore ROW will be acquired in as little as 10 months. Please see Question 2 of this Section for further details regarding the certainty of acquiring the offshore ROW.

APT has documented local community support for the project, perhaps most importantly including letters of support from the [redacted] where the cable will make landing. Officials with every municipality and county through which the cable route runs have been briefed on the project, and none has raised concerns with the proposed plans. In fact, all of these local governments have provided a letter or resolution of support. This strong local support for the project demonstrates the effectiveness of APT's stakeholder engagement plan, which will expand as the project development proceeds. For more details on the high level of local support from local communities through which the cable route will pass, and APT's effective stakeholder engagement plan, please see Question 3 of this section.

APT has engaged Epsilon Associates, the nation's leading environmental consulting firm with combined expertise in permitting both offshore wind-related projects and transmission projects in the Northeast; this firm is responsible for permitting the only commercial scale wind project in the U.S. (Vineyard Wind). Legal experts in permitting federal offshore wind, as well as New Jersey permitting of linear infrastructure, have reviewed the permitting plan and found it complete and well developed, with no red flags identified. For more information on this confirmed permitting plan, and the well-designed project that avoids and mitigates all significant permitting challenges, please see Section VI.

The project will be financed by Blackstone Infrastructure Partners (BIP), among the world's largest infrastructure investors, and which has access to all necessary funding needed to permit, construct and begin operations of the Project. Blackstone has experience in related areas of power grid construction and operation, long-distance HVDC projects and marine infrastructure, and is also highly experienced in large scale greenfield investment. For more information regarding the highly accomplished BIP team and its commitment and capability, please see Attachment 1.

To ensure access to the supply chain and quality, on-time fabrication and installation of the project, APT has formed a commercial alliance with three of the world's leading transmission component supply and installation companies – Hitachi ABB Power Grids Ltd. ("Hitachi-ABB"), Aibel AS ("Aibel"), and Nexans S.A. ("Nexans"). Hitachi-ABB is a global leader in high voltage electric transmission engineering and technology. The company employs 36,000 people worldwide in four business units – grid automation, grid integration, high voltage, and transformers. Nexans is a global leader in the manufacturing and installation of transmission cable and operates two cable-laying vessels and six manufacturing plants. Nexans' cables have been deployed in more than 200 submarine projects (including shore crossings) and enabled 25 gigawatts of offshore wind farm generation. Aibel is one of the preeminent EPC contractors for major electric infrastructure projects. The company has 4,000 employees and has collaborated with Hitachi-ABB on HVDC projects for 20 years. Currently, Aibel has operation and maintenance responsibility for as many as 20 offshore operations. For more details on the highly capable Alliance that will fabricate and install the project, please see the APT Alliance Qualifications attached to this submittal (Appendix 1).

This project team will be managed by highly seasoned professionals working in the area of investment, grid operations, power plant construction, and offshore wind. These professionals know how to identify risks early, and quickly develop mitigations, and are well versed in tools for effective project management.

For all these reasons, New Jersey can be highly confident that APT will safely deliver a well-received and well-constructed project, on-time and on-budget, to provide grid connection service for the next offshore wind project selected to power New Jersey.

APT paid when project is operational

In the very unlikely event that APT does not deliver the project on-schedule the risk is significantly mitigated because, under the terms of APT's price offering, the project is paid when it is commercially operational.

The ratepayers of New Jersey will only begin paying for the project once it is ready for service except for very limited circumstances, such as Uncontrollable Force events or agreed upon scope of work changes between APT and PJM or the BPU.

Moreover, as discussed in detail in Section IV, the revenue model for the project provides significant protection to ratepayers because APT is proposing a Pre-determined Revenue Requirement. APT's proposed rates protect the customer from changes in construction costs, operating costs, maintenance costs, tax rates, and financing costs.

Transmission project does not go to construction until generator also has permits

An advantage of APT's plan to acquire the BOEM right-of-way is that the permits that would subsequently be issued to use that ROW will provide an important, binding check to avoid project-on-project risk. Specifically, the permit that would be issued to APT would specify that its transmission project cannot begin construction until a generation project that specified using the APT system in their permit application also receives approval of that application[6]. This serves as an important synchronization mechanism to make sure that both projects are on similar schedules and aligned to complete at the same or very similar time frames. It also serves the important function of aligning the commercial interests of both the generation developer and APT, as each will need the other to succeed in order to proceed with their own projects. Given the maturity and successful construction track record of the offshore wind and HVDC transmission industries and given the relatively short construction periods for both the generation and transmission (construction of which will proceed in parallel), there is little risk that one project will fail or fall far behind schedule once both projects have received their permits.

APT's permitting plan therefore reliably ensures a high probability that both the generation and APT transmission projects will be ready to begin operations at the same or very similar times.

APT uniquely positioned to develop solutions to project-on-project risk

Two key advantages of the APT proposal are the use of one offshore platform for both array collection and transmission equipment instead of two, and the flexibility the generator developers have in determining the location of that platform and controlling the permitting of that platform (which is anticipated to be in their lease area). Sharing a structure like this, and the flexibility provided by APT to the generation developer, further aligns both projects in their interests for mutual, on-time success.

[6] For details on why this will be the case, please see Attachment 13 – BOEM Permitting and ROW Strategy and Review.

APT is well suited to be a collaborative and trusted partner for the generation developers selected to provide energy to New Jersey. APT is not itself, or currently affiliated with, any offshore wind generator developers, nor is it affiliated with the local grid owner or potential off-taker. At the same time, APT's senior management understands offshore wind generation issues because they themselves come from the offshore wind generation sector, with a number of APT senior managers having roles ranging from managing the construction of the Block Island Wind Farm, to leading the planning and permitting of the Vineyard Wind project, to leading the financing and procurement of an operating offshore wind project in Germany.

APT is sensitive to the legitimate concerns of the offshore wind developers with a planned transmission approach, and has designed a permitting and development process, described above and in response to Question 2 of this section, that creates an opportunity for partnership between APT, the BPU and the offshore wind developers that will de-risk execution of this innovative, efficient, cost-effective approach to offshore wind grid integration.

Once selected, APT would welcome an opportunity to support the BPU in developing its next OSW generation solicitation, in particular by identifying mechanisms in the solicitation process that can further mitigate project-on-project risk while also ensuring a highly competitive solicitation. Such mechanisms might include, for example, requiring bidders to confirm they will enter into a 'construction coordination' agreement with APT, that would provide for communication and, to the degree feasible, coordination of construction schedules.

APT will also engage with current leaseholders and prospective bidders in the upcoming New York Bight auction to explain APT's development framework, identify and resolve concerns, and identify opportunities for efficiency. APT's approach will be one of openness and fairness among the potential generation bidders, and we will be motivated to support the BPU in having many high-quality, low-cost generation bids from which the BPU can choose.

As part of this engagement with the potential generation developers, APT will explore with them whether a bilateral agreement between APT and the generation developer may reduce or mitigate project-on-project risks. APT is perhaps uniquely positioned to be a counterparty to any such agreement that may be developed, given its management team has a strong understanding of offshore wind, and given the strong and flexible investment capabilities of Blackstone Infrastructure Partners, and its lack of any potential conflicts of interest. Even if no such risk management agreements are entered into, in the unlikely event that the generator fails or falls far behind schedule, APT will have the knowledge and resources to support BPU in identifying and implementing solutions. And regardless of whether any agreement regarding project-on-project risk per se is entered into, APT fully anticipates developing agreements with the selected generation bidders to organize and coordinate the parallel development, and eventual operation, of their respective projects, which will lower the project-on-project risk in the first instance.

9 | 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.

APT recognizes the importance of mitigating risks that would increase costs, reduce value, or delay the delivery of offshore wind generation for New Jersey ratepayers. To that end, APT is prepared to provide project schedule guarantees with corresponding delay liquidated damages. APT anticipates (i) a commercial operation date as soon as March 31, 2030 for the First 1200MW proposal; and (ii) a commercial operation date as soon as March 31, 2031 for the Second 1200MW and Third 1200MW proposals. APT's schedule guarantees and corresponding delay liquidated damages will be included in the cost containment commitment set forth in the Designated Entity Agreement executed between APT and PJM. APT notes that, pursuant to Section 8.15 of Manual 14F, cost containment language submitted for inclusion in Schedule E Non-Standard Terms and Conditions of the DEA can be modified or clarified based on stakeholder input or PJM's analysis in the stakeholder process. Accordingly, specific schedule guarantees and delay liquidated damages will be mutually agreed upon based on discussions with BPU and APT's vendors and will account for schedule delays outside of APT's control (e.g., events of force majeure, material project modifications directed by PJM, and BPU modifications to the OSW generation solicitation schedule).

Additionally, in consultation with BPU and generators selected in the NJ OSW solicitations, APT will optimize alignment between the permitting and construction schedules of the offshore wind generation facilities and APT's transmission facilities. With respect to financial assurance mechanisms regarding overall cost containment for the Project, BPU will be shielded from unanticipated cost increases as a consequence of APT's pre-determined revenue requirement. APT also will comply with applicable security requirements under the PJM Tariff through creditworthy entities and/or financial instruments.

10 | 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.

Collaboration for successful public policy

New Jersey's precedent-setting initiative to develop a coordinated transmission framework to interconnect massive amounts of offshore wind is a bold step in advancing the state, national, and even global offshore wind enterprise. During the robust deliberation that preceded the initiation of the first-ever State Agreement Approach (SAA) between PJM and the BPU, significant concerns were raised about the risks involved in decoupling the development of offshore wind generation projects and the transmission needed to bring the power ashore and into the electricity grid. APT is sensitive to the legitimate concerns of the offshore wind developers and, as described in this Section V, has designed a project and development process that creates an opportunity for partnership between APT, the BPU and the offshore wind developers that will de-risk execution of this innovative, efficient, cost-effective approach to offshore wind grid integration.

APT welcomes an opportunity to work with BPU to develop a framework for successful execution of this innovative policy through the next phases of its implementation, including supporting future offshore wind generation solicitations and ensuring successful project completion as described in response to Question 8. APT, in a role as transmission provider serving New Jersey public policy, also considers an open relationship with potential bidders to be key to successful realization of that policy. Examples of particular ways in which such a collaboration between BPU, generation bidders, and APT may be implemented include sharing with generation developers offshore data and other information useful for their permitting, or providing BPU with an analysis of the expected amount of energy delivered from each generation bidder's proposed project. APT also anticipates developing agreements with the selected generation bidders to organize and coordinate the parallel development, and eventual operation, of their respective projects. This coordinated development effort could include, among other things, coordination around fisheries stakeholder engagement and offshore logistics.

APT is ready to be a supportive and capable partner with BPU, and potential and selected generation bidders, to ensure the highest degree of success for New Jersey's innovative and critically important offshore wind transmission policy.

Permitting Pile Driving

Not known to many is that permitting the pile driving for offshore wind structures on the East Coast is perhaps the greatest permitting and construction risk to these projects. The issue is that pile driving creates noise which can impact marine mammals and sea turtles; the North Atlantic right way receives particular attention given its highly endangered status. The challenge is not so much the noise level of the pile driving per se, but the number of piles that need to be driven, which can result in an extended period over which pile driving occurs. This increases the possibility protected species are present during times when pile driving has been scheduled. In addition, there is the issue of cumulative effects, in that analyses of potential impacts need to take into account other activities in the area, not just the project's own activities. For all these reasons, APT considers that two different project sponsors attempting to permit pile driving in proximity and within the same season would present a heightened permitting risk. However, APT has eliminated this heightened risk by developing a plan, described in response to Question 2 of this section, whereby the generator developer would permit both the installation of the turbine foundations as well as the platform foundation. This will allow the generator developer, which has many more piles to install than needed for APT's platform, to design a pile-driving plan that can take into account and manage all pile driving in the area, thereby facilitating both the initial permitting as well as construction schedule.

Reliability Risks and Mitigation

Given the critical importance given to transmission availability and reliability by the BPU and PJM, as well as by APT, APT conducted a high-level analysis of risks impacting its system's reliability. The results of this analysis are summarized in Table V – 2/ Reliability Risks and Mitigation Overview. As shown in this table, all identified risks had multiple risk reductions or mitigations available. APT will continue and expand this risk analysis approach during the full project development, so as to ensure highest reliability of the completed system.

Table V – 2. RELIABILITY RISKS AND MITIGATION OVERVIEW

Risk	Mitigation
Terrorism/ Sabotage	◆ All cables buried, including 500kv interconnector to Deans substation ◆ All structures with secured perimeter and cameras ◆ Cybersecurity program ◆ Offshore monitoring system, with radar
Storm damage	◆ All cables buried, including 500kv interconnector to Deans substation ◆ Offshore platform designed to appropriate single event level, using well tested through actual operation design parameters. ◆ Inspection of all components, including submarine cable, after a storm event
HVDC Equipment Failure	◆ Equipment designed for high reliability by making any one particular component highly reliable, and full, in-service redundancy on all other components ◆ Grid Connection System (GCS) is designed for high availability; high level of redundancy allows most scheduled maintenance tasks to be performed without taking the GCS out of service. ◆ Converter valve has built-in redundant cells to cater for normal expected failure rate during operation, supporting the 2-year minimum duration requirement for outages ◆ Regular inspections and maintenance servicing, including full change-out of components with design life less than total system life ◆ Rapid response plan and systems, for both onshore and offshore, for unscheduled outages ◆ Long-term support from OEM for rapid response to unscheduled outages ◆ Independent QA/QC by project owner during manufacture/fabrication ◆ Transformers and other long-lead spare parts stored by project to facilitate quick repair
Cable failure	◆ Independent QA/QC by project owner during manufacture/fabrication ◆ Onshore installation using thermal backfill ◆ Use of well tested, by actual operation, cable and installation methods ◆ Independent QC/QA during installation to ensure no damage to cable during installation ◆ Spare cable and repair equipment stored by project to facilitate quick repair
Cable physical damage	◆ All cables buried (or, offshore, protected if burial not feasible) ◆ Cable route designed to avoid areas where cable could become unburied/unprotected ◆ Appropriate installation method/tool for site condition to ensure burial achieved ◆ Spare cable and repair equipment stored by project to facilitate quick repair

Ongoing, comprehensive approach to risk management

APT has developed a detailed risk register containing hundreds of potential risks to the project, in a number of subject areas (e.g., permitting, construction, etc.). The risk register evaluates cost or other impacts should the risk event occur, as well as identifies measures to avoid, reduce, or mitigate the risk. A risk register is an important tool to pro-actively, comprehensively, and successfully manage the many risks that are inherent to any project of this scale, regardless of the sponsor or any other factor.

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

APT perceives little to no risk regarding availability of wetland credits, given the anticipated limited wetlands impacts and initial research into wetland credits that would likely be available to the project.

Based on preliminary project design and impact estimates, credits to offset approximately ½ acre of permanent wetland loss may be required for the project, and potentially additional credits to offset temporary impacts to riparian zones or other wetlands crossed along the inland cable route. Compensatory wetland mitigation credits can be obtained from a state-approved mitigation bank for permanent impacts to emergent and scrub-shrub wetlands and, if required, riparian zone and adjacent area impacts.

APT understands from its preliminary research and planning that wetland credits for the type and number of impacts associated with the project are readily available in the project vicinity. For example, the Cranbury Wetland Mitigation Bank is located in an appropriate Watershed Management Area (WMA) and has available credits for sale well in excess of the project's anticipated needs. The price of obtaining mitigation bank credits is known and accounted for in the project cost estimate, and there is little risk of not being able to obtain required mitigation bank credits for the project.

VI. Environmental Impacts and Permitting

APT engaged a leading environmental consulting firm for assessing environmental impacts and permitting offshore wind and transmission projects in the US, Epsilon Associates. Epsilon has supported APT throughout the early development of the project including with regard to route selection, environmental analyses, and developing the Environmental Protection, Fisheries Protection, and Permitting Plans for the Project. As stated in these reports, Epsilon is confident that the project can be built and operated with minimal and acceptable environmental impacts, and therefore successfully permitted at the federal, New Jersey and local levels. This opinion is founded on Epsilon's extensive experience and knowledge permitting offshore wind and transmission projects, and the following factors specific to APT's project plan:

- Project design concept (compact, powerful HVDC technology, underground cabling),
- Carefully considered submarine and terrestrial route selection, including avoidance of nearly all environmentally sensitive areas,
- The use of existing rights of way or road-way layouts for the terrestrial portion of the Project,
- A well sited landfall that will use Horizontal Directional Drilling,
- Site control for a well sited parcel for the HVDC converter stations near the Dean's Station,
- The results of literature, map and GIS data analysis completed to date, coupled with the Team's existing knowledge of the general project area and the results of field reconnaissance and survey work completed to date,
- A coherent and comprehensive Permitting Plan,
- Positive feedback from agency and municipal representatives to date,
- An experienced, capable and energized Project team,
- The strong backing of Federal and New Jersey officials for offshore wind energy at scale, coupled with the NJ DPU initiative to examine the merits of offshore wind transmission on a commercially viable schedule.

1 | Please provide an 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:

The Environmental Protection Plan for the project is provided as Attachment 5 - Environmental Protection Plan. Summary responses to the specific information requested in the plan are provided below; further details are provided in the plan itself.

Please note that a stand-alone Fisheries Protection Plan is provided as Attachment 6. With respect to the Biological Resources element of the Environmental Protection Plan, the Fisheries Protection Plan provides a depth of information on fisheries resources of importance to the New Jersey commercial industry and recreational fishing community.

A stand-alone Project Permitting Plan is provided as Attachment 7. The NJ DEP pre-submittal meeting checklist, which was developed and submitted to NJ DEP in advance of an August 10, 2021 meeting, is provided as Attachment 21. The Checklist was accompanied by a Project Narrative and a Figure set, which are also included in Attachment 21.

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

- Air Quality: While the Project will enable a substantial reduction in regional CO2 emission, and a significant reduction in criteria pollutant emissions (NOx, PM), Project construction will result in some limited emissions from vessels and landside vehicles and equipment.

  Once in operation, the HVDC converter stations will be equipped with emergency generators. These engine driven generators will require a NJDEP pre-construction permit. Operating emissions will be below major source thresholds (engine size, engine performance, operating hours limit).

- EMF: The use of properly shielded underground cables will eliminate electric fields from the cable systems. The operating cables will generate low levels of steady magnetic fields. Preliminary magnetic field modeling shows an expected full load magnetic field at seabottom directly above the cable centerline of 198mG. At a lateral distance of 40 ft, this modeled level has fallen to ~1mG. A discussion of BOEM research and analysis of MF is provided in the Fisheries Protection Plan. For perspective, the ICNIRP health protective guideline level for human exposure to DC magnetic fields is 4,000,000mG.

  As the Project moves forward, further modeling will be done and included in the NEPA review documents.

- Geological Resources: The Project will have no effect on area geologic resources. As discussed in the Fisheries Protection Plan, the cable routes avoid mapped sand borrow areas off the New Jersey shore.

- Airborne Sound: Once installed, there is no sound generated by the operating cables. The converter stations on the Fresh Pond Rd site will have some noise producing elements (transformers, a small bank of cooling fans, the enclosed solid state HVDC converter station itself). The system manufacturer is confident that sufficient noise mitigation can be provided such that local ambient level restrictions can be met. The Project has already conducted a short-term ambient noise survey in the site environs.

- **Water Quality:** As discussed in the Fisheries Protection Plan (Attachment 6), submarine cable installation will create some temporary and localized sediment disturbance, with associated increases in suspended sediment levels at and near the ocean bottom. Modeling studies for other submarine cable projects, as well as observations of installation work, have characterized these limited effects. APT would expect to conduct similar studies as part of the NEPA review process.

  With respect to upland construction, proper sedimentation and erosion controls will be established before work begins and maintained until the site is closed.

- **Underwater Acoustics:** Installation of the Project's submarine cables will not require pile driving. Vessel traffic noise will be consistent with existing vessel traffic in the New York Bight.

- **Wetlands and waterbodies:** Use of existing cleared rights of way and/or roadway layouts will minimize wetland impacts. However, given the extent of the upland work, the project does expect there will be unavoidable impacts to some small wetland areas. Based on preliminary project design and impact estimates, credits to offset approximately ½ acre of permanent wetland loss may be required for the project, and potentially additional credits to offset temporary impacts to riparian zones or other wetlands crossed along the inland cable route. Compensatory wetland mitigation credits can be obtained from a state-approved mitigation bank for permanent impacts to emergent and scrub-shrub wetlands, and potentially riparian zone and Adjacent Area impacts.

  APT understands from its preliminary research and planning that credits for the type and number of impacts associated with the project are readily available in the project vicinity. For example, the Cranbury Wetland Mitigation Bank is located in an appropriate Watershed Management Area ("WMA") and has available credits for sale well in excess of the project's anticipated needs.

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

- **Avian and bat species:** While avian and bat species are studied for offshore wind turbine generators, they will not be affected by an underground/submarine transmission system.

- **Benthic and shellfish:** As discussed in the Fisheries Protection Plan, cable installation will temporarily disturb an estimated 78.3 acres of sea bottom, including non-mobile benthic and shellfish species in the area. A detailed discussion of expected recovery times and other contextual information is provided in the Fisheries Protection Plan. Cable protection (estimated at ~30 acres) would permanently alter bottom characteristics in species distribution in these limited areas.

- **Coastal and terrestrial habitat/terrestrial wildlife:** As previously noted the Project will use HDD to install cable conduits from an existing unused pier on the [redacted] waterfront. The ~3000 long conduits will run well below and clear of any shoreline area hence the Project is not expected to impact coastal habitat. On land, the necessary underground cable systems will be installed on existing, cleared rights of way or in existing roadway layouts.

Accordingly, impacts to terrestrial habitat will be limited to development of the HVDC converter station facility in [redacted] The portion of the site to be used for the converter station is cleared/previously disturbed hence any terrestrial habitat effects are expected to be minimal.

- **Finfish and Essential Fish Habitat:** As discussed in the Fisheries Protection Plan (Attachment 2), mobile pelagic, demersal and invertebrate species may respond to submarine cable construction activity with localized and short-term avoidance behavior. The ability of these species to avoid cable installation areas indicates that they are not expected to be substantially affected by installation activities and their abundance, therefore, would not be affected.

  Given the limited and temporary bottom disturbance associated with cable installation (~78.3 acres) and the limited area (~30 acres) affected by cable protection, the Project does not expect to have any significant EFH impacts. This will be the subject of further review and consultation during the NEPA review. Presumably this review will be done in the context of the general New York Bight area and its rather extensive existing bottom disturbing activities (sand borrow, surf clam/quahog dredging, sea scallop dredging/dragging in the 2.4-million-acre Mid-Atlantic Scallop Rotational Area)

- **Marine mammals and sea turtles:** While the general area in the NY Bight area in which Project cables will be located is used by commercial marine vessels, recreational fishing vessels and transiting/working commercial fishing vessels, marine mammals and sea turtles could be present. As described in the Fisheries Protection Plan, vessels used for cable installation are limited in number and move quite slowly when working. Nonetheless, as part of the NEPA review process, including consultations with NMFS and USFW, the Project would expect to develop plans to ensure that marine mammals are not affected by Project vessel traffic. Specific measures could include speed restrictions during certain seasons and on-board observers.

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

- Known cultural resources, including above-ground historic properties, are discussed in the DEP Checklist (see Attachment 21). The [redacted] waterfront was once home to a sizeable rail and ferry complex, extensive historical and archaeological studies have been completed in the course of the City's efforts to bring a multimodal ferry terminal to the area.
- As the APT project moves forward into permitting, the appropriate archaeological and marine archaeological surveys and studies will be undertaken. If significant or possibly significant archaeological resources are identified, they will be avoided. If avoidance is not possible, the appropriate detailed studies and documentation will be undertaken, as approved by the NJ State Historic Preservation Office.
- The onshore cable systems are entirely underground, hence there will not be any visual impacts to any nearby historic properties.

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

In the broad category of socioeconomic resources, we believe the primary Project effects are positive. Key points include:

- The Project will allow the interconnection and delivery of 3600MW of clean renewable offshore wind power into the PJM grid. This will result in a reduction of regional CO2 emissions of approximately 7 million tons per year. Similarly, there will be substantial reductions in emissions of NOx, SO2 and other criterial pollutants.
- Construction of the Project, particularly the onshore underground cable systems and the three-unit HVDC converter station will require a sizeable construction workforce. Middlesex County and the greater New Jersey workforce has ample skilled labor to meet this demand. Construction operation has more modest labor needs but nonetheless will create a goodly number of well-paid long tenure positions.
- The project anticipates paying property tax on the cable systems, providing additional revenues to local government without drawing on any local government services.
- With the exception of the HVDC converter station site on [redacted], the entire Project is underground and hence has no visual presence or impact. The converter station site is generally comparable in scale to the many commercial warehouse and shipping operations in Middlesex County. It will be carefully situated on the 39.4-acre site, much of which will remain wooded, and screened with fencing and plantings to minimize near field visibility.
- Upland cable systems will use an existing cleared railroad right of way for most of their run. This will limit construction disruption by avoiding in street work in developed areas of [redacted]
- The upland cable systems will need to cross beneath I-95 in order to reach the converter station site. Subject to consultation with NJDOT and detailed engineering review, the Project would expect to accomplish the crossing using HDD or other trenchless crossing technique (micro-tunnel). The crossing is anticipated to be accomplished without interrupting traffic on I-95.
- Within [redacted], there is one [redacted] to engineer a safe and robust protected crossing. There is also an existing submarine gas pipeline running parallel to Neptune. The Project cable systems will need to cross it as well.
- There is an existing gas pipeline running along a portion of the eastern edge of [redacted] converter station site. Incoming Project cables will likely need to cross this pipeline. APT will work closely with the pipeline owner to design a mutually acceptable crossing design.

- There are a number of trans-Atlantic communications cables departing from locations along the New Jersey shore; many of these cables are no longer in service. To the extent the offshore elements of the APT cable systems cross these cables, in-service cables will be identified, carefully located and protected during submarine cable installation. Abandoned cables will be severed on either side of the project cable area, the ends weighted and marked, and the intervening section removed. Please see the Cable Installation narrative for further details (Attachment 2)
- As described in the Fisheries Protection Plan, this portion of the NY Bight is home to a number of New Jersey mapped prime recreational fishing grounds as well as a number of artificial reefs. The Project routes avoid virtually all of these mapped recreational fishing areas. Similarly, the Project submarine routes avoid active and mapped sand resource areas.
- Lastly, the Project cables will be located in areas traversed by both commercial fishing vessels and recreational fishing vessels. As the cables are being installed, these vessels will need to avoid the slowly moving safety zone around the active install area. Once the cable systems are safely buried, they will not limit fishing activity. As discussed in the Fisheries Protection Plan, there will be some cable protection required (crossings and areas where full burial depth cannot be achieved). These areas are estimated to be 30 acres in extent. The areas will be marked on charts so that they can be avoided by dredge/dragging gear. Such areas of additional hard/complex bottom are generally welcomed by recreational fishermen.

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

This information was developed and is included in the DEP Checklist, please see Attachment 21. As a general matter, impacts to sensitive resources are avoided or greatly minimized by using existing cleared rights of way (rail, transmission) or roadway layouts for the onshore underground cable systems.

Shapefiles of cable routes, landfall locations, offshore platforms, and onshore interconnection points that show: Width of individual cable routes or shared power corridors; Footprint of onshore substation including expansion needed and acreage calculations of habitat disturbance, especially related to wetlands, forested areas, or other sensitive habitats

Please see Attachment 23 – Shapefile of Project Elements and responses below:

- Width of individual cable routes or shared power corridors

Please note the compact buried HVDC lines are not expected to occupy the full ROWs indicated below.

The width of the existing 500kV transmission corridor is 650 ft. The width of the existing [redacted] right of way is a minimum of 65 ft, with wider widths in areas with multiple tracks (200 ft–300 ft).

The width of existing roadway layouts is typically ~50 ft (2 lane roads).

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

The interconnection at the existing Deans substation is not expected to require any expansion of that substation outside of its existing fence perimeter.

[redacted]

The southern half of the parcel will be used to build up to three converter stations and a shared maintenance building. Each of the three converter stations has a footprint of approximately 4 acres (Please see Figure VI – 1 Onshore Converter Station General Arrangement as well as Attachment – 21: DEP Checklist Items, Project Narrative, Figure 8). The large, forested area on the northern side of the parcel will not be disturbed.

[redacted]

Descriptions of cable installation methods with locations identified

As described in the Fisheries Protection Plan, cable trenching is expected to be conducted using the conventional jet plow technique. After route preparation (survey, boulder relocation, pre-lay grapnel run) the jet plow cuts and fluidizes a narrow slot of seafloor sediment, placing the cable, which settles into the momentarily fluidized sediment by its own weight. There are a number of variations on this basic technique; the specifics will be assessed following marine survey and future evaluation by the cable installation contractor. More specialized methods are used for cable crossings. The landfall at [redacted] is made via HDD as previously described.

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

As shown on Figure VI – 2. HDD Footprint, the landfall on the [redacted] waterfront will be at a large existing solid fill pier (currently vacant). Six cable sleeves (2 per 1200MW HVDC cable system) will be placed using HDD, current plans call for the HDD conduits to extend approximately 3,000 ft into [redacted]

The HDD sleeves will be placed one at a time using an HDD rig set up on the pier. The HDD rig and its accompanying support gear can be set up in a roughly one-acre construction footprint. Some additional area may be used to deliver and temporarily stockpile material. The currently vacant pier is an ideal location for this work as it is well removed from residents and businesses.

Once the cable conduits are installed and the cables are ready for "pull in", underground splice vaults will be used to make the connections to the onshore cables. Once the work is completed, the site will be returned to preconstruction conditions (or better) with only manhole covers visible at the splice vaults.

Figure VI – 2.[redacted]

[redacted]

Footprint and extent of associated pre-construction and construction activities

As described in the previous response, the landfall HDD construction setup can be accommodated entirely on the existing vacant pier.

Similarly, the construction of the HVDC converter stations can be staged from the site secured by APT for that purpose. The three stations would typically be built with some stagger[7], hence portions of the site will be available for construction laydown and staging.

As described in the Fisheries Protection Plan, submarine cable laying is done using a large cable laying vessel; the cable laying vessel transports the cable on a large carousel or turntable[8]. At this juncture, the Project expects to bring the cable from the place of manufacture directly to the installation area. There will be a need for some shoreside support for docking, fueling and provisioning of support vessels (typically tugs or crew vessels already based in the area) as well as space of unload debris removed during the pre-lay grapnel run. APT has not yet selected a location(s) for this necessary construction support but will certainly endeavor to work with a suitable New Jersey location/provider.

Lastly, to the extent required in some stretches of cable run and at cable crossings, cable protection can be accomplished using stone placed by a specialty fall pipe vessel. Alternative cable protection methods are concrete “mattresses” or half shell pipe. The extent of cable protection, the type and material source have not yet been determined.

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

A general discussion of vessels expected to be used for marine surveys and cable laying is provided in the Fisheries Protection Plan (Attachment 6). The specific vessels have not been selected at this early point in project development. As the Project progresses into permitting, emissions estimates will be made in support of the BOEM GAP and in support of construction stage OCS air permitting, if required.

Routine vessel traffic during the multi decade operations phase of the APT project is expected to be primarily Crew Transport Vessels (“CTV”) (similar in scale to a pilot vessel) and an occasional larger vessel (Service Operation Vessel, “SOV”) (similar in scale to an offshore oil and gas service/work vessel, 300 ft + in length). Larger, more specialized vessels may be required in the unlikely event of a major cable repair or replacement of a major component at the ESP.

Project decommissioning, while far in the future, can involve removal of project components in which case the vessels required are similar to those used for the initial installation. For an ESP, cables would be disconnected and properly terminated, fluids would be drained from transformers and safely transferred to a port for proper disposal and smaller elements of the ESP removed to reduce its weight. The topworks would then be removed in one piece, placed on a

[7] The timing would depend, in part, on the pace at which OSW projects elect to use the APT system. Given the expected pace of BEOM leasing and environmental reviews, as well as the expected schedule of BPU awards, it is unlikely that three stations would be constructed in parallel.

[8] In this case two cable laying vessels will likely be used, one for open ocean work and a shallower draft vessel for work in [redacted]

heavy transport vessel and brought to a suitable port location for disassembly and recycling.

Alternatively, and subject to future BOEM approval and discussions with appropriate state agencies, major components could be "retired in place". For structures such as the ESP, the structure is typically cut below the mudline and the upper works removed as part of a "retire in place" approach.

Lastly, the onshore underground cable construction involves a typical spread of trucks and equipment (tracked excavator(s)) not unlike the equipment used for a significant water or sewer main installation.

Any needed exclusion zones around project infrastructure including offshore platforms

As described in the Fisheries Protection Plan (Attachment 6), the Project expects to have a moving safety zone around the cable laying vessel. The safety zone is typically 0.5 to 1 km in radius (0.6 to 1.25 miles in diameter) and moves with the slowly moving cable installation vessel. The same safety zone would be used around the anchored vessel when cable splicing is being conducted. The Project would typically provide guard vessels to warn approaching vessels. The planned route and scheduling of the cable laying vessel is also shared with the maritime and fishing communities via "Notices to Mariners" and other means.

Similarly, there will be a temporary safety zone around the offshore HVDC platform when they are being installed. (This approach is also followed for the installation of wind turbine generator foundations and the wind turbines themselves).

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

APT plans to minimize project construction impacts begins with the use of powerful yet compact HVDC technology, well sited, and using existing rights of way in large measure. The routes will be carefully surveyed and studied in the early stages of the project. This data will be used to further refine the routing to avoid sensitive resources. The data will also be used extensively in the project's BOEM GAP filing, the Army Corps permit and NJDEP filings.

The APT project team is well versed in effective and workable mitigation measures as developed for other upland and submarine cable projects. As discussed elsewhere in the filing, APT team members were involved in permitting the first US offshore wind project to go to construction, 800MW Vineyard Wind project and team members have been actively involved in other Northeast offshore wind projects as well as a long list of underground upland utility transmission projects.

Given the extent of the upland work, APT expects potential unavoidable impacts to some small wetland areas. Based on preliminary project design and impact estimates, credits to offset approximately ½ acre of permanent wetland loss may be required for the project, and potentially additional credits to offset temporary impacts to riparian zones or other wetlands crossed along the inland cable route. Compensatory wetland mitigation credits can be obtained from a state-approved mitigation bank for permanent impacts to emergent and scrub-shrub wetlands, and potentially riparian zone and Adjacent Area impacts.

APT understands from its preliminary research and planning that credits for the type and number of impacts associated with the project are readily available in the project vicinity. For example, the Cranbury Wetland Mitigation Bank is located in an appropriate Watershed Management Area (WMA) and has available credits for sale well in excess of the project's anticipated needs.

Lastly, the Project will listen carefully to input from New Jersey and local agencies as well as informed citizens. The local knowledge which can be brought to the Project via effective early communications can be essential to well sited and properly mitigated undertaking.

2 | 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?

The fundamental advantages of the APT HVDC system, as compared to more conventional radial AC lines, are:

- its ability to move power over considerable distances (100 miles plus) without the need for intermediate reactive compensation which would likely necessitate additional structures in the ocean or along the shore,
- the compact nature and high capacity of the cable systems; a single ~1 ft diameter HVDC submarine 1200MW cable system can carry the same power as three conventional 220kV AC cables (each of which is typically ~ 1 ft in diameter), and
- given its compact footprint, the ability to optimize both a marine and overland route and to maximize the use of a favorable landfall location.

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

The use of an HVDC system can reduce impacts by approximately one-third, as compared to using a typical AC system of similar power. As discussed in the Fisheries Protection Plan (Attachment 6), installation of a mile of a 1200MW HVDC cable system will disturb approximately 0.4 acres of seafloor or 1.2 acres for three cable systems (typical jet plow installation). Installation of AC cables of a similar power capacity would involve a disturbance of 1.2 acres and 3.6 acres, respectively. While these differences may appear modest on the basis of a single mile of line, they become more significant as one looks at 100 miles or more of subsea cabling.

"Permanent" impacts would stem from cable protection. The same ratio would apply.

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

APT is very open to the concept of using its offshore electric service platform ("ESP") as a means to station ocean or ecological observation instruments. A final determination as to the feasibility to implement this concept will depend on detailed discussions with the organization that would be utilizing the instrumentation, along with the platform supplier. In addition, the lease holder will need to be involved in any decisions or plans regarding this concept, as the platforms will be located in the generator's lease area.

APT will be operating its equipment on a very high reliability, long maintenance interval basis. Any instrumentation will likewise need to take a similar approach, considering that access to the instruments would most likely need to be coordinated with APT's access schedule.

The HVDC cable systems buried ~5 ft below the stable seabed do not lend themselves to taking direct ocean and ecological observations.

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

The Fisheries Protection Plan (Plan) for the project is provided as Attachment 6 - Fisheries Protection Plan.

Summary responses to the specific information requested to be in the Plan are provided below; further details are provided in the plan itself.

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;

The state of New Jersey is home to a robust commercial fishing industry, including the Port of Cape May/Wildwood at the southern tip of the state. Cape May was the 8th ranked US port based on reported value of catch in 2019 (94.5 million pounds of catch valued at $90 million). Cape May/Wildwood is the center of fish processing and freezing in New Jersey and is home to an active trawler fleet as well as scallop and surf calm dredge vessels and other fishing vessels. New Jersey's other significant fishing ports include Point Pleasant, Long Beach/Barnegat and Atlantic City.

Recreational fishing, including charter and for-hire vessel fisheries, has important cultural and economic value in the Mid-Atlantic region. Nearly the entire coast of New Jersey and offshore waters host species targeted by recreational fishing vessels.

A detailed description of marine resources begins on page 5 of the Plan.

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

The potential Project impacts on commercial and recreational fisheries are largely limited to temporary disturbances, in small reaches of offshore waters, during the construction stage of the Project. Once the compact HVDC cable systems are installed they are not expected to interfere with commercial or recreational fishing efforts. The project has been sited and designed in order to avoid or minimize such potential impacts. To the extent that some localized impacts are unavoidable (e.g., areas of cable protection), the project will develop and implement appropriate mitigation measures, in consultation with the relevant regulatory agencies and commercial fishing interests. APT plans to implement a robust fisheries communications program during the permitting process and will maintain this program through the construction period and into operations, as needed. Please see further details starting on page 13 of the Plan.

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;

APT recognizes and acknowledges the ecological, recreational, and commercial importance of finfish and invertebrates and their associated habitats as well as their socioeconomic significance for the coastal communities. During the Project design and permitting processes, APT will implement scientifically rigorous analyses to build upon previously completed and on-going research efforts. APT's analyses will continue to inform the Project's design, installation, and best management practices to avoid or minimize Project-related impacts to these resources. APT's baseline data characterization and monitoring will be conducted in accordance with best practices, including BOEM guidance as well as consideration of recommendations for further research from stakeholders. Please see page 19 of the Plan for further discussion of APT's plans for fisheries studies.

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;

APT anticipates that mitigation measures will be identified and developed with relevant fisheries stakeholders through an iterative process that includes, but is not limited to, cable routing, timing of installation activities, and consideration of installation and maintenance methods and activities. APT will strive to avoid impacts on fisheries resource and fishing activity, minimize impacts where avoidance is not possible, and implement practicable measure that offset any significant adverse impacts that are predicted to remain. Appropriate mitigation measures for the Project will be determined through the multi-year permitting phase and in direct consultation with the relevant New Jersey agencies, federal permitting authorities, and fisheries stakeholders. Please see page 20 of the Plan for further details on APT's plans to avoid, minimize, and mitigate potential impacts.

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

Cable routes have been sited to avoid areas of major commercial fishing effort, especially the scallop and the surf clam/quahog dredging. Cable routes have also been selected to avoid nearly all New Jersey mapped recreational prime fishing areas. During construction there will be temporary and limited safety zones around the actual construction site, but otherwise no navigational or fishing restrictions after the project is completed. Please see page 20 of the Plan for further details.

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.

In coordination with commercial fishermen, regulators, and other offshore wind projects operating in the region, a comprehensive gear loss avoidance and compensation program will be developed. The plan will establish, with input from fishermen, measures to avoid, remove, or relocate fishing gear from the cable routes in advance of and during cable installation. The plan will also include gear loss compensation policies.

4 | 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 pre-construction activities through project closeout, as well as a plan for transparent reporting of how stakeholders' concerns were addressed.

Offshore Stakeholders

Offshore stakeholder engagement presents unique challenges, and lessons learned from onshore stakeholder engagement is often not readily transferable to offshore stakeholder engagement. Experience with offshore stakeholder engagement is limited as a general matter, given the relatively small numbers of offshore projects to date in the region, and the remote nature of the offshore setting. However, the APT team has considerable experience with offshore stakeholder engagement, and that experience has been applied in developing this plan.

Offshore, stakeholder concerns typically revolve around safety and navigation, and ability to continue a previous use without any interruption or change. The most important stakeholder offshore are fisheries, both commercial and recreational, and fisheries are specifically addressed in the following section. Other important offshore stakeholders for this project include: The Department of Defense, Coast Guard, shipping interests and commercial vessel operators, Army Corps of Engineers, harbor authorities and port facilities, and recreational boating. Port managers and vessel operators that rely on navigation through [redacted] and adjacent waters are particularly important stakeholders, given the large number of large vessels involved, and the importance of this shipping to the regional and indeed national economy.

APT anticipates establishing a Marine Liaison Officer, distinct from a Fisheries Liaison, during construction planning and execution to ensure efficient and effective communication with all offshore stakeholders.

APT will develop a register specifically of marine user concerns during all phases of the Project, and develop specific responses to each concern, whether through changes in the project, proactive communication, or other means. Project information of particular interest to marine stakeholders will be communicated through maritime communication channels that have been found to be effective with offshore stakeholders including:

- Notices to Mariners
- Marine radio bands
- the Automatic Identification System (AIS)
- Electronic charting
- Dockside and supply store postings
- A dedicated For Mariners page on the project website, as well as providing updates to websites intended to coordinate information regarding offshore activities

- Updated vessel and operational awareness bulletins showing the cable routes, depicted on local nautical charts, with a description of the vessels in the area, the activities taking place, location of areas where cable protection is installed; timelines and relevant contact information

As with onshore, offshore impacts of the project will be mostly limited to those during submarine cable installation. Safety exclusion zones will be designed and implemented in active work areas, in coordination of the Coast Guard. Work in channels and traffic corridors will be avoided to the greatest extent practical, and appropriate measures taken, in coordination with the Coast Guard, when avoiding these areas entirely is not practical.

Fisheries Communications Plan

APT is committed to establishing an early and active collaboration with commercial and recreational fishing interests operating out of New Jersey and other states that operate within the project area.

As detailed in the Fisheries Protection Plan, impacts to fisheries will be limited in both duration and spatially, and mostly limited to the construction period. The Project will significantly reduce the length of cable and overall extent of subsurface disturbance compared to that required for individual generator-designed transmission systems required to meet the region's offshore wind targets. The offshore substations will be located within the wind turbine generator areas, and so will not extend the offshore development footprint.

Regardless of the limited nature of offshore impacts and the stakeholder engagement planned for maritime interests generally, stakeholder engagement tailored to the unique and diverse fisheries sectors is critically important given that fisheries are the largest offshore stakeholder in terms of vessels operating year-round in the nearshore area, and the importance of fisheries to the region both economically and culturally.

Given this importance of fisheries stakeholder engagement and the diverse nature of fisheries, as development of the project continues, the fisheries engagement plan described in this section will be expanded and likely evolve into a standalone plan.

Key elements of APT's fisheries engagement include:

- **Close coordination with the NJ Bureau of Marine Fisheries:** APT has begun mapping the state's recreational and commercial fisheries organizations and will review this list with Bureau staff to ensure completeness; initial mapping has begun and is shown as addenda to this plan. We will seek early input on project refinements based on the Bureau's local knowledge, as well as request assistance in identifying fixed gear license-holders operating in [redacted] who may be directly impacted for discrete periods of time during pre-construction survey work and cable-laying operations.
- **Participation in BOEM NY Bight Fisheries Task Force:** Much of the offshore dimension of APT's proposed project is located within three miles of shore in NJ state waters; the rest is under federal regulatory jurisdiction. No construction occurs within the waters of New York State; however, maritime activities - including fishing – originating in New York ports, particularly those fishing in or transiting [redacted], may be impacted during the construction period. Therefore, APT's stakeholder mapping includes fisheries associations in

NY, and we will maintain an active presence on the NY Bight Fisheries Task Force to get feedback and ensure communication with all fishing interests in the broader project area.

- **Coordination with fisheries/wind engagement broadly:** A number of initiatives, formal and informal, to improve communications and relations between fishermen and the offshore wind sector have been underway or in planning for many years. The nature of the relationship between offshore wind and fishing, and the players involved, has been evolving quickly and will likely continue to do so. APT will be active in this arena, to better understand how to best to design and implement its own fisheries engagement. Developments in the sectors broadly will be an important determinate of APT's planning going forward. Of particular note are efforts to support research and analysis of fish ecology and potential impacts from offshore wind.

- **Fisheries Liaison (FL):** APT may hire a NJ-based Fisheries Liaison to serve as ambassador and advocate for commercial and recreational fishing interests operating in the project area. While there are benefits to utilizing an FL, these benefits need to be weighed against practical considerations given the many other projects that will also have FLs, and the limited communications bandwidth of fishermen (as with anyone). Finding this balance is especially important given that APT's offshore work will be significantly less in scope relative to the wind turbine developers. A more effective approach may be to coordinate or partner with the FL of one or more of the lease holders that the APT project serves, for example.

  As a general matter, whether working directly for APT or not, the FL will initiate early communication with fishing organizations to introduce the project, field questions and gather on-the-water information from recreational and commercial fishermen to advise on project refinements during the permitting process. The FL will continue to be a direct point of contact for fisheries organizations and individuals who have input, questions or concerns during project planning, permitting, marine survey work, and construction. Given the limited number of offshore activities needed to service the APT transmission system, a determination whether to continue the FL during operations will be made at a later date.

- **Comprehensive gear-loss avoidance and compensation program:** APT will coordinate with commercial fishermen, regulatory authorities, and other offshore wind constructors to minimize and mitigate any impact on commercial fishing operations. The plan will establish measures to avoid, remove, or relocate fishing gear from the cable routes in advance of and during pre-construction survey work and cable installation. The plan will also include gear loss compensation policies. The particular means by which these compensation programs will be designed and implemented will be determined during the permit application development process. In designing these programs, APT will consider factors such as input from the fishing industry as well as norms, standards, regulatory requirements, and best practices prevailing at the time. The overall objectives will be a program that is equitable for all (including among fishing sectors and ports), and readily accessible and usable by those who need to make use of the program.

- **Marine Liaison:** APT will hire a Marine Liaison to implement and maintain communication protocols with external vessels both in port and offshore to avoid conflicts, and monitor safety zones and daily vessel movements during construction. This will include working with the Fishing Liaison to establish specific methods for communicating with fishermen while they are at sea to address any real-time operational conflicts and/or safety issues. The Marine Liaison will be responsible for coordinating with the USCG for any required Notices to Mariners.

- **Multiple information delivery strategies:** Given the diversity of fishing industry's equipment, operational practices, and locations, effective communications with fishermen is a challenge that needs to be constantly tended. This is especially true for the many fisheries in the project region, which utilize many ports, and use many relatively small vessels which operate out of range of most communication methods for extended periods. In addition to the communications channels described in the offshore section, communications channels targeting fishermen specifically include:
  - Interviews/Q&As in industry-specific newspapers/publications;
  - Direct access to Project scientists to discuss technical issues, including presentations on planned studies or study results;
  - Activities designed to educate on technical dimensions of the project including survey and construction techniques;
  - Meetings or open houses held periodically to keep the fishing industry informed of current project status;
  - Presentations/discussions as requested at fisheries organization meetings
  - Frequenting popular port venues

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

As previously described, the terrestrial components of the APT system include a landfall on an existing solid fill pier on the [redacted] waterfront, a short run of buried HVDC cables from the waterfront to the [redacted] right of way (ROW) in [redacted], then a 12-mile cable run within the existing [redacted] ROW through portions of the communities of [redacted] final route variation) [redacted]. The route then leaves the [redacted] ROW and takes a ~four mile run largely near or underneath an existing overhead high voltage transmission ROW in portions of the communities of [redacted] or a cable run of generally similar length under existing roadways in portions of the communities of [redacted]

The compact cable systems will be buried for its entire length. The cable route is largely or nearly entirely within existing rail and transmission rights of way thus minimizing construction impacts to the communities. The installation of the cable systems, whether in ROWs or beneath roadways, will involve temporary construction impacts akin to those of any normal utility work (water, sewer, storm drains, natural gas, underground electric and telecommunications).

The only above ground facility is the HVDC converter station on a 39.4-acre parcel on [redacted] 500kV PSEG Deans Station. As described elsewhere, the central converter station will include three 1200MW convertor systems (HVDC to 500kV AC)[9] and a common maintenance building. Each convertor system includes a main building (~40,000 sf) and outdoor electrical equipment; each station occupies a footprint of ~ 4 acres. The area surrounding the converter station site is a mix of rural residential, open fields and wooded areas (similar to the land uses around Deans Station). The converter station has no routine air emissions with the exception of emergency generators, which will be test run periodically.

[redacted]

[redacted]

Given the nature of the project (underground transmission largely on existing non-road rights of way) and the demographics of the community which will host the converter station site, APT does not believe the project will have a disproportionate impact on any overburdened community.

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

Permitting Plan Overview

As described earlier in this Section, the APT Project is an HVDC submarine and terrestrial cable system designed to connect 3,600MW of offshore wind to a major 500kV PJM substation. The system includes three 1,200MW HVDC cable systems, a three-unit HVDC converter station installation in [redacted] and a short run of underground HVAC circuits to connect to the 500kV bus at the nearby Deans Station. All cabling will be buried; terrestrial cables are routed on existing rights of way or within roadway layouts. The landfall is at an existing solid fill pier on [redacted] and will be accomplished via HDD, thus eliminating any impacts to near-shore areas. The submarine portions of the cable system include cables to two offshore "convergence areas". The first convergence area is located off the northwest corner of the Hudson South area; the other is located just south of the Hudson North lease area. From the two convergence points, single cable systems can be run to serve any of the eight New York Bight Lease Areas as well as existing Lease Area 499 off the New Jersey shore. It is anticipated that offshore wind developers wishing to use the Atlantic Power Transmission HVDC system

[9] The offshore HVDC converter station converts AC power from the wind turbine array (typically 66kV) to 320kV HVDC, which is then carried by the submarine/overland HVDC cable system to the [redacted] converter station site.

would permit the necessary single circuit line from the convergence area to the offshore HVDC converter station (Electric Service Platform, "ESP") within their wind turbine generator array. This permitting would be done in close consultation with APT. Once the developer has permitted their entire project, the appropriate easement would be conveyed to APT; APT would then build and commission the connecting cable and the ESP.

From the inception of the Project, a team of experienced wind energy and transmission developers, environmental engineers and scientists, and HVDC experts have worked to develop a Project concept which would meet New Jersey Board of Public Utility's ("BPU's") objectives and do so economically, reliably and in an environmentally responsible manner. The Project concept – namely compact, high-capacity, solid dielectric submarine cable, landfall via HDD, underground solid dielectric terrestrial cable, high capacity compact HVDC converter stations, and a PJM grid interconnection location with adequate capacity for a 3600MW connection – when carefully routed and sited, is the foundation of a major energy infrastructure project which eliminates or minimizes environmental effects, and hence is permittable within a reasonable time frame. The siting and routing of this well-founded concept considers possible impacts to both the natural and human environment, as well as the likely concerns of a wide array of stakeholders at the federal, state and local level. The project team was and is mindful of the groundbreaking nature of this New Jersey initiative.

A carefully considered routing and siting effort is critical to a permitting plan which can be realistically executed in a reasonable time frame. Specifics of the APT routing and siting effort included:

- Bring to bear successful experience in offshore wind, offshore and onshore transmission line routing, and other energy infrastructure in assessing and refining routing concepts;
- Identification of routing area bounded by the New York Bight lease areas, and the 3600MW capable 500kV Deans Station in South Brunswick;
- Identification of a suitable HVDC converter station site in the near vicinity of Deans;
- Identification of a workable and available landfall location;
- Identification of workable and reasonably direct underground route(s) between the converter station site and the landfall, with a heavy focus on use of public rights of way or existing rights of way where owner is amenable to dual use ([redacted]);
- For the submarine portion of the route [redacted], identify routing areas with workable depths and bottom conditions, which avoid existing hazard areas, and which avoid mapped prime fishing areas and avoid areas of high-value commercial fishing effort;
- Maintain adequate buffer from existing marine facilities (pipelines, transmission, navigation channels); where crossings may be unavoidable, do so in well planned manner;
- Strive for direct routes wherever feasible; incremental route length can add construction impacts and costs, often with no commensurate benefit;
- Develop alternative routes or variations for elements of the route which could present

permitting challenges;

- Carefully examine route concepts with respect to constructability, and the ability to avoid or minimize impacts on mapped wetlands and other resource areas, protected lands, and historical resources;
- Secure site control for key end point (HVDC converter station site) and key transition point (landfall site);
- Early outreach with key local stakeholders; this is especially critical for the landfall site.

With a solid routing plan developed, a workable permitting plan can then be formulated. In this case the APT team begins with a thorough understanding of the reviews and approvals required at all levels; federal, New Jersey, county, municipal/local. This includes an understanding of the required content of application and the review and approval process, including public notices, public hearings and other opportunities for citizen participation.

The team then moves on to the permitting sequence (certain reviews or approvals must be completed in order for other approvals to issue) and lays out the critical path for permitting. In parallel, the team develops a well thought-out conceptual or permitting grade design, making refinements where possible to minimize or mitigate impacts (natural and human environment). The team completes some initial data collection in key areas such as wetlands mapping at the converter station site, initial ambient noise data collection in the vicinity of the converter station site.

As a key input to the permitting plan, the team considers the requirements for field data collection, in particular for the submarine routes. The team also makes initial estimates and calculations for unavoidable wetlands impacts as well as temporary and permanent seabed disturbance.

Lastly, the team formulates a public communications plan for the Project as a whole and for the fishing community in particular.

Atlantic Power has developed an effective routing plan, one which will minimize construction impacts and operational effects, and which can be permitted in a reasonable time frame. The permitting plan is provided as Attachment 7 – Permitting Plan. The Project's responses to the specific permitting questions posed by the BPU follow in the balance of this section.

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;

The Project has developed an annotated listing of the federal, NJ and municipal/local-level reviews and approvals expected to be required for the 3,600MW HVDC transmission project. Given the extent of submarine cable proposed in federal waters, and the need for BOEM to issue an "Unsolicited Right of Way and Right of Use and Easement Grant" we expect BOEM to be the lead agency for purposes of NEPA review. Given the compact nature of the cabling, the careful routing, the general avoidance of commercial and recreational fishing areas, the use of HDD from an existing pier to avoid shoreline resources, and brief and temporary nature of any construction impacts, we are confident in being able to work with BOEM to satisfy the NEPA review via an Environmental Assessment in support of a Finding of No Significant Impact. This level of review provides ample opportunity for consultations with the Army Corps, NOAA NMFS, USGC, NJ DEP, and other stakeholders while resulting in a more expeditious review timeline.

The other primary federal review will be an Army Corps Section 404/10 Individual Permit.

On the New Jersey front, the entirety of the landfall and cable route is located outside the Coastal Area Facility Review Act jurisdictional areas. The Project will require several other NJ DEP reviews, primarily the Tidelands License. If the transmission line ROW portion of the land route is used, a Green Acres Diversion may be required.

A schedule based on a BOEM EA level NEPA review is in the Permitting Plan.

A comprehensive review of the BEOM process and related federal permitting is provided in Attachment 13 – BOEM Permitting and ROW Strategy and Review, this being a memorandum prepared by Morgan Lewis, counsel to the Project. A similar memo regarding New Jersey and local permitting is provided in Attachment 14 - State and Local Approvals: Legal Review, which was prepared by the Projects state and local counsel at Giordano, Halleran, and Ciesla.

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

The Project has researched the location of USAE/NJDEP-Designated Borrow Areas, potential USACE Sand Resources and potential NJ Sand resources. The mapped sand resources are generally within or near the three-mile limit of New Jersey waters. Further to the south, off Cape May, much more extensive sand resource areas are mapped and extend a considerable distance offshore.

As such, the nearest mapped USACE/NJDEP Designated Borrow Area is in New Jersey waters on the Atlantic side of [redacted]. The proposed Project submarine cable route avoids all mapped sand resource areas (Designated and Potential). Notwithstanding the avoidance of all sand resource areas, the Project will certainly discuss the Corps' active and planned beach replenishment projects in the course of future meetings with the Corps.

On a somewhat related note, the Project is aware of the [redacted] located on the New Jersey side of the Bay. The Project submarine cable route in [redacted] is well clear of the Superfund Site. More specifically, the cable route is more than 4,000 ft to the northeast of the mapped limits of the Superfund Site. The Project landfall site in [redacted] is nearly 10,000 ft to the northwest.

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 7 - Permitting Plan for a listing of all applicable federal, state, and local approvals required by the Project, and the agencies responsible for their compliance.

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

Local zoning will likely apply to the above-ground converter station facility on the [redacted]

Municipal zoning does not generally apply to placement of buried electric transmission cables, however this will be confirmed with each municipality through which the cable route passes.

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

There are three specific areas where the Project will require a land easement or similar rights. The first is a right of way/easement for placement of cables in federal waters (Outer Continental Shelf). This ROW will be granted by BOEM and will be the subject of a thorough review process as outlined in the Permitting Plan. For perspective, the combined length of the common cable routes in federal waters is approximately 90 miles.

The second will be a license from the State of New Jersey for the placement of cables in state waters [redacted]. This license is issued by the NJ Tidelands Council, Bureau of Tidelands Management, NJ DEP. This was one of the state approvals discussed with the NJ DEP team at the Project's August 10, 2021 pre-application meeting. For perspective, the length of the common cable route in New Jersey waters is approximately 20 miles.

The third area is the possible need for a diversion of Green Acres lands along a portion of the upland underground cable route which would use a stretch of existing cleared utility high voltage transmission right of way. There are two specific crossings, one a state park, the other a [redacted]. The process for securing the diversions, if necessary, was discussed at the August 10, 2021 pre-application meeting as well as at an August 24, 2021 meeting with Middlesex County. A legal analysis of this potential Green Acres diversion is provided in Attachment 15 - Existing Overhead Line ROW Feasibility: Legal Review.

There are other portions of the proposed route where permissions from a municipality or the NJ Department of Transportation may be necessary, in relation to installing cable alongside or under a roadway. In the case of use of public roadway layouts for placement of utilities, there is a presumptive right for such use, subject to certain conditions.

The numbered list below provides the specifics (agency, attendees, dates) for meetings and discussions held thus far with respect to land acquisition/easements/permissions for the transmission system.

3. [redacted]

[redacted]

4. [redacted]

5. [redacted]

6. [redacted]

7. [redacted]

8. [redacted]

9. [redacted]

10. [redacted]

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

The Project has not yet submitted any formal permit applications. The Project has, however, prepared and submitted the NJ DEP Checklist (Appendix A of the BPU Form). The Checklist, together with a Project Narrative and a supporting map set was provided to NJDEP on August 3, 2021 for subsequent presentation and discussion at the August 10, 2021 pre-submission meeting with the DEP Office of Permitting and Project Navigation. Please see Attachment 21 to this document for a copy of the Checklist submittal.

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.

At this early point in the process, no such filings have been made.

ATLANTIC POWER TRANSMISSION LLC

ATTACHMENT: # 1

APT Alliance Qualifications Statement

Contains Confidential and Proprietary Information / Do Not Release

ATLANTIC POWER
TRANSMISSION LLC

ATLANTIC POWER TRANSMISSION LLC

Qualifications

Version: September 17, 2021

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Introduction

APT is a portfolio company of Blackstone Infrastructure Partners L.P. ("BIP", and together with Blackstone Inc. and its other affiliates, "Blackstone"). BIP seeks to invest in large-scale, high-quality, stable, long-duration assets, while also increasing access to clean energy around the world. BIP is among the largest infrastructure funds globally and has an open-ended, permanent structure that allows for the development of high-quality infrastructure assets and the ability to act as a long-term partner and owner. Blackstone has significant experience in the development and operation of power transmission and other linear infrastructure, providing highly relevant experience and know how to APT, along with strong financial backing in a format that is well suited for cost-effective and reliable energy infrastructure.

To deliver the highest-quality energy infrastructure projects to PJM and the New Jersey Board of Public Utilities (NJ BPU), APT has formed a commercial alliance (the "APT Alliance") with three of the world's leading transmission component supply and installation companies – Hitachi ABB Power Grids Ltd. ("Hitachi-ABB"), Aibel AS ("Aibel"), and Nexans S.A. ("Nexans"). Environmentally responsible project design and efficient permitting are as important for successful project execution as are fabrication and construction, especially for projects requiring both federal and New Jersey state approvals. For this reason, the fourth member of the APT Alliance is Epsilon Associates ("Epsilon"). Epsilon has designed and permitted a significant number of linear infrastructure projects in the U.S. Northeast, including projects in New Jersey as well as the groundbreaking and fully permitted Vineyard Wind offshore wind project, and has other relevant project experience.

Blackstone and the APT Alliance partners have planned, permitted, financed, constructed, operated, and maintained some of the most complex and important transmission infrastructure projects in the world. All of the knowledge and resource bases resulting from this considerable experience will be available to APT in developing transmission infrastructure to serve New Jersey.

Blackstone has further assembled a world class team of consultants to support APT and the project with unique, highly relevant qualifications. These consultants include leading experts in U.S. offshore wind project development, European offshore transmission design and subsea cable installation, deep experience with the PJM system, and significant direct experience successfully supporting project development in the New Jersey regulatory context.

APT Senior Leadership

Andy Geissbuehler, CEO

Mr. Geissbuehler has more than twenty-five years of experience in the electric power industry, focused primarily on offshore wind development, construction and supply chain logistics, including Jones Act compliance. He co-authored the NJ Offshore Wind Strategic Plan.

Mr. Geissbuehler managed EPC project execution and construction, including responsibility for seven turnkey combined cycle power plants built in New England, Texas, and California, encompassing the integration of global and local supply chains.

As GE Renewable Energy's General Manager North America for Offshore Wind, Mr. Geissbuehler provided the turbine supply and installation scope for the Deepwater Wind Block Island Project, the first offshore wind project in the United States.

Peter Giller, Chairman

Mr. Giller has twenty years of engineering and construction experience with Westinghouse Electric and ABB as Engineer and Manager, including ten years as head of ABB's global power development business. Further, Mr. Giller served as CEO of UK based International Power.

Mr. Giller has been a Senior Advisor to Blackstone for the power sector for seventeen years. In that role he headed the development, construction, and operation of Blackstone's Meerwind Sud | Ost 288MW offshore wind farm in the German sector of the North Sea.

Sebastien Sherman, Managing Director of APT and BIP Partner

Mr. Sherman is a Senior Managing Director in BIP and leads the group's coverage of the utilities, renewable and transportation sectors. Sebastien serves on the boards of Blackstone Infrastructure's portfolio companies Carrix and Applegreen. Prior to joining Blackstone, Mr. Sherman spent 14 years with OMERS Infrastructure (Borealis Infrastructure), including most recently as its Head of the Americas region. While at OMERS, Sebastien was involved in the origination, deal execution and oversight of a number of large-scale infrastructure portfolio companies across North America, Europe and South America. Over the course of his career, Sebastien has led investments in sectors including utilities (gas and electric), natural gas transmission pipelines, LNG import infrastructure, power generation, high-speed rail infrastructure, airports, ports, toll roads, motorway service areas, land registry and satellites. Earlier in his career, Sebastien spent seven years with Morgan Stanley, RBC Capital Markets and TD Securities, where he advised on M&A transactions and financings and at the Bank of Canada, Canada's Central Bank. Sebastien has an Honours BA (Economics) from Queen's University and is a CFA charterholder.

Relevant Experience:

- Applegreen: Largest owner of highway rest stops in the U.S. and Ireland and second largest in the UK. Leader in the fast growing electric vehicle charging industry.
- Carrix: Largest operator of marine terminals in the U.S. and in the Americas operating container terminals in many ports including the Ports of Long Beach, Oakland, Seattle and Jacksonville.
- Oncor Electric: Largest electricity delivery company in Texas with 139,000 miles of Transmission and serving 98 counties with over 3 million electricity meters.
  Note: OMERS Infrastructure investment
- Scotia Gas Networks: Second largest gas distribution utility in the UK serving 5.9 million homes and businesses in Southern England and Scotland.
  Note: OMERS Infrastructure investment
- Bruce Power: Operates eight nuclear reactors on Lake Huron with a capacity of 6,400MW supplying 30% of the Province of Ontario's electricity.
  Note: OMERS Infrastructure investment
- High Speed One: Operates under a long term concession the UK's only high speed railway and stations linking London to Southern England and the Channel Tunnel.
  Note: OMERS Infrastructure investment

Erich Stephens, Chief Development Officer

Mr. Stephens was most recently CDO of Vineyard Wind, the first commercial scale (800MW) offshore wind project in the U.S. to receive both a PPA and complete permits. At Vineyard Wind, Mr. Stephens was responsible for right-of-way planning and permitting for several offshore transmission cable systems.

Mr. Stephens entered the offshore wind sector in 2006 when he was appointed Head of Development for Bluewater Wind, which secured the first offshore wind power purchase agreement in the United States.

Blackstone Investment Team

The following leaders of the Blackstone Investment Team have been deeply engaged in developing the strategic approach and execution of APT's response to the New Jersey SAA solicitation, bringing global experience in complex energy infrastructure development and financing.

Sean Klimczak, Blackstone Infrastructure Partners, Global Head of Infrastructure

Since joining Blackstone in 2005, Mr. Klimczak has been involved in the execution of numerous Blackstone investments, including Tallgrass Energy, Carrix, Cheniere Energy Partners, Applegreen, Signature Aviation, Hotwire Communications, Sithe Global, Fisterra, Custom Truck One Source, Meerwind, Transmission Developers and American Petroleum Tankers. Before joining Blackstone, Mr. Klimczak was an Associate at Madison Dearborn Partners. Prior to that, Mr. Klimczak worked in the Mergers & Acquisitions department of Morgan Stanley & Company's Investment Banking Division. Mr. Klimczak received a BBA in Finance and Business Economics from the University of Notre Dame, where he graduated summa cum laude and was elected to Beta Gamma Sigma, and an MBA with High Distinction from Harvard Business School, where he graduated with the highest academic standing in his class and was selected as a Baker Scholar, a John L. Loeb Fellow, a Henry Ford II Scholar and a William J. Carey Scholar. Mr. Klimczak serves as a director of Custom Truck One Source, Transmission Developers and The Blackstone Charitable Foundation. He also serves as a member of the Alumni Board of Harvard Business School, the Board of Trustees of Saint David's School and the University of Notre Dame Mendoza College of Business Advisory Council. Mr. Klimczak was named a World Economic Forum Young Global Leader in 2015.

<u>Relevant Experience:</u>

- ♦ Transmission Developers: Developer behind the Champlain-Hudson Power Express, a proposed 1,250MW, 339 mile transmission line from Quebec to New York
- ♦ Meerwind: One of the largest operational German offshore wind farms at 288MW, and the first to be financed by private investors
- ♦ Fisterra: An international electric power generation and transmission business. Projects include Ventika, 252MW onshore wind farm in Mexico; Tierra Mojada, 875MW greenfield CCGT power generation facility in Guadalajara, Mexico; and Celaya, a greenfield power plant in Mexico
- ♦ Tallgrass Energy: Midstream company operating major natural gas and crude pipelines that transport ~6% of U.S. natural gas and ~4% of U.S. crude production

- Cheniere Energy Partners: A publicly-traded MLP that owns and operates the Sabine Pass liquefied natural gas (LNG) and regasification terminal, the first liquefied natural gas export facility in the continental U.S.
- Sithe Global: Global power generation development business. Mariveles - 604MW coal plant in Philippines; Bujagali - 250MW greenfield hydroelectric project in Uganda; Goreway - 880MW greenfield natural gas-fired plant in Canada

Heidi Boyd, Managing Director

Ms. Boyd is a Managing Director in BIP. Since joining Blackstone in 2018, Ms. Boyd has been involved in the execution of Blackstone investments, including Carrix and various utility investments. Ms. Boyd has experience across many infrastructure verticals including transportation, utilities, waste, and infrastructure services. Before joining Blackstone, Ms. Boyd worked at Macquarie Infrastructure and Real Assets (MIRA), an infrastructure-focused private investment platform, most recently as a Vice President. While at MIRA, Ms. Boyd evaluated and executed investment opportunities in North American infrastructure for both MIRA's private closed-end funds and Macquarie Infrastructure Company. Prior to that, Ms. Boyd was a Consultant for the Boston Consulting Group. Ms. Boyd received a BA in Science, Technology and Society from Stanford University, where she also co-founded Stanford Women in Business. Ms. Boyd received an MBA from Harvard Business School. Ms. Boyd currently serves on the Board of Common Denominator, a not-for-profit, mathematics tutoring program for middle school students, on the Investment Committee for the Yakima Valley Community Foundation, and on the Board of Stanford Professionals in Investing & Finance.

Relevant Experience:

- Puget Energy The largest electric and gas utility in WA state with 772MW of wind power (fourth largest utility generator of wind power in the U.S.)
  Note: MIRA investment
- Other utility investments include Hawaii Gas, the largest natural gas utility in Hawaii, and Cleco, an electric utility based in Louisiana
  Note: MIRA investment
- Ports investments include container and other marine terminal investments on the Delaware River (Penn Terminals), Elizabeth New Jersey (Maher Terminals), and on the U.S. West Coast
  Note: BIP and MIRA investments

Bryan Hom

Mr. Hom is a Senior Associate in BIP. Mr. Hom has been involved in the execution of Blackstone investments, including Applegreen and the HMSHost U.S. motorways business. Mr. Hom is an Observer on the Board of Directors of Applegreen. Mr. Hom has experience across many infrastructure verticals, including power & renewables and transportation. Prior to joining Blackstone, Mr. Hom was an Assistant Vice President in the Power & Renewables Group at EIG Global Energy Partners in Washington DC. At EIG, Mr. Hom sourced, diligenced, and executed investments in, as well as helped to shape operational strategies of, power generation and energy infrastructure companies throughout the Americas, including in PJM. In addition to focusing on private equity investments, Mr. Hom also helped to launch a new credit fund at EIG. Mr. Hom has also worked in CPPIB's Energy & Resources group and HSBC's Leveraged & Acquisition Finance group. Mr. Hom received a BBA with Distinction in Business and

Economics from Emory University and his MBA from The Wharton School of the University of Pennsylvania. Mr. Hom currently serves in a Board capacity for Bottom Line, a not-for-profit focused on helping first generation students from low-income backgrounds get to, and succeed in, college.

Relevant Experience:

- Andes Mining & Energy, S.A.: Andean power generation developer with a portfolio of ~1.5 GW of renewable and conventional power generation in Chile
  Note: EIG Global Energy Partners investment
- BTB Pipeline: Two separate pipeline companies that supply ~40% of Brazil's natural gas via Bolivia
  Note: EIG Global Energy Partners investment
- Kelson Energy: Operator of ~4 GW portfolio of natural gas power generation facilities
  Note: EIG Global Energy Partners investment
- 11 Asset Credit Investment Portfolio: Portfolio of over 10 credit investments in power generation and energy infrastructure companies, including several companies with operations in PJM
  Note: EIG Global Energy Partners investment

Ananya Rajesh

Ms. Rajesh is an Analyst in the Infrastructure Group and is based in New York. Prior to joining Blackstone in 2020, Ms. Rajesh received a BBA in Finance and BA in Plan II Honors with a minor in Middle Eastern Studies from the University of Texas at Austin. She previously worked at Vista Equity Partners and Evercore Partners.

Senior Advisors

Ulrich Spiesshofer, Blackstone Senior Advisor

Mr. Spiesshofer serves as a Blackstone Senior Advisor and most recently served as President and Chief Executive Officer of the ABB Group, Switzerland. Dr. Spiesshofer was head of ABB's Discrete Automation and Motion division, home of the company's leading robotics business. He joined ABB in 2005 as Executive Committee member for Corporate Development, responsible for strategy, M&A, supply chain management and operational excellence. Before ABB, he was senior partner and global head of operations practice at Roland Berger AG (Switzerland) from 2002, and prior to that he held various management positions with A.T. Kearney Ltd. and its affiliates. Spiesshofer obtained his PhD in economics from the University of Stuttgart, Germany, and holds a master's degree in business administration and engineering from the same university.

Terry Boston, Blackstone Senior Advisor

Mr. Boston is CEO emeritus of PJM Interconnection, the largest grid operator in North America and the largest electricity market in the world. Since retiring from PJM, he has served 3 U.S. Presidents on the President's National Infrastructure Advisory Commission and has served on 4 Corporate Boards. Prior to joining PJM, he served as executive vice president of the Tennessee Valley Authority, the largest public-power provider in the United States. In his 35 years at TVA, he directed divisions in transmission and power operations, pricing and contracts, and electric-system reliability. Throughout his career Boston held leadership roles with several major industry organizations, including the Association of Edison Illuminating Companies and the North American Electric Reliability Council (NERC) and Chaired GO15

(The Very Large Grid Operators of the World). He was one of eight industry experts selected to direct NERC's investigation of the August 2003 Northeast/Midwest blackout. A member of the National Academy of Engineering and their Board of Energy and the Environmental Systems; Boston received a Bachelor of Science in engineering from Tennessee Technological University and a Master of Science in engineering administration from the University of Tennessee.

Mike Adams, Blackstone Senior Advisor

Mr. Adams is a Senior Advisor to BIP and serves on the Board of Directors of BIP portfolio company Tallgrass Energy. Most recently, he served as a Senior Vice President and Board Member of Bechtel Group, a $40 billion privately held engineering and construction company. At Bechtel, Mr. Adams led Strategic Projects and was CFO of Bechtel Group, Inc. from 2012 through 2015, where he was responsible for leading the Finance organization, which includes the Controller, Treasury, and Tax functions. Prior to serving as CFO (2003–2012), Mr. Adams was President of Bechtel's Global Civil Construction business ($6 billion in annual revenues with over 23,000 employees), which is responsible for rail, infrastructure, and aviation projects, including the Dulles Corridor Metrorail extension in the Washington, D.C. area, Khalifa Port and Industrial Zone in Abu Dhabi, Hamad International Airport in Qatar, Crossrail in London, Jubail Industrial City in Saudi Arabia, and the Croatia, Kosovo, Albania, and Romania Motorways. Mr. Adams joined Bechtel in 1989, starting in Bechtel Enterprises. He was principal project liaison for the financial restructuring efforts on the landmark Channel Tunnel project. From 1993 to 1999, Mr. Adams served in Asia, where he was Bechtel's senior regional representative for Singapore, Malaysia, Vietnam and Brunei as well as head of Asia Pacific for Bechtel Enterprises. In 2000, Mr. Adams became manager of the rail business for Bechtel's Europe, Africa, Middle East, Southwest Asia region and helped significantly expand the company's rail business in the United Kingdom. In 2003, he became President of Bechtel's Global Civil Construction business. Mr. Adams was elected as a Senior Vice President in 2001 and elected to Bechtel's Board of Directors in 2008. Mr. Adams holds Bachelor's degrees in engineering and French from Dartmouth College in New Hampshire and a Master of Business Administration degree from the Wharton School of the University of Pennsylvania.

Kurt Summers Jr., Blackstone Consultant

Mr. Summers is an advisor to BIP. Mr. Summers has a career spanning over twenty years in both the private and public sectors leveraging expertise in finance, institutional leadership, complex problem-solving and market-leading innovation. Mr. Summers serves as an independent director of both Victory Park Capital Advisors Impact Acquisitions Holdings (NASDAQ: VIH) who recently announced its merger agreement with Bakkt and VPC Impact Acquisition Holdings III Inc (NYSE: VPCC) which has announced its merger with Dave, a leading banking platform. Mr. Summers was previously elected and served as Chicago's 70th City Treasurer from 2014-2019. As Treasurer of the City of Chicago, Summers managed the city's more than $8 billion investment portfolio as well as serving as a trustee or fiduciary of five local pension boards with nearly $25 billion under management. In this role, Summers and his team more than tripled the returns of the City of Chicago's portfolio which now generates more than $100 million of incremental revenue to Chicago's taxpayers, bondholders and other stakeholders each year. Mr. Summers oversaw the development of the most comprehensive Environmental, Social, and Governance (ESG) integration strategy of any major city in the world, integrating ESG into 100% of its investment decisions on corporate, agency and municipal fixed income securities. In addition, during his tenure as Treasurer, Chicago achieved a carbon-neutral investment portfolio and became a signatory to the United Nations-supported Principles for Responsible Investment. Most recently prior to becoming Treasurer of the City of Chicago, Summers served as a Senior Vice President at Grosvenor Capital

Management where he helped lead the firm's strategy & business development efforts and served as a member of the Office of the Chairman. In addition to this role, Summers was also a leader of the Emerging and Diverse Manager business, which managed and invested over $2 billion with minority- and women-owned asset managers. In this capacity, Summers also launched and served as co-portfolio manager from the Spectrum Fund, the first ever comingled fund-of-funds invested predominately with emerging and diverse hedge fund managers. Prior to Grosvenor, Mr. Summers had roles with Cook County, Ryan Specialty Group, and McKinsey & Company. Summers received a Bachelor of Science in Business Administration with Management Distinction High Honors in Finance and International Business, with a minor in East Asian Studies, from Washington University in St. Louis. He also holds a Master of Business Administration from Harvard Business School.

Stephen Boyle, APT Senior Development Advisor

Mr. Boyle has thirty years of experience in engineering and worked for PJM from 2007 to 2017.

As PJM's Director of State Government Affairs, Mr. Boyle represented PJM in matters regarding system planning, grid operations, and markets with PJM's states and worked with the states to help them coordinate their energy policies with PJM.

Blackstone Operations Team

Brian Tierney, Senior Managing Director & Global Head of Infrastructure Operations and Asset Management

Mr. Tierney is a Senior Managing Director and Global Head of Infrastructure Operations and Asset Management. Prior to joining Blackstone, Mr. Tierney was Executive Vice President of Strategy at American Electric Power Company, Inc. ("AEP") which he joined in 1998. From 2009 through 2020, Mr. Tierney was Executive Vice President and Chief Financial Officer at AEP where he led corporate accounting, finance, fleet services, investor relations, planning and strategy, procurement, supply chain and risk management. From 2008-2009, Tierney managed AEP's Eastern Utilities. Previously, he worked in the consumer products industry before joining Enron as an associate, where he later served as a Manager in both Electricity Trading and Coal Trading. He served as a United States Peace Corps Volunteer in the Republic of the Philippines. Mr. Tierney received a BA in History from Boston College and an MBA from the University of Chicago. Mr. Tierney serves on the Board of Directors of Energy Insurance Mutual and The Jeffrey Company (Investments).

Steve Bolze, Senior Managing Director

Stephen R. Bolze is a Senior Managing Director in Infrastructure. Since joining Blackstone in 2017, he is involved in the portfolio management activities and serves as a member of the Board of Directors for Carrix and Tallgrass Energy. Before joining Blackstone in 2017, Mr. Bolze had a 24-year career at GE where he last served as the President and CEO of GE Power & Water. He held a number of global leadership roles across GE Power Systems, Energy Management Services, GE Medical Functional Imaging, GE Healthcare International, Power Generation, Renewables, Distributed Power and Water businesses as well as Corporate M&A. Prior to GE, Mr. Bolze worked as a management consultant for Corporate Decisions, Inc. and as a program manager at Westinghouse. Mr. Bolze graduated magna cum laude with a BS in Electrical Engineering from Duke University and earned a MBA from the University of Michigan, Ross School of Business. He serves on the Duke Pratt School of Board of Visitors and Michigan's Ross School of Business Advisory Board.

Paula Chirhart

Ms. Chirhart serves as a media spokesperson for Blackstone's Infrastructure and Hedge Fund Solutions businesses. Ms. Chirhart joined Blackstone in 2015 from global financial services provider Macquarie Group where she served as Senior Vice President of Corporate Communications in the Americas. During her eight-year tenure at Macquarie, she served as the primary spokesperson for a number of its businesses including Macquarie Infrastructure and Real Assets (MIRA). Prior to joining Macquarie, she served as a Vice President at Abernathy MacGregor, a leading NY-based financial communications firm, where she worked on communications efforts relating to transactions, crisis management and corporate reputation building. She started her career as a Research Associate for the National Center on Addiction and Substance Abuse (CASA) at Columbia University. Ms. Chirhart received a BA from The University of Virginia.

Jillian Fitzpatrick

Jillian Fitzpatrick is Managing Director of Government Affairs for Blackstone. She helps navigate political, legislative, and regulatory risk for the firm and its portfolio companies. Before joining Blackstone, Ms. Fitzpatrick was Head of Global Policy for S&P Global. She previously served as Senior Policy Advisor to U.S. Senator Heidi Heitkamp of North Dakota and Minority Staff Director for the Banking Subcommittee on National Security and International Trade and Finance. She also served as Policy Director and Transition Director for U.S. Senator Tim Kaine (D-VA) and as Economic Policy Advisor for Senator Richard Blumenthal (D-CT). During the development and passage of the Dodd-Frank Wall Street Reform and Consumer Protection Act, Jillian worked for Rep. Dan Maffei (D-NY-25) on the House Financial Services Committee. Jillian is currently co-chair of the Duke University Politics and Policy Network and a board member of the Purple Campaign Foundation. She holds a B.A. from Duke University in Durham, NC and an M.A. from the George Washington University in Washington, D.C.

Chris Placca

Mr. Placca is the Head of Finance and a Managing Director of the Infrastructure group. He currently oversees the Valuations, Financial Planning and Analysis, Operations and Accounting teams for Infrastructure. Since joining Blackstone, Mr. Placca has been involved in administrative, accounting, tax and financial reporting matters for Blackstone's infrastructure and private equity funds. Before joining Blackstone in 2010, Mr. Placca was the U.S. Controller at Apax Partners, L.P., a London based private equity firm. At Apax, Mr. Placca was primarily involved in fund management, administration and financial reporting for its U.S. private equity funds and well as financial reporting and daily operations for the U. S. management Company. Prior to that, Mr. Placca was a Vice President at CCMP Capital Advisors, a New York based private equity firm. Mr. Placca was involved in deal execution, funds administration and operational issues.

Max Wade

Mr. Wade is a Vice President in the Legal Infrastructure team within the Legal & Compliance group. Prior to joining Blackstone, Mr. Wade spent five years at Cleary Gottlieb Steen & Hamilton LLP as an Associate in the Mergers & Acquisitions group. Mr. Wade received a BA, magna cum laude, from New York University and a JD, magna cum laude, from Georgetown University Law Center.

APT Alliance Partners

The companies that are working directly with APT as part of the APT Alliance – Hitachi-ABB, Aibel, Nexans, and Epsilon – are leading companies in energy transmission infrastructure planning, permitting, construction and operations.

The work performed by the APT Alliance is planned and managed by Blackstone and APT executives and advisors, described above, working in coordination with senior executives of each of the APT Alliance partners. This management team works together on a daily basis. Qualifications of each of the APT Alliance partner companies as well as the executives at those companies who together manage the APT Alliance partnership are described below.

Hitachi-ABB

Hitachi-ABB is a global leader in high voltage electric transmission engineering and technology. The company employs 36,000 people worldwide in four business units – grid automation, grid integration, high voltage, and transformers – with sales of approximately $10 billion. Hitachi-ABB operates 115 manufacturing facilities in 90 countries, including locations in Virginia and Missouri. Hitachi-ABB's U.S. headquarters is in Raleigh, North Carolina. There are twenty-four Hitachi-ABB generator step-up transformers operating in the PJM system.

- **Roger Rosenqvist, Hitachi-ABB APT Alliance Lead.** Mr. Rosenqvist is a Vice President with Hitachi-ABB Power Grids North America. He has more than 40 years of engineering, engineering management, power systems consulting, and high voltage direct current ("HVDC") project management in the electric power industry.

Aibel

Aibel is one of the preeminent EPC contractors for major electric infrastructure projects. The company has 4,000 employees and annual revenue of $1.2 to 1.4 billion. Aibel and Hitachi-ABB have collaborated on HVDC projects for 20 years. Currently, Aibel has operation and maintenance responsibility for as many as 20 offshore operations.

- **Lars Henrik Hosoey, Aibel APT Alliance Lead.** Mr. Hosoey is Aibel's Head of Business Development & Sales for Offshore Wind. He has held various positions with the company for eight years, including Quality & Risk Manager.

Nexans

Nexans is a global leader in the manufacturing and installation of transmission cable. Nexans operates two cable laying vessels and six manufacturing plants. Nexans' Charleston, South Carolina high voltage subsea cable manufacturing plant is the only such facility in the United States. Nexans' cables have been deployed in more than 200 submarine projects (including beach crossings) and enabled 25 gigawatts of offshore wind farm generation.

- **Morten Langnes, Nexans APT Alliance Lead.** Mr. Langnes has been Export Sales Manager for Submarine HV Power Cables for 13 years.

Epsilon Associates

Epsilon Associates is an environmental engineering and consulting company specializing in securing environmental approvals for energy, infrastructure, power generation, and large-scale development projects for public and private sector clients, and has particular expertise with energy transmission in the U.S. Northeast. Epsilon brings a team of highly experienced and knowledgeable engineers, environmental scientists, and planners to the APT Alliance. Epsilon brings highly unique experience planning and permitting transmission cables in federal waters under jurisdiction of the U.S. Department of Interior, a class of transmission facility new to PJM.

- Theodore A. Barten, Epsilon APT Alliance Lead. Mr. Barten, PE, is a Founding Principal of Epsilon and leads the company's Transmission & Pipeline Planning and Permitting area. Mr. Barten has more than 40 years of experience in engineering and environmental consulting. He served as Co-Managing Principal of Epsilon for 20 years and was one of the original founders of the firm. His principal technical focus is siting, environmental analyses, licensing, and permitting work for offshore wind, energy transmission, merchant power, and industrial clients. His projects involve route selection or site selection studies; adjudicatory level environmental review; a full array of federal, state, and local level permits; extensive regulatory agency interface; and public presentations. Mr. Barten's expert testimony experience includes more than twelve successful Massachusetts Energy Facilities Siting Board proceedings. Mr. Barten is an environmental engineer by training and a Registered Professional Engineer in Massachusetts, Connecticut, and Rhode Island.

Demonstrated Experience Developing, Constructing, Maintaining, and Operating Transmission Facilities

The APT Alliance partners have substantial experience planning, permitting, constructing, maintaining, and operating transmission facilities, including many significant projects using submarine and buried HVDC and HVAC transmission technology.

Figure 1 – Representative APT Alliance Experience, provides a snapshot of representative projects associated with each of the APT Alliance partners. Several of the listed projects provide transmission connections from offshore wind farms to shore in both Europe and the U.S. For example, Aibel currently has operating and maintenance responsibility for over 20 offshore operations and Hitachi-ABB has operating and maintenance agreements for thirty-two (32) HVDC facilities in the United States.

The experience and knowledge of each of these Alliance partners and particular project experiences (among others), as well as relevant experience of Blackstone, enables APT to successfully plan, permit, finance, construct, and operate transmission facilities within PJM. The APT Alliance supports all areas of successful and reliable transmission development and operation, including securing ROWs, permitting projects, managing on-time construction and installation, and operations and maintenance of the transmission facilities. All of these activities will be carried out to industry best practices and all specific regulatory requirements, as well as an industry leading approach to safety and reliability.

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Figure 1. REPRESENTATIVE APT ALLIANCE EXPERIENCE

Blackstone

Project	Experience Type	Description
Meerwind Sud/OST Project	Developed, Constructed, Maintained, Operated	Operating 288MW Offshore Wind Farm in Germany's North Sea
Champlain Hudson Power Express	Development, Right-of-way Acquisition, Permitting	Fully permitted 338-mile buried HVDC transmission cable from Quebec to New York City – 60% underwater and 40% overland – 1,250MWs
New England Clean Energy Power Link	Development, Right-of-way Acquisition, Permitting	Fully permitted 154-mile underwater and underground HVDC cable between Quebec and Vermont – 1,000MWs
GridLiance	Operation and maintenance	Operation of more than 700 miles of transmission lines and related substations in the states of Illinois, Kansas, Kentucky, Michigan, Nevada and Oklahoma

HITACHI ABB

Project	Experience Type	Description
DolWin2	Equipment supply, Construction, Operations & Maintenance	Provided the 916MW, 320kV offshore (Germany's North Sea) and onshore HVDC converter stations
DolWin5	Equipment supply, Construction, Operations & Maintenance	Provided the 1,000MW, 320kV offshore (Germany's North Sea) and onshore HVDC converter stations
Dogger Bank A, B & C	Equipment supply, Construction, Operations & Maintenance	Provide 3 – 1200MW, 320kV HVDC converter systems in the UK's North Sea

aibel®

Project	Experience Type	Description
Dogger Bank A, B & C	EPC Constructor	Design and construction of 3 – 1200MW, 320kV HVDC converter station platforms in the UK's North Sea
DolWin2	EPC Constructor	Design and construction of an offshore 916MW HVDC converter platform in Germany's North Sea
DolWin5	EPC Constructor	Design and construction of an offshore platform supporting a 900MW–1200MW, 320kV HVDC converter station

Nexans

Project	Experience Type	Description
Nordlink	Submarine cable supply and installation and maintenance	Design, construction and installation of 2 – 350km, 525kV submarine cables between Norway and Germany
North Sea Link	Submarine cable supply and installation and maintenance	Design, construction and installation of 500km of 525kV submarine cable between Norway and the UK

Figure I. REPRESENTATIVE APT ALLIANCE EXPERIENCE (CONT'D)

Epsilon ASSOCIATES INC

Project	Experience Type	Description
Vineyard Wind 1	Offshore wind generation in federal waters, including two 230kV AC circuit, 50 miles total offshore-to-onshore, grid connection transmission cable	Led transmission cable route planning and permitting, and managed preparation of the Construction and Operations Plan (COP) detailing the Project's planned construction and operational activities. Project is fully permitted
Boston Harbor Electric Energy Cable	Four mile HVAC cable under Boston Harbor, one of the oldest and most developed harbors in the U.S.	Prepared and secured all necessary approvals for the cable, including planning mitigation measures. Project completed on schedule
Cricket Valley Transmission	Fifteen miles of new 345kV overhead transmission lines and 3 miles of reconductored overhead line in New York's scenic and historic Dutchess County	Prepared U.S. Army Corps and NY State Article VII permit applications, provided expert testimony before Public Service Commission. Project completed on schedule

Financial Strength

APT is a BIP portfolio company. Formed in 2017 with $16 billion of assets under management, including co-investment, BIP is among the largest infrastructure funds globally and has an open-ended, permanent structure that allows for the pursuit of high-quality infrastructure assets and the ability to act as a long-term partner and owner. BIP seeks to invest in large-scale, high-quality, stable, long-duration assets. Blackstone is committed to using its investment power to drive the clean energy transition in the U.S.

Blackstone seeks to create positive economic impact and long-term value for the companies in which they invest in, their investors, and the communities in which they work. Blackstone is trusted to invest on behalf of many of the world's top institutional investors, including retirement systems which represent more than 31 million pensioners in the U.S. Blackstone thinks about the implications of every decision – from investments to growth initiatives, risk management to team building – in terms of years and decades rather than just months or quarters. Blackstone builds to last.

BIP's portfolio companies have a total enterprise value of $60 billion[1]. BIP's investment model is to develop, own, and operate infrastructure assets over the long term. As a BIP portfolio company, APT will have the full support of BIP to develop, own, and operate transmission infrastructure assets in New Jersey.

Blackstone's most recent quarterly fiscal report and annual reports for the three most recent fiscal years (FY2020, FY2019, and FY2018) are provided through the links below:

- August 6, 2021 – 10Q Quarterly Report
  https://d18rn0p25nwr6d.cloudfront.net/CIK-0001393818/75522a2e-316f-4684-8642-85ae4c9dc1e2.pdf
- May 7, 2021 – 10Q Quarterly Report
  https://ir.blackstone.com/sec-filings-annual-letters/sec-filings-details/default.aspx?FilingId=14936253
- February 26, 2021 – 10K 2020 Annual Report
  https://ir.blackstone.com/sec-filings-annual-letters/sec-filings-details/default.aspx?FilingId=14752825
- February 28, 2020 – 10K 2019 Annual Report
  https://d18rn0p25nwr6d.cloudfront.net/CIK-0001393818/b18c971f-fa0a-44d6-82e5-3a63a67cd205.pdf
- March 1, 2019 – 10K 2018 Annual Report
  https://d18rn0p25nwr6d.cloudfront.net/CIK-0001393818/e760502b-caf3-49c0-915e-23be87d08d9d.pdf

[1] Portfolio company acquisition TEV as of 6/30/21, for companies in which BIP owns 20% or more.

Previous Record of Constructing, Maintaining, and Operating Transmission Facilities

APT Alliance partners, together with Blackstone and its relevant project company experience, have demonstrated a substantial record of successfully planning, permitting, constructing, maintaining, and operating transmission facilities in the U.S., as well offshore transmission facilities associated with European windfarms. The projects include the development, operation, and maintenance of projects within the footprint of the California Independent System Operator, the Midcontinent Independent System Operator, the New York Independent System Operator ("NYISO") and ISO New England ("ISO-NE"), and offshore projects in the UK and Germany. The Alliance's combined track record of working successfully with regional transmission organizations across the U.S. and internationally to deliver complex projects demonstrates the experience necessary to plan and manage the design permitting, construction, maintenance, and operation of transmission facilities to support New Jersey's ambitious offshore wind enterprise and exceptional value to New Jersey ratepayers.

Blackstone's experience forming GridLiance, a portfolio company, demonstrates Blackstone's ability to successfully organize and implement a new transmission company, using an alliance approach as is being utilized by APT. Blackstone partnered with a group of experienced transmission executives to establish GridLiance, a platform to acquire, develop, and operate regulated transmission assets in the U.S. Blackstone recruited senior executives with decades of experience in utility and transmission to GridLiance's Board to oversee strong operations, including Terry Boston, former CEO of PJM, Michael Morris, former Chairman and CEO of AEP, and Justin Campbell, former VP of Edison Transmission. In addition to providing a demonstrated ability to successfully construct, maintain, and operate transmission facilities, Blackstone's experience with GridLiance provides APT access to a strong network of senior advisors and industry executives, enabling APT to replicate GridLiance's success, and ensure strong operational standards and best practices from the top of the organization. Today GridLiance develops, owns, and operates transmission facilities in six states. Following a sustained track record of successful transmission construction, maintenance, and operations under Blackstone's ownership and leadership, GridLiance was sold to NextEra in 2020.

Experience Permitting Transmission and Offshore Projects

Permitting a transmission project that transects both New Jersey and its coastal region, as well as federal waters, is a complex undertaking that requires considerable knowledge and experience to successfully navigate. APT's senior management, advisors, consultants and Alliance partners have considerable experience acquiring specifically in New Jersey, and in the offshore context are among the most experienced and accomplished teams operating in the U.S. at this time.

Erich Stephens, APT's CDO, previously led the team which secured necessary rights, consents, and permits for the transmission facility which will connect the Vineyard Wind 1 generation project to ISO-NE.

Epsilon Associates is the APT Alliance partner who will take the lead role in securing permits for APT's transmission facilities. Over the past two decades, Epsilon has built a highly successful transmission and pipeline siting practice. This work grew out of the firms' early work in the independent power generation arena, as these gas turbine projects involved both electric transmission and gas pipeline interconnections. Epsilon's core team of linear project siting experts, Ted Barten, PE, Mike Howard, PWS, CWS, Dave Klinch, PWS, PMP, Holly Carlson, and Marc Bergeron, PWS, CWS, is supported by a highly skilled team of GIS analysts and environmental scientists. This group has tackled a wide range of transmission projects for utility clients and project developers.

Epsilon was responsible for the successful federal, state, regional and local permitting of the 800MW Vineyard Wind 1 project, including its ~50 mile submarine and onshore underground 230kV transmission. Epsilon is currently the lead environmental consultant for Vineyard Wind 2, including the 800MW Park City Wind project and its 60 mile 275kV interconnection. Epsilon also recently completed the BOEM COP filing for the Atlantic Shore Offshore Wind project, a 1,500MW project off the New Jersey coast with multiple proposed interconnection locations to the PJM system.

APT also benefits from, and is able to directly draw upon, Blackstone's considerable resources and experience in early-stage development of transmission projects. Of particular relevance is the development of two projects undertaken by APT affiliate Transmission Developers Inc ("TDI"): the Champlain Hudson Power Express Project ("CHPE") and the New England Clean Power Link ("NECP"). These two projects are underground/underwater HVDC transmission projects that will connect Hydro-Québec with NYISO and ISO-NE, respectively.

More than 600 miles of right-of-way was acquired for these projects, including more than 200 miles of right-of-way under water bodies obtained from both public and private landowners. Types of rights-of-way include land under submerged public waterways, such as Lake Champlain and the Hudson, Harlem, and East Rivers, easements in privately held railroad rights-of-way, and the use of public roadways.

As part of the National Environmental Policy Act review and other required federal approvals, both projects completed consultations with NOAA Fisheries and the U.S. Fish and Wildlife Service regarding threatened and endangered species (including sturgeon); the U.S. Coast Guard regarding impacts to commercial navigation and navigation risk assessments; the Advisory Council on Historic Preservation (and state historic preservation agencies) regarding cultural resources and historic properties.

As a result of TDI's sustained stakeholder outreach, none of the federal permits for either project was seriously contested and neither project had a federal permit challenged in federal court. In fact, the Champlain Hudson Power Express's Presidential Permit was the fastest approval of a Presidential Permit application by the U.S. Department of Energy in the past 40 years.

APT's permitting team is supported by attorneys with deep knowledge and significant experience in the specialized areas of New Jersey environmental, land use, and utilities law and regulations (Giodano, Halleran & Ciesla); municipal and county permits and approvals (Parker McKay) and regulations of the U.S. Bureau of Ocean Energy Management and their process for National Environmental Protection Act review (MorganLewis). More details on these firms and the particular attorneys engaged with APT are provided in the following section.

Consultants

The APT core team has engaged a strong and uniquely qualified suite of consultants to support then and the Alliance Partners in executing the proposed project.

Legal

Baker Botts LLP is an international law firm with approximately 725 lawyers located in 13 offices worldwide. The firm's Energy Practice is widely recognized as a sector leader, having been named Energy Practice Group of the Year in 2020 (Law 360) and recognized by Chambers 2020 for its Electricity Transactional, Regulatory, and Litigation practices. Baker Botts' clients include large multi-state utilities, private equity-backed generation and transmission portfolio companies, and developers of renewable and energy storage assets. In addition to traditional electrical energy regulation and litigation, and counselling on the regulatory aspects of transactions and financings, the firm advises clients on the development of complex and capital-intensive energy infrastructure projects.

Baker Botts has acted as transaction or development counsel to renewable energy projects in North and South America, Africa, Europe, Asia and the Middle East covering wind, solar, ocean wave and tidal, landfill gas, biomass, hydroelectric, geothermal and battery storage projects. From utility scale solar projects across the Americas to hydroelectric development and wind farm construction worldwide, the firm has been involved from the early stages of renewable energy project development, through commercialization, construction, and financing, and to ongoing operational matters and disputes.

In connection with the 2021 NJ State Agreement Approach Solicitation, Baker Botts is advising Atlantic Power Transmission LLC (APT) on matters related to the Federal Power Act (FPA), including Federal Energy Regulatory Commission (FERC) regulations and policies (e.g., transmission rate policies and associated accounting requirements, section 205 authorizations); PJM market rule and tariff requirements, including requirements applicable to competitive transmission solicitations; NJ BPU supplemental information criteria and information requirements; commercial agreements between APT and its partners/suppliers; real estate and rights-of-way; federal permitting requirements and associated NEPA reviews; and stakeholder outreach and consultations. Further details Addendum 2.

- Jay T. Ryan is the Co-Chair of Baker Botts' Energy Regulatory Practice. Mr. Ryan counsels electric and gas utilities, private equity investors, infrastructure developers, hydroelectric licensees, and renewable energy providers on transactional, regulatory, and litigation matters. These matters include infrastructure permitting; regulation of regional power markets; transmission and generation rate issues; hydroelectric licensing and compliance; cross-border transactions; audits, investigations and enforcement actions; asset acquisitions, due diligence and divestitures; and other issues arising under federal and state energy and environmental laws. Mr. Ryan represents clients before the Federal Energy Regulatory Commission, the U.S. Department of Energy, the U.S. Army Corps of Engineers, the U.S. Department of the Interior, the National Marine Fisheries Service and state water quality agencies. In 2017, the National Law Journal selected Jay as an Energy and Environmental Trailblazer.
- Emil Barth's law practice incorporates a broad range of regulatory, infrastructure development, litigation and transactional matters specific to the energy industry. The clients he represents include major electric, natural gas, oil, mining and renewable energy companies. Mr. Barth has represented clients in connection with energy and environmental matters before the Federal Energy Regulatory

Commission (FERC), U.S. Department of Energy (DOE), U.S. Department of Commerce (Commerce), U.S. Army Corps of Engineers (Army Corps), U.S. Coast Guard (Coast Guard) and other federal and state regulatory agencies, as well as federal and state courts

MorganLewis

Morgan Lewis has one of the top environmental and energy legal practices in the United States, having successfully obtained many approvals under the full range of federal law applying to major energy and infrastructure projects successfully defended permits and projects against claims under those same laws, including, among others:

- the National Environmental Protection Act (NEPA) and the state counterparts;
- the Coastal Zone Management Act (CZMA);
- the Clean Water Act (CWA) and the state counterparts;
- the Clean Air Act (CAA) and the state counterparts;
- the Endangered Species Act (ESA) (involving both U.S. Fish and Wildlife Service and National Marine Fisheries Service) and the state counterparts;
- the Marine Mammal Protect Act;
- the Outer Continental Shelf Lands Act;
- the Jones Act;
- the National Historic Preservation Act (NHPA).

Representative matters include:

- Secured high-level federal and state government support and permits on behalf of BrightSource Energy for the landmark Ivanpah Solar Electric Generating System.
- Obtained the necessary approvals on behalf of American Electric Power Service Corp. to upgrade an existing 138-kV line to a 230-kV line across the Cherokee National Forest and Appalachian Trail, and successfully defended against challenges brought by the Sierra Club and local environmental groups under NEPA, the ESA, the National Forest Management Act, and the Federal Land Policy and Management Act (FLPMA).
- Obtained all necessary federal and state environmental permits for a 765-kV transmission line being constructed in West Virginia and Virginia that crosses a National Forest (including a Roadless Area and endangered species habitat), the Appalachian Trail, an American Heritage River, and several state parks and recreation areas.

MorganLewis is advising and representing APT on matters related to the U.S. Bureau of Ocean Energy Management, which is the agency that issues transmission facility siting rights in federal waters and as well is typically the lead agency for permitting such projects under the NEPA.

- Ella Foley Gannon, Partner, has decades of experience leading teams in permitting complex projects including linear projects such as transmission lines and pipelines. She is adept at working closely with in house permitting teams, environmental consultants and lobbyists to help develop and implement comprehensive permitting, mitigation and outreach strategies. Her clients frequently praise her ability to identify practical solutions to novel challenges. Ella maintains strong relationships with agency representatives and decisions-makers in agencies such as the Bureau of Ocean Energy Management (BOEM), USFWS, U.S. Army Corps of Engineers and others. Ella has a host of experience that is directly relevant to this project. Currently, she is leading bp's permitting efforts related to its 50% interest in the four Empire and Beacon offshore wind projects previously owned by Equinor, including leading bp's discussion with BOEM and other permitting agencies. She is also working with a bidder in the upcoming BOEM New York Bight auction, assisting with obtaining qualification certification and developing a permitting strategy for the proposed offshore and onshore components. Ella has assisted numerous projects in completing the NEPA process with a variety of federal lead agencies including BOEM, BLM, USFS, USFWS and the USACOE, including a number of linear projects such as inter- and intra-state pipelines, broadband trunk lines, an undersea cable, and transmission lines. She has also assisted clients in obtaining Coastal Zone Management Act consistency determinations; some examples of this work include the decommissioning of a nuclear power plant and the construction of a temporary spent fuel storage site within the coastal zone, the permitting and maintenance of a trans-pacific cable, the permitting of a ferry terminal, and the permitting and decommissioning of a desalination project. Ella also has a strong track record of defending permits and NEPA documents against challenges in federal district and appellate courts and she brings this experience to the permitting process to ensure that, from the outset, the agencies build strong, defensible records.

Parker McKay

Parker McKay is a leading regional law firm with more than 100 years of experience in South Jersey and beyond. ParkerMcKay is APT's lead legal representative and consulting attorney on matters relating to local governments in the APT project area. Parker Mckay's municipal attorneys understand the complexities of local, state and federal laws that affect the responsibilities and liabilities of public entities. The firm serves as Special Counsel to numerous municipalities throughout New Jersey in areas such as land use, affordable housing, public finance, redevelopment, civil rights litigation and environmental matters. Parker McKay represents dozens of other municipalities in the defense of lawsuits through the many Joint Insurance Funds we serve.

Parker McCay municipal attorneys have extensive experience in tort claims, municipal litigation and appeals, the Fair Housing Act, COAH, affordable housing, employment law, municipal tax appeals, redevelopment law, eminent domain, transfer of redevelopment rights, municipal finance, real estate, election law, the Open Public Records Act, the Open Public Meetings Act, land use, local utility law, environmental and tidelands law, Green Acres and County Open Space programs, NJDEP regulatory law, and Titles 40 and 40A of the New Jersey Statutes.

Parker McKay attorneys have litigated matters relative to the various forms of government in New Jersey, and the rights and duties of elected and appointed officials under their respective forms of government. The firm has handled hundreds of lawsuits, advising on potential outcomes, settlements, settlement ranges and suitability. In addition, the firm has issued hundreds of opinions regarding procedures which must be followed under these various forms of government.

- Michael W. Herbert is a Shareholder with Parker McCay, P.A. and maintains his practice in the areas of municipal law and land use law and related civil litigation in State and Federal Courts. He is admitted to the bars of New Jersey and the United States District Court for the District of New Jersey. Mr. Herbert is a member of numerous professional organizations and community organizations and has served as the President of the Board of the Mount Carmel Guild of Trenton.

Please see his attached biography.

Mr. Herbert will be working on obtaining municipal and county permits and approvals for the project as well as working with the local towns to gain partnerships for the running of the transmission lines through Middlesex County.

McCarter English

McCarter English has more than 375 exceptionally skilled lawyers who consistently deliver innovative solutions to their clients. With more than 175 years of continuous innovation, McCarter has nine offices in the United States, and serves clients ranging from international Fortune 100 companies to cutting-edge start-ups, including leading bio-tech companies and cryptocurrency funds. Industries McCarter serve span the financial, healthcare, insurance, life sciences, manufacturing, nonprofits, and technology sectors, in addition to other industries that are critical to growth in today's marketplace. Clients benefit from McCarter's down-to-earth, relationship-driven culture and determination to help them move their businesses forward. McCarter finds creative, practical, and efficient solutions by utilizing technology offerings, keeping teams lean, and always focusing on top-tier client service. McCarter's commitment to excellence, teamwork, efficiency, and collegial work is why they have succeeded in the evolving legal landscape. Additionally, McCarter has an unwavering focus on supporting and improving the lives of marginalized and underserved communities. The firm is organized under a number of main practice groups and is continuously developing new practices to match the pace of their clients' innovations.

- William Palatucci (Bill) has extensive experience with legal and legislative issues that impact private and public sector clients at both the federal and state levels. He has deep knowledge of how public policy decisions may impact clients' businesses. Bill counsels clients in a wide range of industries, often focusing on the regulatory aspects of transactions, land use matters or state licensing requirements. He continues to be a trusted advisor to New Jersey policymakers on issues including health care, gaming, public utilities, and education law.

- Guillermo Artiles focuses his practice on government affairs and complex business litigation. He advocates for clients across multiple industries, including telecommunications, technology, healthcare, education, energy, advertising, and fintech. Guillermo chairs McCarter's Government Affairs practice. As a registered Government Affairs Agent in New Jersey, Guillermo helps clients achieve their governmental, media, and business development objectives. As a former federal law clerk, Guillermo also provides local counsel expertise to clients involved in Hatch-Waxman and other complex litigation in the United States District Court of New Jersey.

Giodano, Halleran & Ciesla

Giodano, Halleran & Ciesla (Energy Utilities Practice). Headquartered in Red Bank, N.J. is a multi-specialty law firm that has been dedicated to providing sophisticated, complex legal services and solutions for over 60 years.

- Steve Goldenberg serves as Chair of the firm's Energy, Climate Change & Public Utilities Practice Group. He concentrates his practice in public utility law, with a particular emphasis on energy regulatory matters. Since 1996, Steve has played a lead role in literally all matters of consequence before the New Jersey Board of Public Utilities, including the restructuring of the State's electric and natural gas industries from a monopoly to a competitive model, utility rate and merger proceedings, energy infrastructure proceedings, and regulatory matters involving the formulation and implementation of the State's energy policies.

- **Michael Gross** is chair of the Environmental Law Practice Area, handles all aspects of New Jersey and federal environmental law, including permitting and litigation, CAFRA, sewage disposal and water supply, wetlands, riparian (tidelands) law, solid waste, flood hazard areas, siting of energy and other industrial facilities, site remediation, Pinelands, Highlands, cultural resources, stormwater, wastewater planning, water and air pollution. He also appears before planning and zoning boards and has handled complex construction litigation matters.
- **David J. Miller** is an environmental attorney with experience in the private and public sectors who focuses his practice on environmental regulatory, real estate and corporate transactional matters. He counsels clients on site remediation, the Industrial Site Recovery Act (ISRA), Site Remediation Reform Act (SRRA), Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), due diligence, participation in potentially responsible party groups and interaction with the Environmental Protection Agency on Superfund matters. Dave also advises on the procurement of environmental permits from state and federal agencies for major commercial and industrial development, transaction-triggered environmental laws and voluntary brownfields remediation programs.

Technical

Geo SubSea was formed in August 2015 to meet the needs of the offshore industry marketplace, to provide much needed expertise as a liaison between the developers, engineers, and government agencies. This is a critical niche role that Geo SubSea has developed from broad experience and involvement in offshore survey and construction projects over the last 30+ years. The Geo SubSea team thus serve as subject matter experts for their clients, increasing efficiency through engagement and quality control of the survey and acquired data to meet deadlines and provide clients with successful project advancement.

Company staff are mostly senior level scientists that are well versed in most aspects of marine operations having supervised and conducted hundreds of surveys in the U.S. and around the world for over 30 years. Personnel hold advanced degrees ranging from BS to PhD in the geological, biological, and environmental sciences as well as oceanography. Geo SubSea staff provide any project team with the leadership, experience, and knowledge to support wide ranging marine studies to offer clients the highest quality scientific support.

The company specializes in the use of geophysical, shallow geotechnical, and environmental sampling methods to study coastal processes, marine sediments and stratigraphy, underwater archaeology, and benthic habitats to name just a few, and serve as the subject matter experts for these disciplines to the client. Geo SubSea has extensive experience on a wide range of marine engineering projects including offshore energy (wind, LNG, power, communications) and associated submarine cables and pipelines, beach replenishment and shoreline stabilization, dredging, search and recovery, inspection of man-made features, environmental compliance, water resources, and wastewater discharge. The company is also familiar with oceanographic data acquisition which is commonly paired with geological investigations, as the interaction of currents, waves, and tidal forces with the seabed create a constantly changing submarine landscape that can impact the stability of man-made structures.

Geo SubSea is equally experienced at all phases of post-survey data processing, analysis, interpretation and product development. Geo Subsea works closely with the client to determine the most suitable method of presenting the survey data/results and conveying important information in a timely fashion. Quick turn-around of results is critical in this industry today, as subsequent phases of projects hinge on the accuracy and reliability of the acquired scientific information.

- **Jeff Gardner** is well versed in most aspects of marine operations having supervised and conducted hundreds of surveys in the U.S. and around the world for over 30 years, including geological, geophysical, geotechnical, and oceanographic studies. He has recently applied his knowledge and expertise as a direct consultant to the offshore wind developers and support companies as Geo SubSea LLC with the goal of establishing offshore wind as a solid industry in the U.S. Jeff is one of the few marine scientific professionals that has been involved in this industry since its infancy in this country, playing a significant role in the survey programs for Deepwater Wind's Block Island Project, the Cape Wind Energy Project, and the Vineyard Wind 1 Project, not to mention performing surveys and consulting for most of the other offshore wind projects on the east coast. He is very familiar with state and federal agency requirements and has been involved in most aspects of the G&G activities from pre-survey planning to field surveys to post-survey data processing, interpretation, and product development, as well as client representation at meetings. He holds a BS in Marine Geology and an MS in Oceanography along with national and state Professional Geology certifications. His specialty includes the use of geophysical methods to study coastal processes, marine sediments and stratigraphy, underwater archaeology, and benthic habitats.

Jeff's role for APT will be to serve as the Offshore Survey Program Manager, supervising and coordinating the myriad of marine scientific data that needs to be acquired for the permitting and engineering of the APT New Jersey Project. As a marine geologist and oceanographer with extensive experience, Jeff acts as a subject matter expert in support of all project offshore tasks and particularly for client representation at state and federal agency meetings.

Directional Project Support

Directional Project Support (DPS) works with project owners, pipeline and utility contractors, directional drilling contractors, engineering firms, and municipalities to improve and expedite horizontal drilling production time. DPS increases coordination between all parties involved in a project, provides value engineering and benefit from many years of drilling experience, and creates an overall working environment that enhances and maximizes safety as well as minimize costs of a project.

- **William (Buffalo) Gardner**, President, has been in the pipeline and directional drilling industry since 1982, going on nearly 40 years of experience. He has been involved in all aspects of directional drilling from project design and planning, to permitting, routing, and executing the jobs. William has been instrumental in developing, designing, and building equipment for the directional drilling industry. He has been particularly successful in designing project specific equipment to adapt to difficult site conditions to enable the projects critical path to be maintained. William and his DPS team have worked all over the world and have direct experience and familiarity with the geology and ground conditions in the New York-New Jersey region.

William's role for APT will be to serve as the Horizontal Directional Drill (HDD) designer, planner, and installation supervisor. His company will supervise installation of the HDDs at the landfall and will provide a suitable transition pathway from the offshore submarine cable routing to the upland routing to the onshore substation. His expertise has assisted hundreds of projects over the years to successful technical solutions, zero incident safety records, meeting short project deadlines and minimizing costs.

Marine Construction Management Limited

Andy Small is the Director of Marine Construction Management Limited, a project management and

Engineering consultancy based in the United Kingdom specializing in offshore construction.

Andy has recently held senior positions at windfarm and transmission asset owners including OceanWinds, EDPR and SHET (Scottish Hydro Electric Transmission) in the capacity as Cables Package Manager. Andy has successfully delivered two HV cables projects in the past 4 years and is currently engaged on the delivery of a third. These projects have been Caithness-Moray HVDC, a 1200MW +/- 320kV HVDC Link in the United Kingdom and more recently in 2021, the largest windfarm in Scotland, the Moray East Offshore 950MW Windfarm with 3No HVAC cables totaling a length of 175km.

Prior to being a package manager, Andy was employed by Xodus Group, Subsea 7 and Cathie Group as a geotechnical engineer / package engineer and worked on offshore construction and consultancy projects worldwide. Andy has over 600 days of offshore installation experience in the Client Representative Role, additionally Andy has authored a series of technical conference papers on the challenges of offshore construction, for renewables and oil and gas infrastructure installation.

With the experience in execution of very similar HVDC cable systems, Andy has been engaged by APT in the role of Cables Package Manager to support the bid with practical installation experience and to advise APT on specific aspects of the project including, installation, routing, schedule and costing.

Outer Harbor Consulting

Fara Courtney is Principal of Outer Harbor Consulting, an independent consultancy focusing on market intelligence, public policy and strategic partnerships in support of the U.S. offshore wind Industry for clients in the public sector, industry and academia. She was the Founding Executive Director of the U.S. Offshore Wind Collaborative, the first offshore wind policy and research organization in county and has a deep background in coastal & ocean policy, planning and regulation.

Recently, Fara worked with Mayflower Wind LLC on their winning bid to secure the power purchase contract for an 800MW windfarm off Massachusetts, and with PNE New Energy Offshore, exploring U.S. offshore wind market-entry strategies for a German wind developer.

She launched the Offshore Wind Transmission Working Group for Business Network for Offshore Wind is currently managing a Data and Digitalization Working Group for the same organization.

Fara is advising APT on stakeholder engagement and workforce development strategies.

ATLANTIC POWER TRANSMISSION LLC

ATTACHMENT: # 2

Letters of Support from All Communities on Cable Route

Contains Confidential and Proprietary Information / Do Not Release

Letters of Support from all communities and the County along the cable route

Local Government	Status
[redacted]	
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

[redacted]

[redacted]

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[redacted]

PUBLIC

[redacted]

PUBLIC

[redacted]

[redacted]

[redacted]

ATLANTIC POWER TRANSMISSION LLC

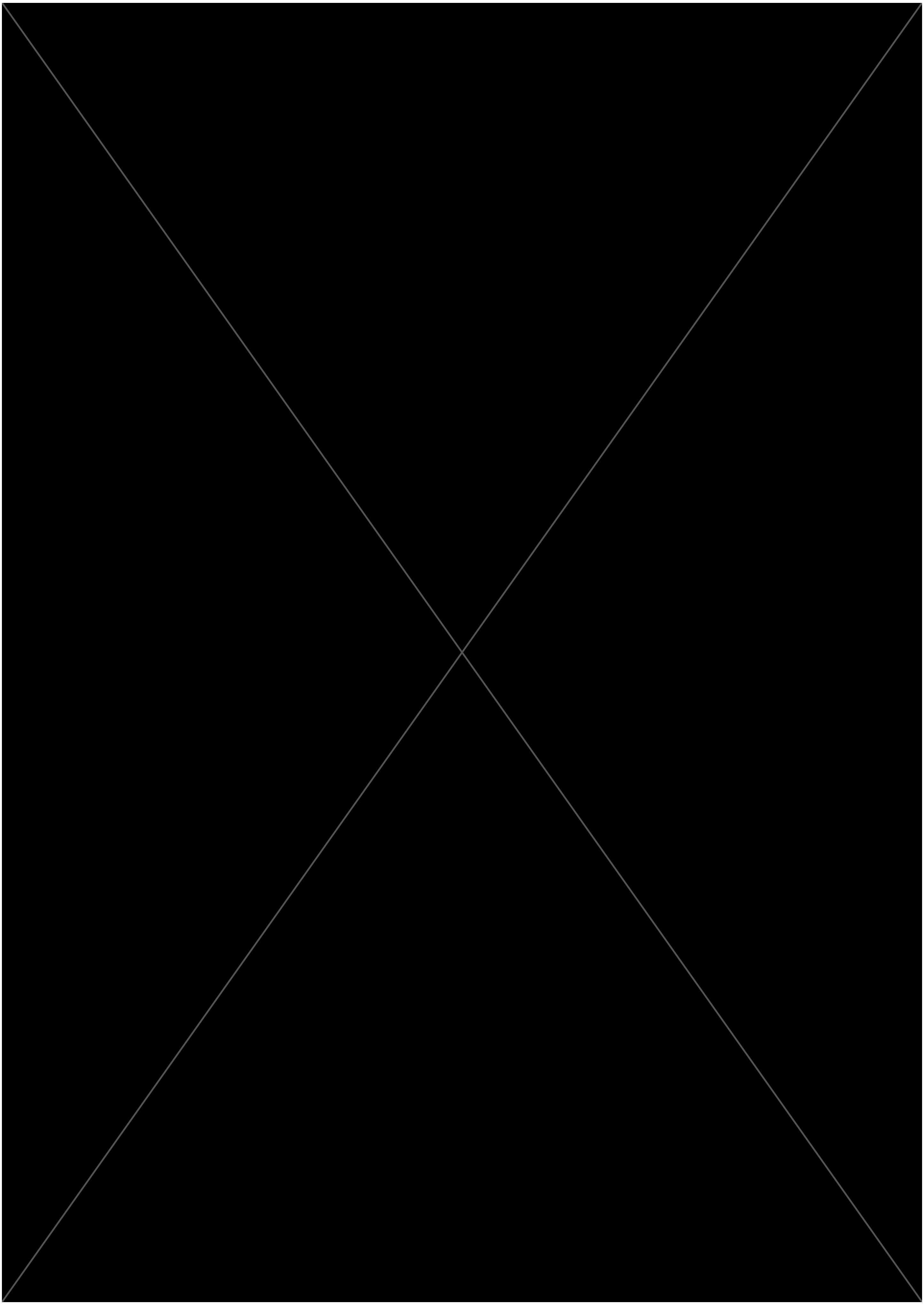
ATTACHMENT: # 3

New Jersey Economic Impact Study

Contains Confidential and Proprietary Information / Do Not Release

NJ economic benefit analysis: Atlantic Power Transmission

September 2021



Atlantic Power Transmission NJ economic impact analysis

[redacted]

[redacted]

BVG Associates

[redacted]

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

[redacted]

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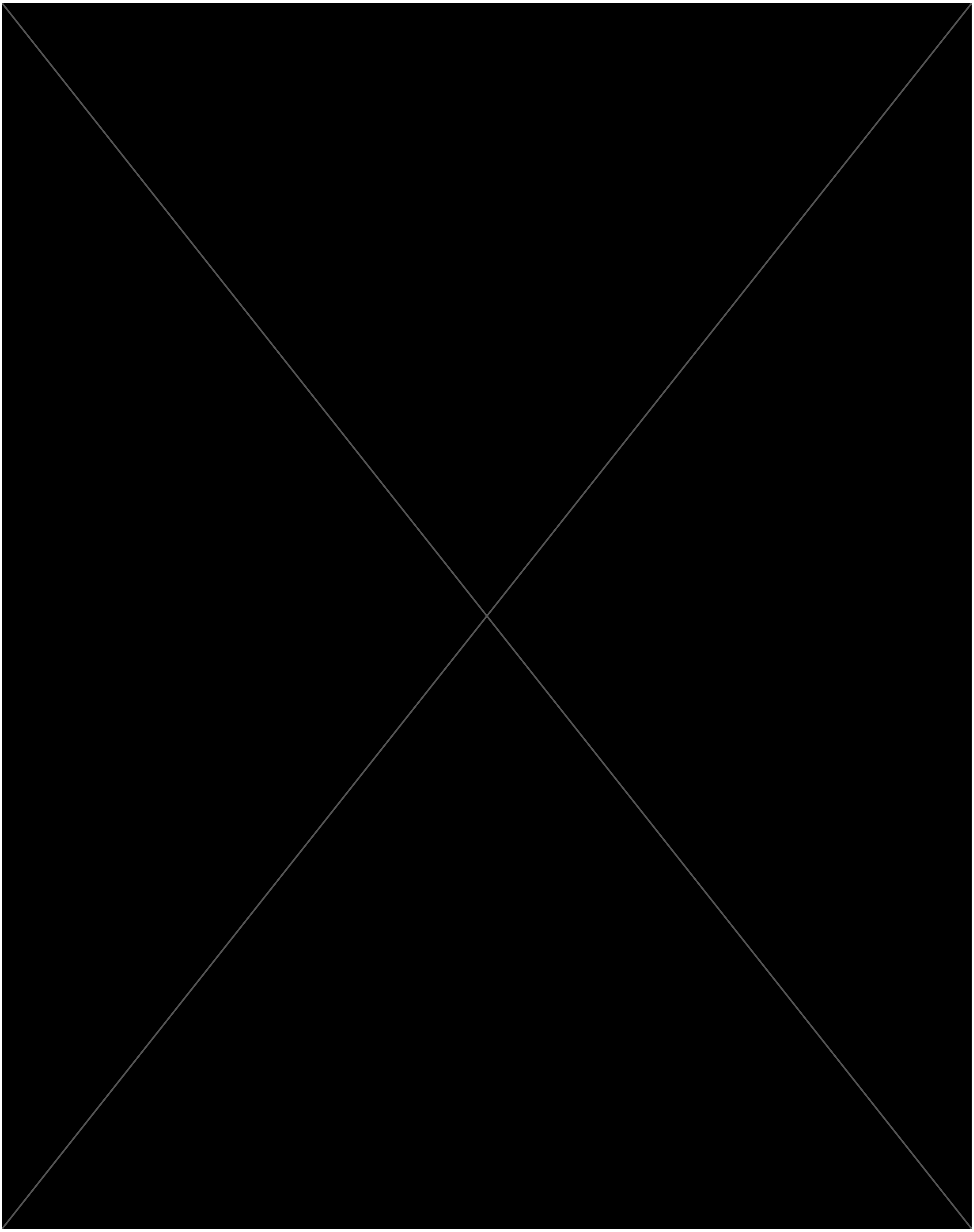
[redacted]

BVGAssociates



Atlantic Power Transmission NJ economic impact analysis

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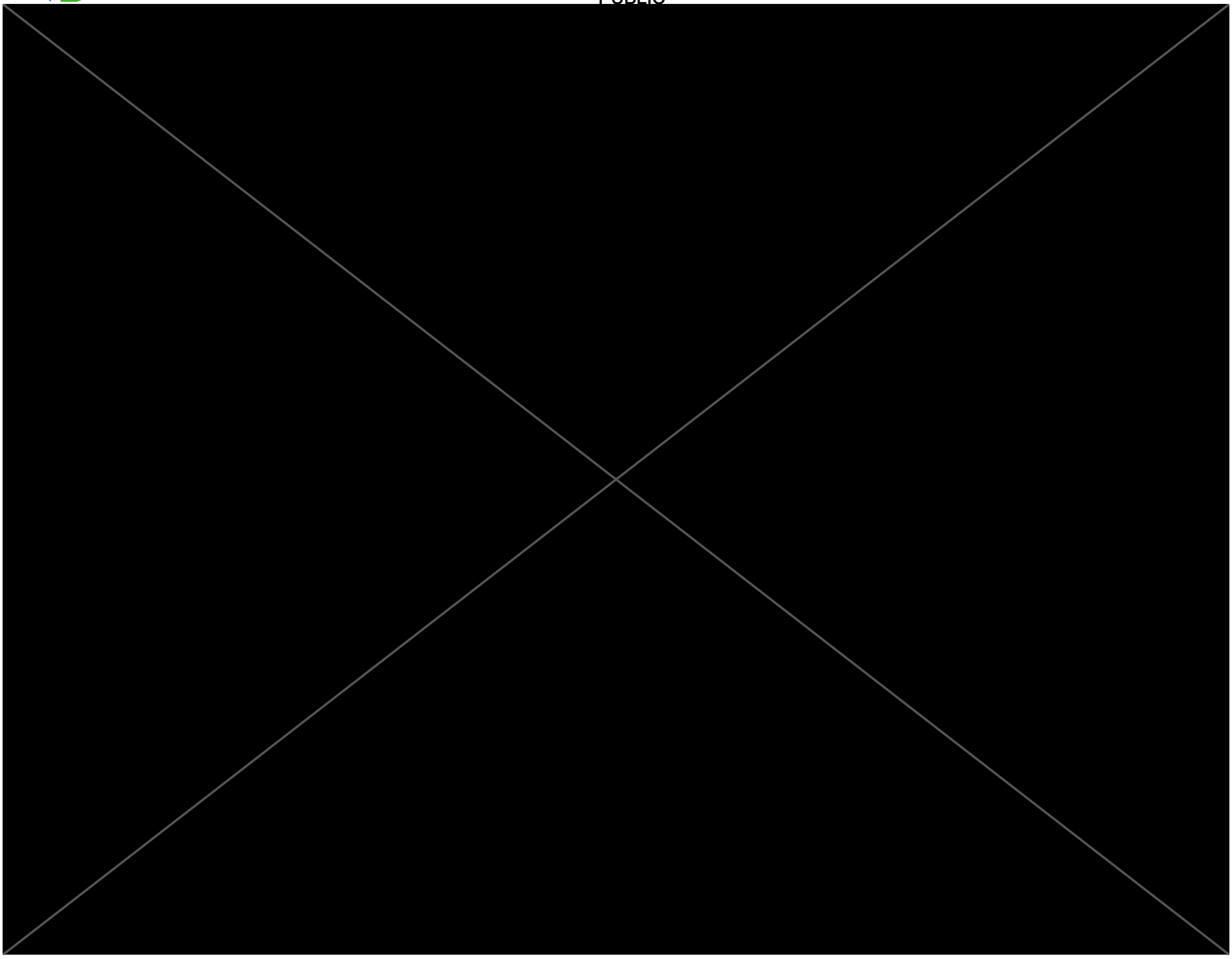

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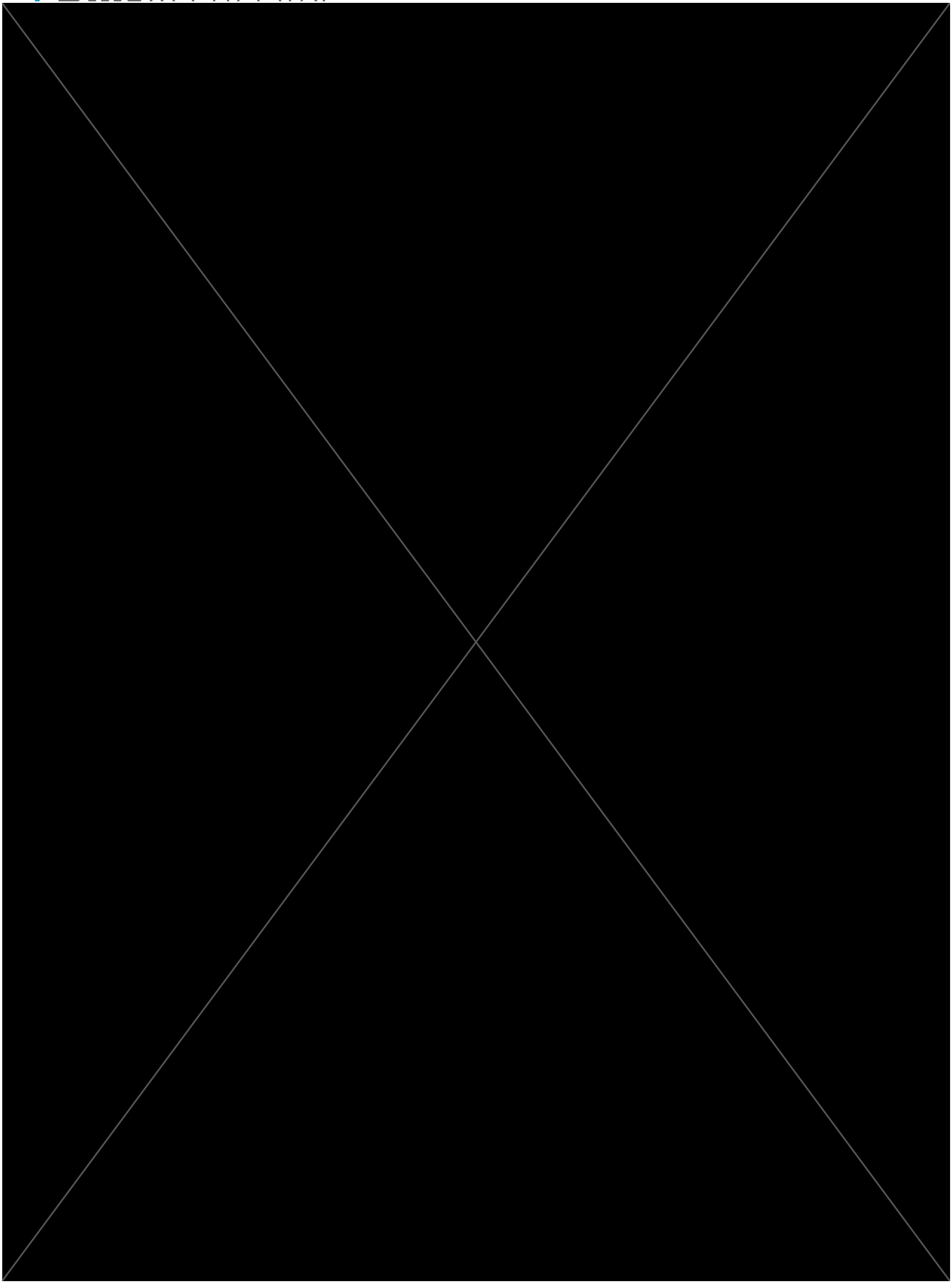

Atlantic Power Transmission NJ economic impact analysis

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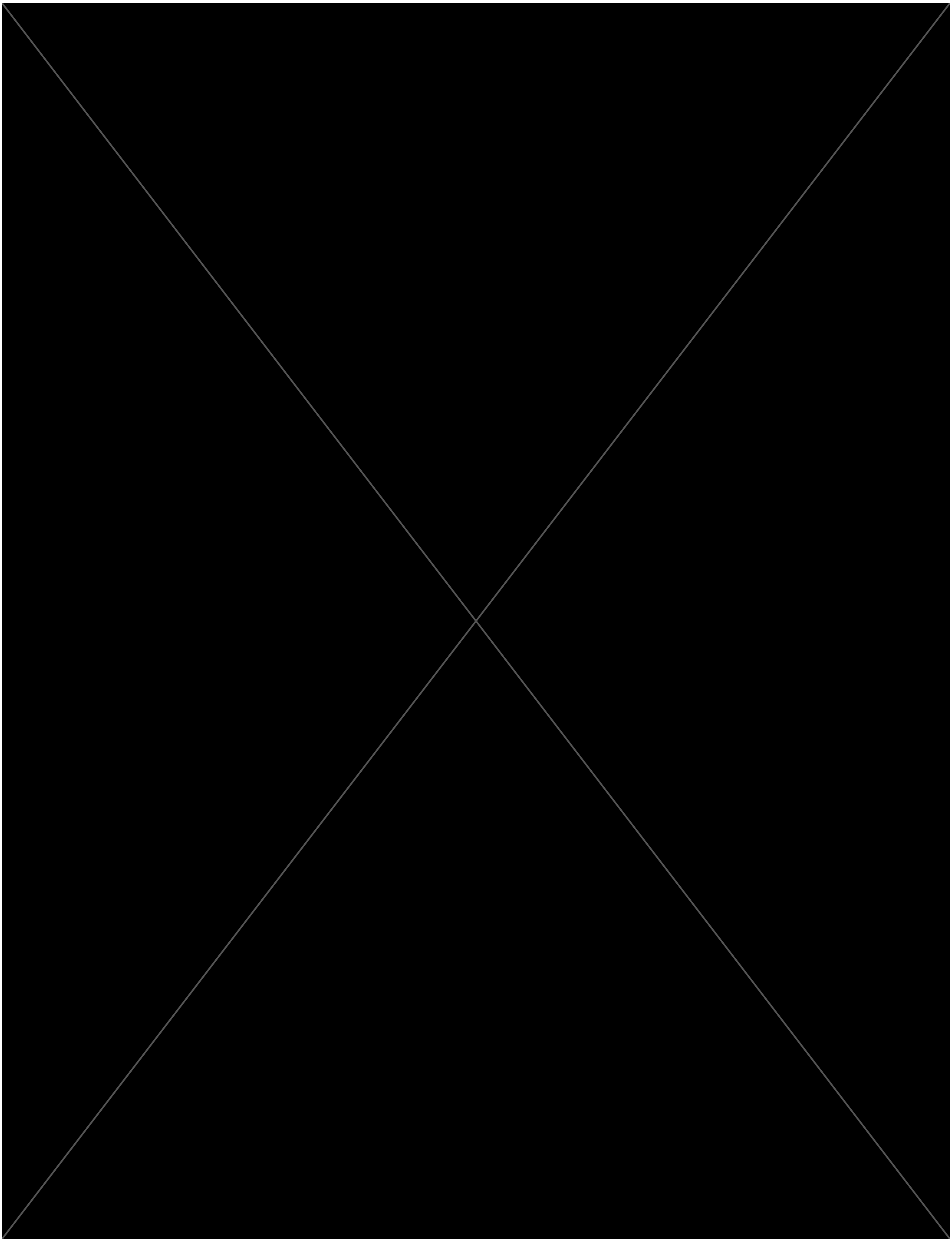

Atlantic Power Transmission NJ economic impact analysis

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ATLANTIC POWER TRANSMISSION LLC

ATTACHMENT: # 4

Stakeholder Engagement Plan & Preliminary Stakeholder Mapping

Contains Confidential and Proprietary Information / Do Not Release

ATLANTIC POWER
TRANSMISSION LLC

ATLANTIC POWER TRANSMISSION LLC

Stakeholder Engagement Plan

Version: September 17, 2021

TABLE OF CONTENTS

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ATLANTIC POWER TRANSMISSION LLC

ATTACHMENT: # 5

Environmental Protection Plan

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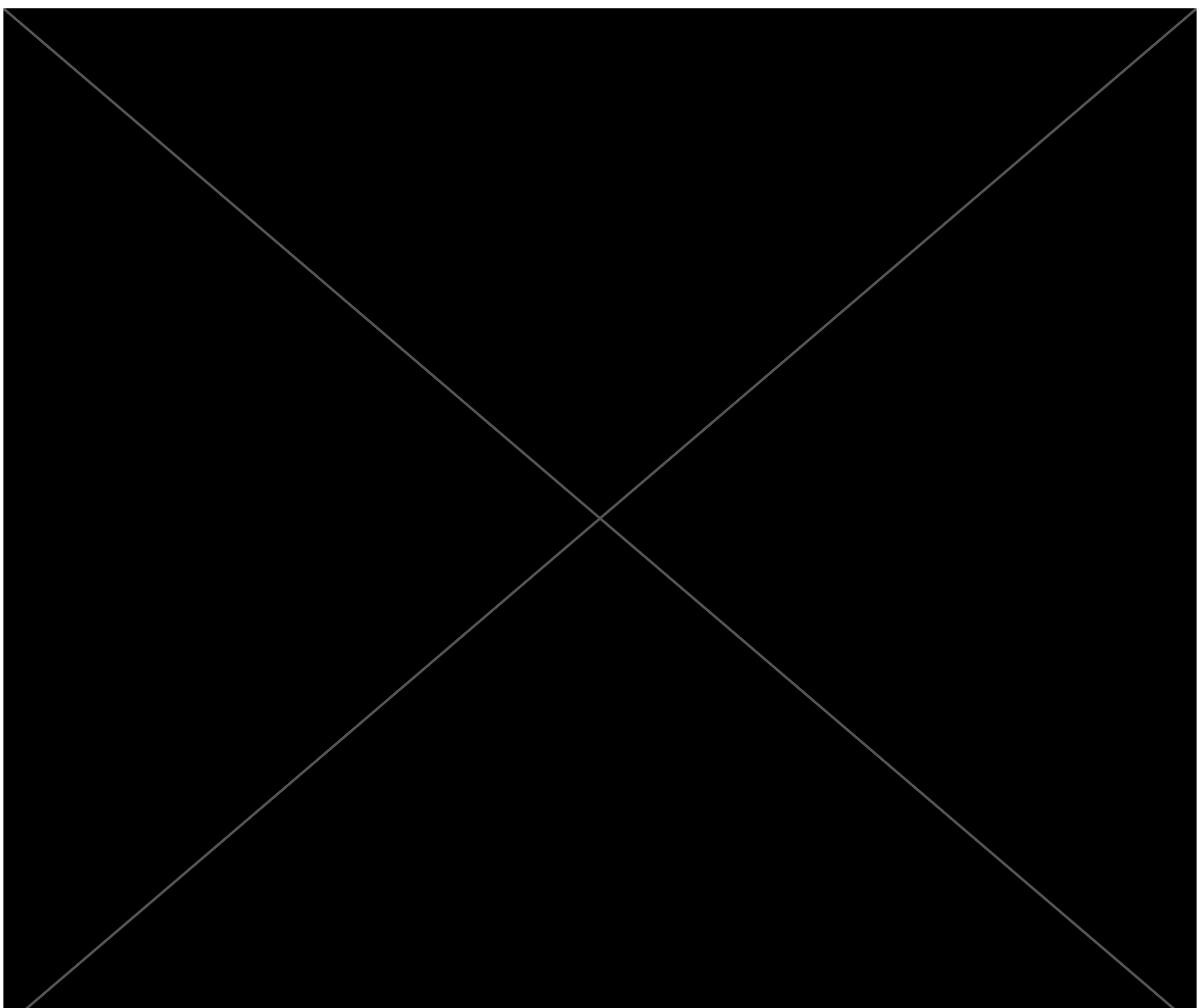
ATLANTIC POWER
TRANSMISSION LLC

ENVIRONMENTAL PROTECTION PLAN

Prepared for: Atlantic Power Transmission

Prepared by: Epsilon Associates, Inc.



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ATLANTIC POWER TRANSMISSION LLC

ATTACHMENT: # 6

Fisheries Protection Plan

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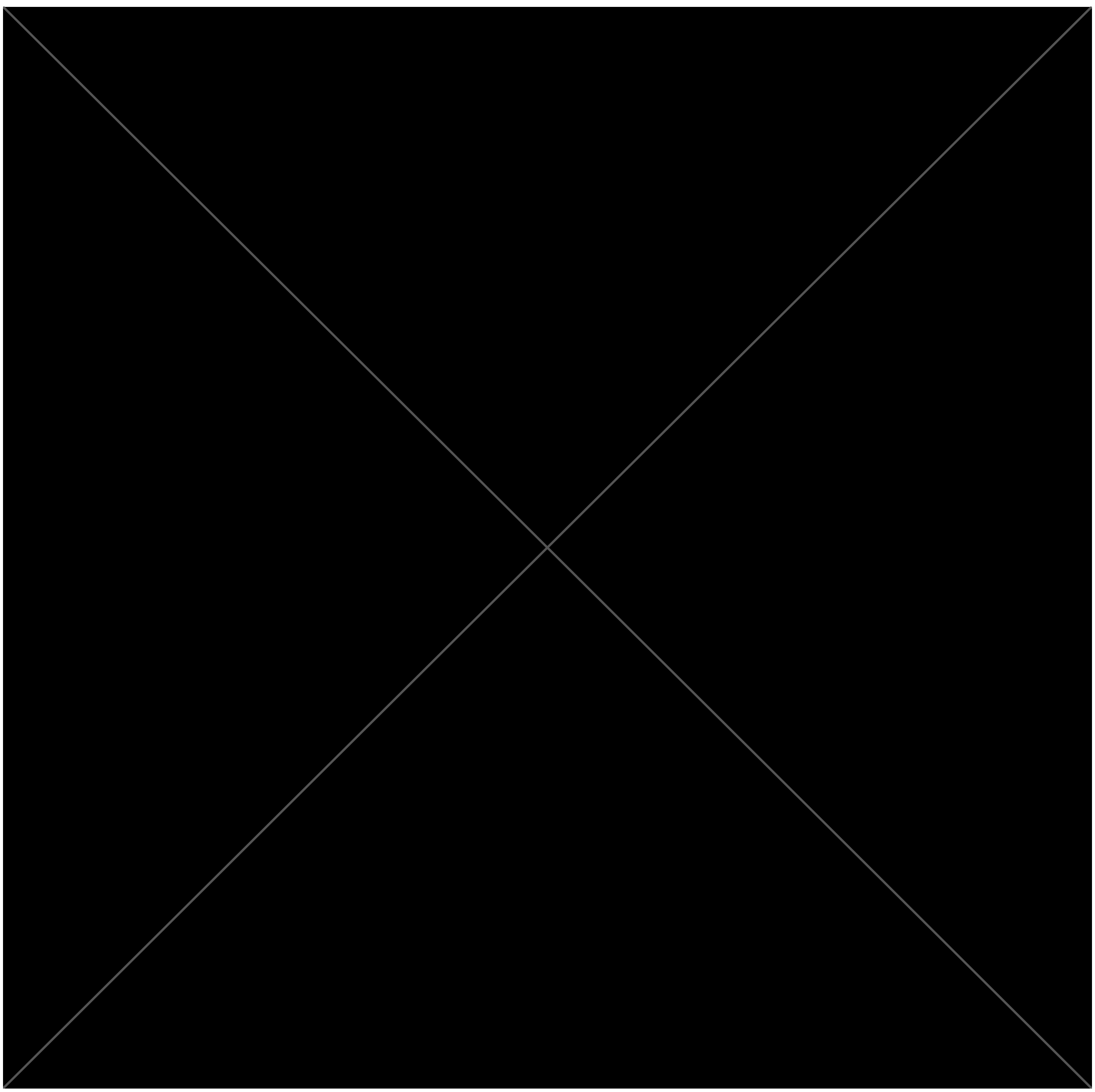
ATLANTIC POWER TRANSMISSION LLC

FISHERIES PROTECTION PLAN



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10 https://nyrfhfa.com/news/f/ny-rfhfa-artificial-reef-program-public-comment

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ATLANTIC POWER TRANSMISSION LLC
A Blackstone Infrastructure Partners Portfolio Company

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ATLANTIC POWER
TRANSMISSION LLC

ATTACHMENT: # 7

Permitting Plan

Contains Confidential and Proprietary Information / Do Not Release

ATLANTIC POWER
TRANSMISSION LLC

PERMITTING PLAN

Prepared for: Atlantic Power Transmission

Prepared by: Epsilon Associates, Inc.

September 2021

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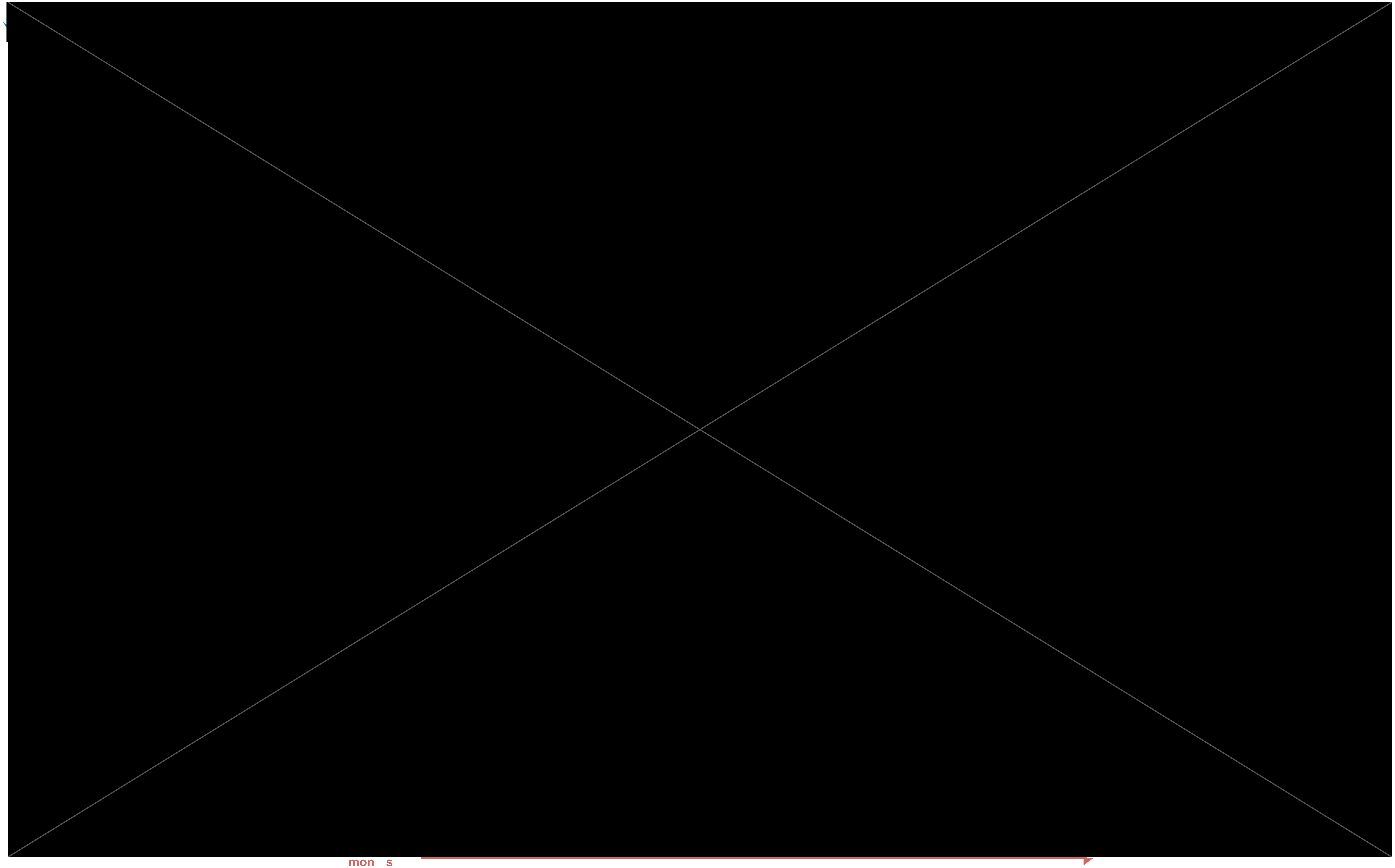

ATLANTIC POWER
TRANSMISSION LLC

ATTACHMENT: # 8

Onshore Converter Station Site Control: Legal Confirmation

Contains Confidential and Proprietary Information / Do Not Release

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ATTACHMENT: # 9

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Attachment 1

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ATTACHMENT: # 10

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ATTACHMENT: # 11

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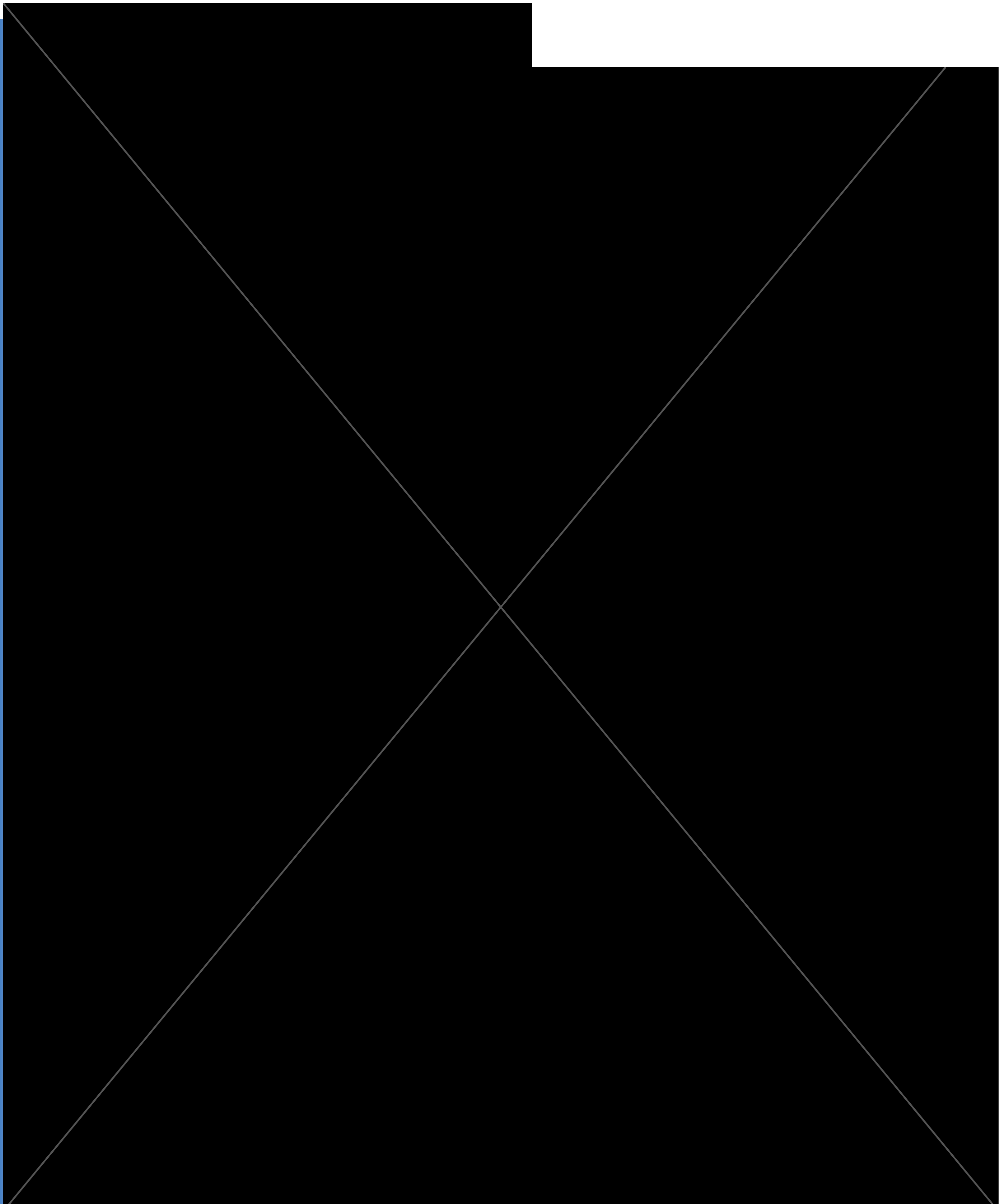

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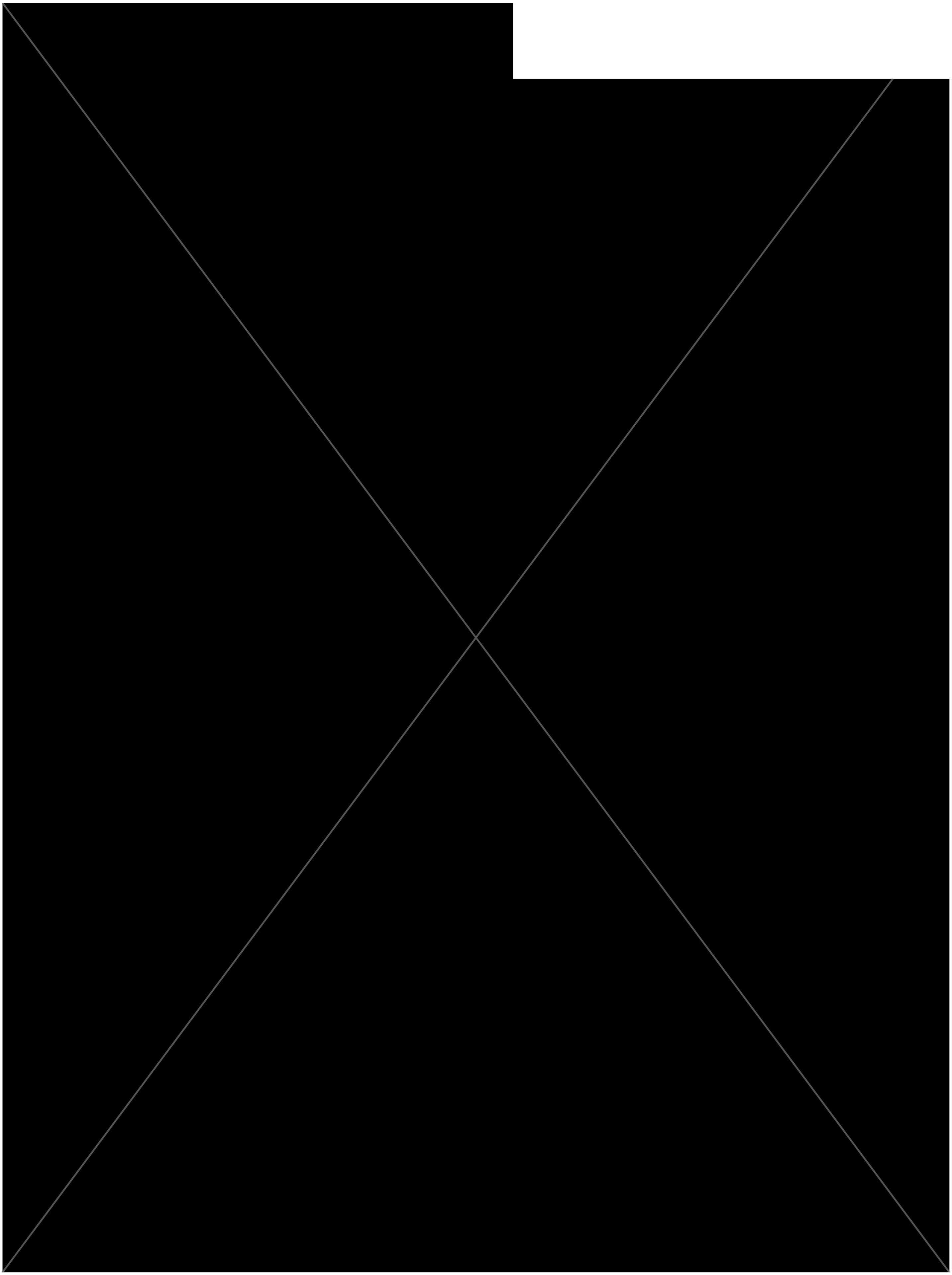

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ATTACHMENT: # 15

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ATTACHMENT: # 16

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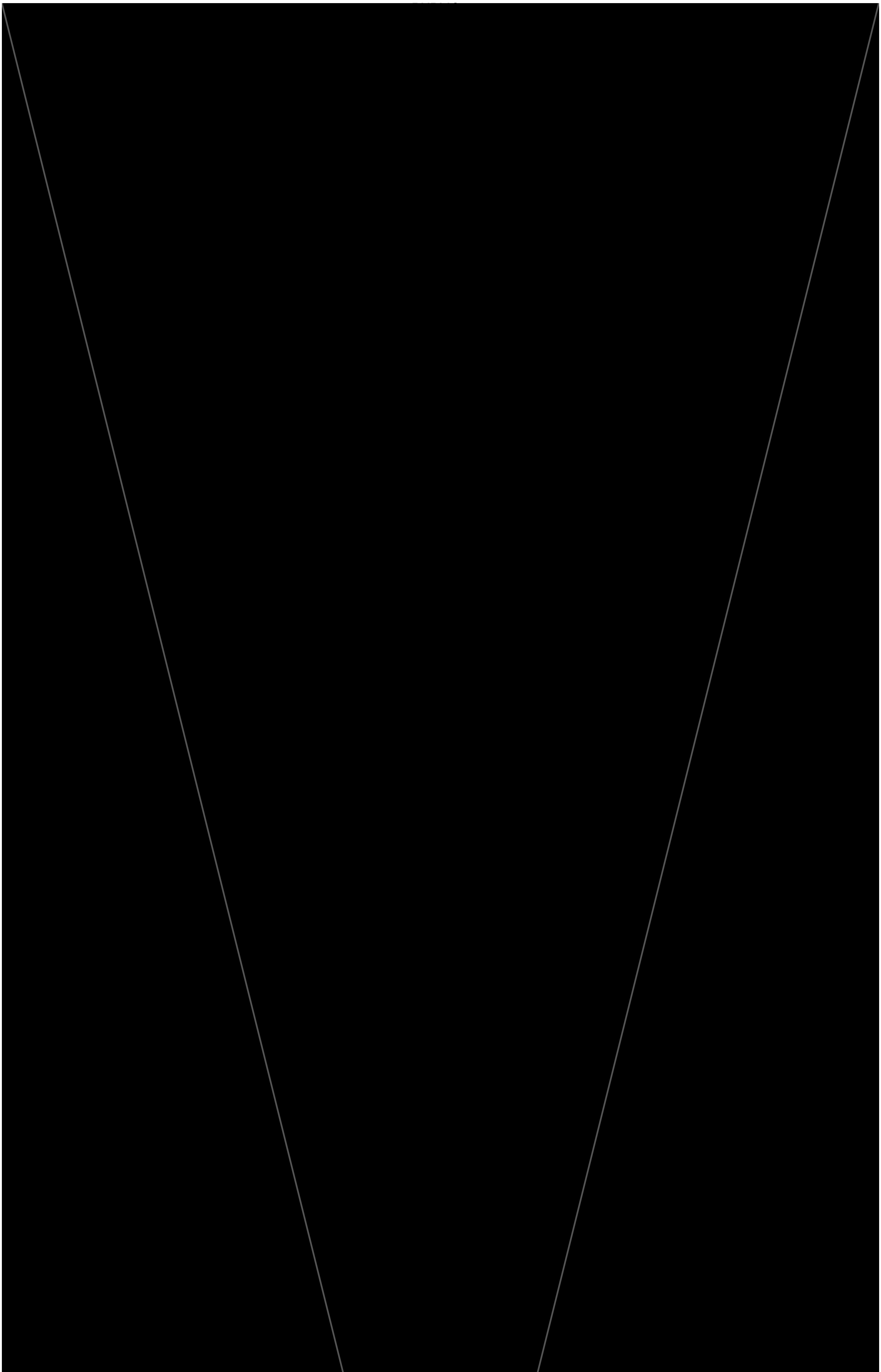

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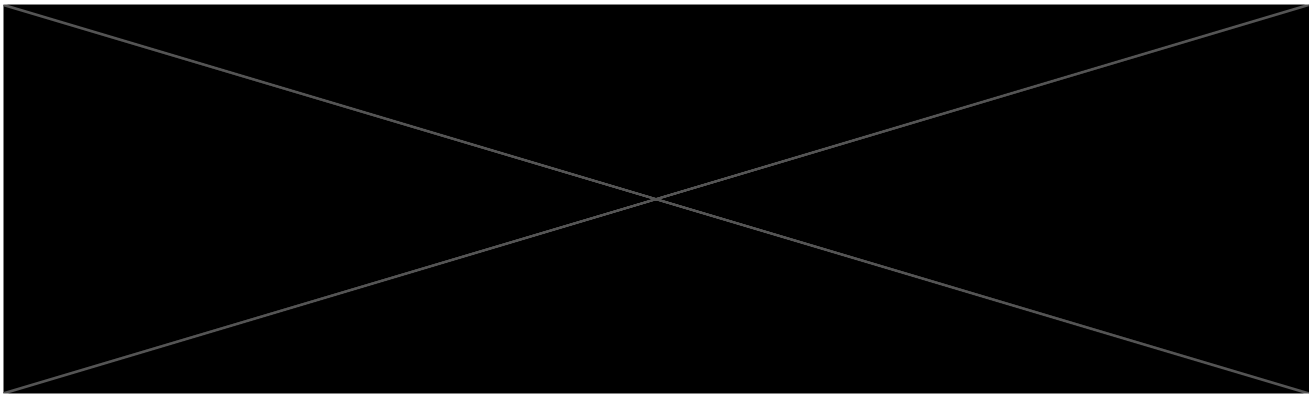

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ATLANTIC POWER
TRANSMISSION LLC

ATTACHMENT: # 18

3600MW Offshore Wind Connection to NJ Analysis & Feasibility Study

Contains Confidential and Proprietary Information / Do Not Release

Atlantic Power Transmission

PJM NJ-OSW Feasibility Study

3600MW-Deans Final Report

Report No. E00001135A

14 Sep 2021

Revised:

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Contains Confidential and Proprietary Information / Do Not Release

DAYMARK ENERGY ADVISORS

CONFIDENTIAL

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DAYMARK ENERGY ADVISORS
370 MAIN STREET, SUITE 325 | WORCESTER, MA 01608
TEL: (617) 778-5515 | DAYMARKEA.COM

SEPTEMBER 17, 2021

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[2] NJ BPU. *BPU Offshore Wind Transmission Proposal Data Collection Form: Supplemental information requested to support New Jersey BPU in the evaluation of transmission projects proposed to be developed under the 2021 State Agreement Approach (SAA)*, April 12, 2021.

[3] RFP, p. 3.

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[11] RGGI states within the PJM footprint include Delaware, Maryland, New Jersey, and Virginia.

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