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February 27, 2015

North Jersey Market Efficiency Project

Proposal for the PJM/RTEP 2014/15 Long-Term Proposal Window Regarding the Roseland-Cedar Grove-Clifton 230 kV Corridor Market Efficiency Project

Submitted by

GridAmerica Holdings Inc.

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A. Executive Summary

GridAmerica Holdings Inc. ("GridAmerica"), a wholly-owned subsidiary of National Grid USA, submits this North Jersey Market Efficiency project proposal in response to the PJM Interconnection, LLC ("PJM") Long-Term Market Efficiency proposal window that was initiated on October 31, 2014 and for which proposals are due on or before February 27, 2015. GridAmerica is providing the Evaluation and Constructability Information, in conformance with PJM's published template[1], for its North Jersey Market Efficiency Project ("the Project").

The problems identified in the "Roseland-Cedar Grove-Clifton 230 kV corridor" that are causing the "PSEG Capacity import limitations and thermal overloads at the Capacity Emergency Transfer Limit (CETL) for the modeled PSE&G / PSE&G North Locational Deliverability Areas (LDA)" can be resolved by the Project which involves the construction of a new approximately six-mile 230 kV 5000 kcmil single underground transmission line between the West Orange 230 kV Substation in West Orange Township, New Jersey to the Cook Road 230 kV Substation in Nutley Township, New Jersey.

The Project is estimated to provide more than $2 billion in benefits to PJM over a period of 15 years, as compared to the Project conceptual cost estimates of $125 million with a projected December 2019 in-service date, if selected and approved by PJM by the end of 2015.

GridAmerica's proposal addresses the identified need by increasing the CETL in the PSE&G zone and relieving the constraints on the 230 kV Roseland to Cedar Grove to Clifton corridor, in a highly efficient and low cost manner.

GridAmerica wishes to thank PJM, its Management team and Staff for its consideration of this proposal and welcomes the opportunity throughout the evaluation process to discuss the Project.

[1]Template for Greenfield Project Company Evaluation and Constructability Information, PJM Interconnection, Original Document: June 20, 2014, Version 2

A.1. Name and Address of the Proposing Entity

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GridAmerica is the proposed PJM qualified Designated Entity for the Project and is a wholly-owned subsidiary of National Grid USA. National Grid USA is an indirect, wholly-owned subsidiary of National Grid plc, a public limited company organized under the laws of England and Wales. National Grid plc is a public company headquartered in London, England.

National Grid plc and its subsidiaries are referred to collectively herein as "National Grid".

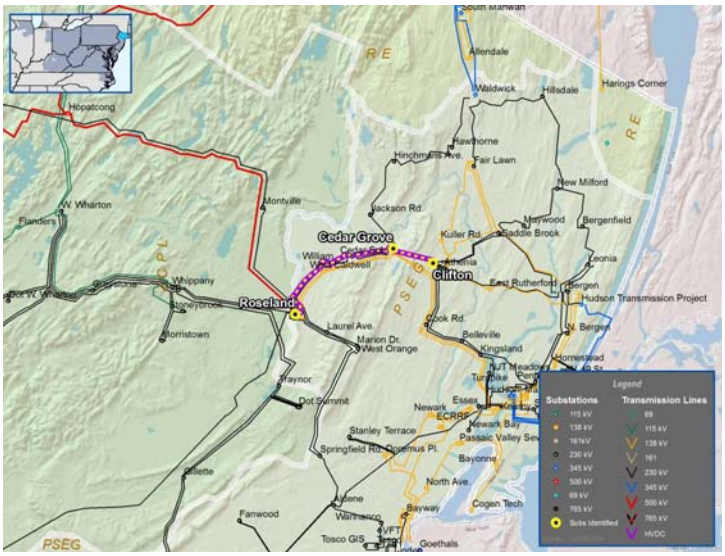
A.2. Project Description

The Project consists of a new approximately six-mile underground 230 kV 5000 kcmil transmission line between the West Orange 230 kV Substation in West Orange Township, New Jersey to the Cook Road 230 kV Substation in Nutley Township, New Jersey. The underground 230 kV line will be connected to the Cook Road 230 kV bus "C" which is electrically connected to the Athenia 230 kV Substation and the Kings Land 230 kV Substation as shown in Figure C-1.

C-1: One Line Diagram [Redacted For CEII]

A.3. The Problem(s) that the Project is Proposed to Resolve

GridAmerica conducted a thorough analysis of the PJM system's CETL in accordance with the PJM problem statement and requirements described in the 2014/15 RTEP Long Term Market Efficiency Proposal Window. The confidential analysis is attached as Appendix C. Below is an extract of the problem statement from PJM TEAC and RTEP presentations:



Constraint:
Roseland-Cedar Grove-Clifton 230 kV corridor

Area: PSEG Capacity import limitations and thermal overloads at the **C**apacity **E**mergency **T**ransfer **L**imit (CETL) for the modeled PSE&G / PSE&G North **L**ocational **D**eliverability **A**reas (LDA)

The reliability pricing model base residual auction (RPM BRA) results show the CETL of the PSE&G area to be less than 115.0% of the capacity emergency transfer objectives (CETO), resulting in higher zonal net load prices within the affected zone.

The Project increases the CETL relieving constraints on the Roseland-Cedar Grove-Clifton 230-kV corridor and thereby reducing capacity costs in the affected zone more in line with PJM capacity price expectations. The Project is expected to provide more than $2 billion in benefits to PJM over a period of 15 years as compared to a project cost of approximately $125 million.

A.4. Total Proposed Project Cost

As stated above, the conceptual Project cost estimate is approximately $125 million in 2015 dollars. Cost estimates include engineering, material and labor costs, routing, siting and permitting, environmental studies, and some provisions for land acquisition. Costs included for project management, construction management, overheads and contingency are based on National Grid's industry and project experience. See section C.2 for a general breakdown of the

project costs. A more detailed confidential cost analysis and assumptions is attached in Appendix B.

A.5. Overall Schedule Duration

GridAmerica estimates that the Project can be placed into service by the end of 2019. This assumes that PJM completes its selection of the preferred solution by the end of calendar year 2015. See section C.3 for milestone schedule and assumptions.

A.6. Statement Affirming Company Prequalification

GridAmerica satisfied its pre-qualification as a PJM Designated Entity on January 20, 2015, pursuant to section 1.5.8 of Schedule 6 of the PJM Amended and Restated Operating Agreement (Schedule 6). GridAmerica's PJM prequalification ID is 14-06.

A.7. Statement of Intent to be Designated Entity

GridAmerica is the Designated Entity for the Project described in the proposal.

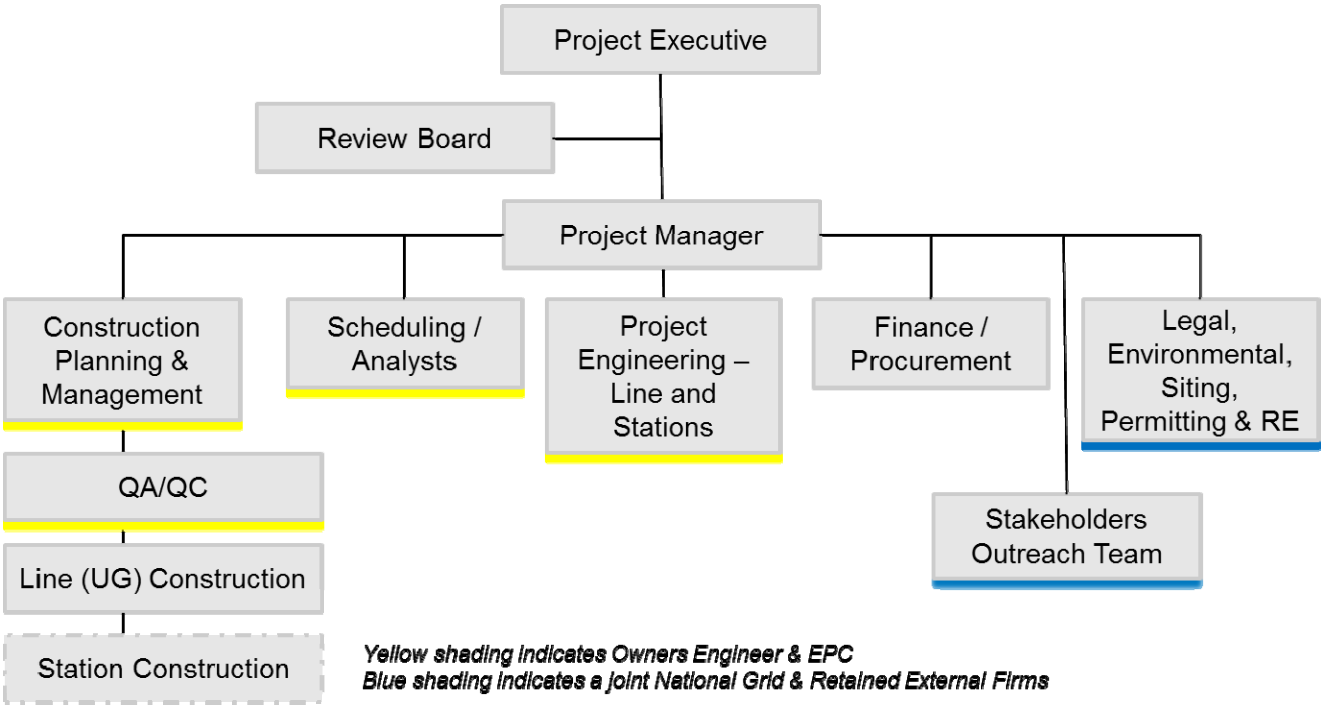
B. Company Evaluation Information

GridAmerica submitted a prequalification application dated October 31, 2014, to PJM. By letter dated January 20, 2015, PJM found that GridAmerica satisfied the prequalification requirements for Designated Entity status. GridAmerica's prequalification application and subsequent supplemental information provided to PJM on December 14, 2014 and January 14, 2015 provide substantial detail about the qualifications of GridAmerica to permit, construct and own the Project. We incorporate that information by reference.

If GridAmerica is selected as the Designated Entity, the following experienced resources of GridAmerica and other National Grid entities will be assigned to this Project:

- National Grid Executive Sponsor
- A review board consisting of National Grid management and/or staff members with technical and non-technical expertise.
- Full-Time National Grid Project Manager, experienced in electric transmission projects

GridAmerica will also select and assign an Owners Engineer firm for the duration of the project and an EPC firm for the construction and commissioning of the Project. The following is a high level representation of the proposed project structure. Specific names and firms will be added based on timing of the PJM selection process.



C. Proposed Project Constructability Information

C.1 Component Scope

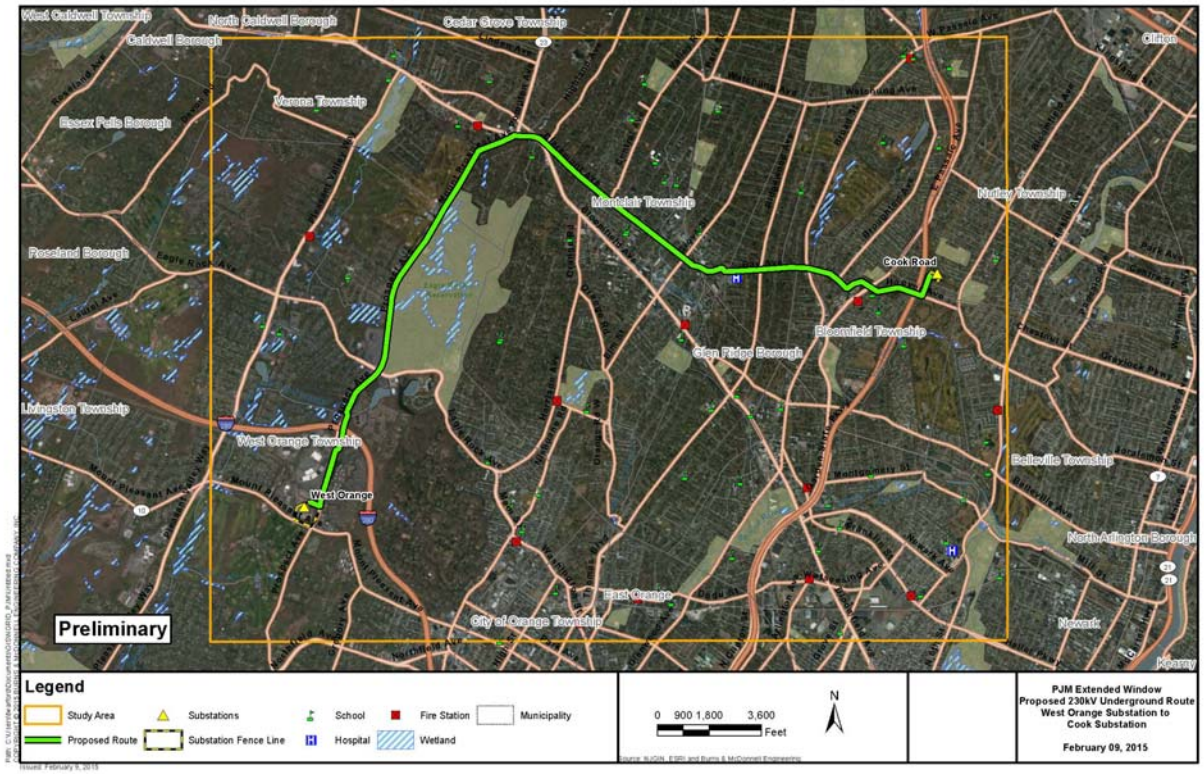
C.1.a. Transmission Lines – New

The new 230 kV underground AC line would be installed between Cook Road substation in Nutley Township and West Orange substation in West Orange Township. Based on preliminary designs and analysis, the underground cable system will require a single Cross Linked Polyethylene (XLPE) 5000 kcmil enamel coated copper conductor cable per phase to meet the expected ampacity requirements. The preliminary route is expected to be approximately six

miles in length and uses existing public roadways, as shown in Figure C-2. The preliminary route was selected using a desktop analysis and can be adjusted within the study area to account for any input received from the communities, unanticipated field conditions or any sensitive areas discovered during the siting and permitting, detailed engineering, or public outreach phase of the Project development and implementation. The preliminary route was selected for the following reasons:

- Reduction of impacts to residents by avoiding narrow residential streets.
- Reduction of construction impacts by avoiding limited access highways.
- Reduction of costs and risks by minimizing the use of trenchless crossings.
- Minimizing costs and risk to construction schedule by choosing a shorter and straighter route between the terminating substations

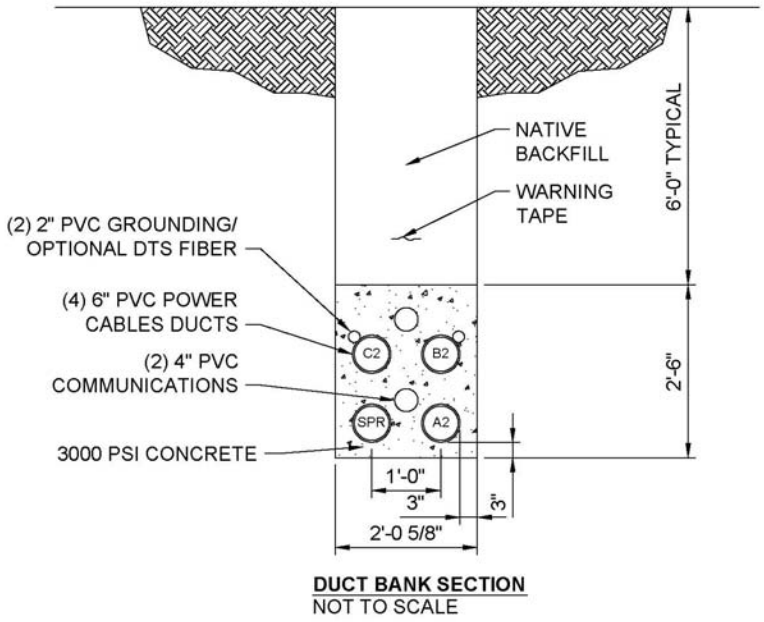
Figure C-2: Geographic Map of Proposed Route



The proposed underground line is expected to utilize some trenchless crossings (i.e. horizontal directional drilling and jack-and-bore) to minimize impacts to arterial roads (such as Interstate 280), waterways (i.e. the Rahway River), and railroads.

The expected duct bank configuration is shown in Figure C-3. Typically, the top of the duct bank will be installed six feet below the roadway, but the actual depth will vary depending on terrain and underground facilities that may be encountered.

Figure C-3: Duct Bank Cross Section



The proposed underground transmission line duct bank would be constructed within existing public roadways. Splice vaults would be located approximately every 1800 to 2000 feet along the corridor. Permanent or temporary easements on private property would only be required for the splice vaults in the event there is insufficient space within the public roadway for their installation. The splice vaults are expected to be approximately eight feet wide and 28 feet long and are designed to fit within the public road right-of-way provided there are no other underground utilities in conflict with the splice vault location that cannot be relocated.

C.1.b. Substation Expansion or Modification

See Section C.1.c below for description of substation modifications.

C.1.c. Transmission Facilities to be Constructed by Others

GridAmerica anticipates that substation transmission facility upgrades for the 230 kV underground transmission line will be constructed by the substation owner, Public Service Electric & Gas ("PSE&G"). Modifications to both the West Orange and Cook Road 230 kV substations will be required. GridAmerica will work and coordinate closely with PSE&G to review and support the necessary upgrades. The following are GridAmerica's preliminary assessments of the required substation upgrades, which require confirmation by PSE&G.

West Orange 230 kV Substation Upgrade

The upgrades to the West Orange 230 kV substation would consist of (1) a new underground line termination structure, (2) one new 230 kV circuit breaker and associated disconnect switches, (3) three new coupling capacitor voltage transformers, (4) three new surge arrestors and (5) associated bus work.

The relaying for the upgrade would consist of primary and secondary line protection relays, breaker control and breaker failure relays. The existing bus differential protection would be modified to accommodate the new line terminal. Appropriate metering equipment and panels would be included. It is assumed that the existing control building would have adequate room for the new relay protection panels and equipment. All protective relay equipment will be selected and designed according to PSE&G relay philosophy and design standards.

The proposed layout for the West Orange 230 kV Substation is provided in Figure C-4.

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Figure C-4: Proposed Layout of West Orange Substation

Cook Road 230 kV Substation Upgrade

The Cook Road 230 kV Substation upgrade would consist of: (1) one underground line termination structure, (2) one 230 kV circuit breaker and associated disconnect switches, (3) three coupling capacitor voltage transformers, (4) three surge arrestors, and (5) associated bus work.

The relaying for the upgrade would consist of primary and secondary line protection relays, breaker control and breaker failure relays. The existing bus differential protection would be modified to accommodate the new line terminal. Appropriate metering equipment and panels would be included. It is assumed that the existing control building would have adequate room for the new relay protection panels and equipment. All protective relay equipment will be selected and designed according to PSE&G relay philosophy and design standards.

The proposed layout for the Cook Road 230 kV Substation is provided in Figure C-5.

Figure C-5: Proposed Layout of Cook Road Substation

The costs of any expansions of the control buildings or any remote station relay upgrades are not included in the overall cost estimate. GridAmerica will work closely with PSE&G to determine and finalize the required substation upgrades.

C.1.d. Environmental, Permitting and Land Acquisition

Overall Assessment of the Feasibility of Successful Construction of the Project

The construction of a new 230 kV underground electric transmission line and the expansions of existing substations are feasible. GridAmerica understands the potential challenges and project risks, as described later in this section. GridAmerica, in conjunction with other National Grid entities has extensive experience managing and working to mitigate risks that are common for large scale underground transmission projects.

For instance, National Grid is currently implementing "The Salem Cable Project" in the City of Salem, MA. The Salem Cable Project website link below is included, as a reference.

http://www.buildingsalem.com/national-grid-cable-project/

http://www.salemcableproject.com/

Successful construction of the Project includes similar use of local and state roadways, planning for underground cable lead times, surveying and acquiring public records to complete early discoveries of unknown underground obstructions associated with the proposed route; minimizing impacts to traffic or other local disruptions, utilizing horizontal direction drilling under limited access highways, evaluating and addressing any impacts to historic and cultural resources; obtaining the necessary permits, clearances, and approvals; potential mitigation requirements; and construction timeframe restrictions.

It is anticipated that the underground cable system will utilize public roadways for its entire length. During detailed design and after consultation with state and municipal stakeholders, underground conflicts may require easements to be acquired from private landowners. The section below provides GridAmerica's plan to address these challenges.

Detailed discussions with federal, state, and local agencies will be conducted early in the Project to more accurately assess and address potential constraints along the proposed route.

Project Risks and Proposed Mitigation

GridAmerica has identified several potential risks that could affect the Project. The identified risks are typical risks associated with any large scale underground transmission project. The table below summarizes the potential risks and identifies proposed mitigation strategies.

Project Risks and Proposed Mitigation

Risk	Proposed Mitigation
Use of public roadways would be utilized along the Project route. Determination if easements from private landowners are required not final.	Early consultation with state and local stakeholders and incorporation of a strong community relations and public involvement outreach effort in front of the project initiation. Early identification of potential underground conflicts.

Risk	Proposed Mitigation
Potential public opposition to the Project.	Proactively conduct (in advance of project initiation) outreach efforts to neighbors, proactively respond to web site inquiries and hotline calls, conduct municipal briefings and open houses, and set up local liaison opportunities.
Residential and commercial development could change the route feasibility.	Proactive outreach to community leaders and the public to bring to light any existing conflicts or planning efforts for future development.
Challenges during design and construction could occur due to difficult terrain, subsurface conditions, and topography, which could potentially have effects on the project schedule.	Perform preliminary design and geotechnical investigations early in the project life cycle to minimize changes that occur during construction and provide enough time in the engineering schedule to evaluate alternative designs.
Long lead time for procurement of XLPE underground cable.	Identify and engage cable manufacturers early in the project development life cycle (shortly after approval from PJM). Select a preferred manufacturer early and work closely with them to identify design parameters and other information that can support an accelerated procurement strategy.
Potential for cable damage during the installation.	Selecting an experienced cable manufacturer and installer will help to reduce the risk of cable damage. GridAmerica would contract with a reputable cable manufacturer and installation crew to ensure they have the experience necessary to successfully install the underground cable. Detailed surveys and a thorough construction plan will also help to minimize this risk.
Excess spoil disposal	Excess spoil will need to be disposed of at a NJ-approved landfill. Develop plans for soil characterization and disposal early in the process. Have agreements in place with appropriate landfill areas.
Groundwater disposal	Groundwater disposal plans will be developed early in the process, including consultation with local and state agencies. If quantities exceed 100,000 gal/day for more than 30 days, a NJDEP permit is required. If certain conditions are not met, groundwater must be collected and transported to frac tanks for storage and disposal.

Risk	Proposed Mitigation
Regulatory agency consultation and permitting can add additional uncertainty to the schedule.	All permits and associated timelines will be difficult to determine without having detailed discussion with agencies regarding project length and type. Discussion, early and often, with state and federal agencies is necessary and may reveal other related permits that would be required by other agencies.

Right-of-Way and Land Acquisition Plan and Approach for both Public and Private Lands

GridAmerica anticipates that the underground transmission facility can be constructed within public and state roadways, and that easements from private landowners should not be necessary. The West Orange Substation appears to have sufficient space for the proposed equipment. Installation of the proposed equipment at the Cook Road Substation, however, could be more challenging. A final determination will made using existing substation layout and property drawings from PSE&G.

Based on a review using the available data there are no known residential or business displacements for the line portion of the Project. Should physical reviews of the routing reveal otherwise, such issues will be addressed through route modifications. Eminent domain is not envisioned to be required.

List of Permits Required from Federal, State, and Local Regulatory Agencies

The table below provides a list of the anticipated permits and approvals required from federal, state, and local regulatory agencies associated with the Project.

Anticipated Permits Required for the Project

Federal Permits	
Permit/Clearance	**Responsible Agency**
Section 10 of the Rivers and Harbors Act[1]	USACE
Threatened & Endangered Species – Decision of No Impacts (federal)[2]	USFWS/NOAA
Section 106 – National Historic Preservation Act Compliance[3]	New Jersey Department of Environmental Protection – Historic Preservation Office

New Jersey State Permits	
Permit/Clearance	**Responsible Agency**
Road Opening Permit	NJDOT
Temporary Road Crossing Permit	NJ DOT
Section 402 New Jersey National Pollutant Discharge Elimination System (NPDES) Storm Water Construction Activities Permit	NJ DEP
New Jersey Local Permits	
Permit/Clearance	**Responsible Agency**
Road Crossing	County or Municipality
Hauling	County or Municipality
Utility Permit	County or Municipality
Floodplain Development Permit	County or Municipality
Soil Erosion & Sediment Control Certification	County Soil Conservation Districts
Zoning Permit	County or Municipality
Building Permit	County or Municipality
Electrical Permit	County or Municipality
Noise Regulation Compliance	County or Municipality
Dust Control Permit	County or Municipality

1. This permit is not required unless the Project crosses a tidally influenced or navigable waterway. At this time, the current route does not contemplate the need for this permit.
2. If the Section 10 of the ACOE (note 1 above) is required, it will trigger the U.S Fish and Wildlife consultation.
3. While Section 106 is a federal action, it is performed under the direction of the Advisory Council by the State Historic Preservation Office. Section 106 can be triggered by the NJDEP or through a local ordinance that requires SHPO consultation.

Estimated Timeframe to Complete All Studies and Permitting Activities

A high-level schedule of all tasks necessary to complete the Project is included in Section C.3 below. The timeframe to complete all environmental studies and permitting activities for the Project is expected to range between 12 and 18 months, depending on the requirements of the regulatory agencies. The estimated timeframe is based on the assumption that permitting activities will start shortly after the environmental studies.

Stakeholder Engagement and Public Involvement

The success of any transmission project is dependent on the project team's ability to effectively build, maintain and manage relationships with property owners, local communities, abutting property owners, civic leaders, business leaders, neighborhood associations and other

stakeholders for the entire life of the Project. GridAmerica is committed and feels passionate about ensuring that the Project team engages and communicates with all stakeholders in a manner that allows them to truly become well-informed and positively involved. All public views and participation in infrastructure projects are essential and a critical success factor for GridAmerica.

GridAmerica will establish early communications and rapport with affected communities and will provide early and continuing consumer information throughout the Project to work with all stakeholders. GridAmerica expects to reinforce the benefits and intent of the Project while ensuring environmental and community stewardship. GridAmerica anticipates using various communications channels, tailored to deliver key messages to communities affected by the Project.

From the beginning of the Project, the Project team will reach out to public officials, community leaders and local / state agencies to discuss routing, receive input and build understanding of the Project and the problem that it addresses. Prior to confirming and selecting a final route, the Project team will present the Project and potential routes to a wider stakeholder group which will also include property owners, local communities and neighborhood associations.

GridAmerica utilizes a variety of stakeholder engagement tools and services to allow for two-way communication designed to provide information and updates about the project, receive feedback and determine appropriate mitigation measures. These include open houses, door-to-door outreach, community meetings, presentations to local boards, visual simulations, media relations, website and social media messaging, advisory committees, and hotline services.

C.2 Project Component Cost Estimates

Overall Estimated Project Cost

GridAmerica's total estimated project cost is about $125 million (2015 net present value). As this estimate is based upon a conceptual design, the estimate is assumed to have an accuracy of -25% to +50%. A more detailed cost breakdown is provided in confidential Appendix A.

The preliminary design and corresponding cost estimate for the Project was developed based upon experiences with similar underground projects traversing densely populated areas in New Jersey as well as elsewhere within PJM and within ISO-NE. The Project design was based on

utilizing components that meet or exceed National Electric Safety Code (NESC) minimum clearance and loading requirements. The final design details of the Project facilities will conform to applicable PJM standards (including "PJM Transmission and Substation Design Subcommittee Technical Requirements"), applicable standards of the interconnecting transmission owner and North American Electric Reliability Corporation (NERC) mandatory standards. Such final design modifications are not expected to materially impact the cost or schedule of the Project.

The cost estimates were developed using a multiple-step methodology that considers many factors and involves the assessment of both quantitative and non-quantitative data in formulating the final cost. The first step is to break the work down into logical components. These items include either major materials needed, certain tasks that require distinct phases of the work, specialized crews, and a breakdown by major contract. After establishing the major components of work, quantities were estimated after making calculations from preliminary drawings or maps. GridAmerica will supplement and update these costs as necessary with additional data received from vendors, construction contractors, published sources such as RSMeans.

These estimates are in 2015 dollars and include costs for engineering, material and labor costs, routing, siting, some land acquisition, environmental studies and permitting efforts. Costs for project management, construction management, overheads, and contingency. Escalation and allowance for funds used during construction (AFUDC) are not included in the Project Total estimated below. A general breakdown of the project costs is provided below:

[Cost table redacted for confidentiality]

Underground Transmission Cost Estimate Details

The transmission line estimate was based upon the route shown in Figure C2. GridAmerica's preliminary design indicates the trenches and splice vaults will be located entirely within the public rights-of-way, avoiding the need for additional easements or other property rights. GridAmerica estimates approximately 3200 linear feet of trenchless installation will be required. Given the population density across the Project area, existing underground utilities are expected to be encountered. GridAmerica's cost estimate for the project provides for utility relocation to accommodate the new transmission line.

Substation Cost Estimates (portions have been redacted)

The cost estimates for both substations are based upon adding the following facilities to each site:

- 230kV breaker
- H Frame structure to support overhead strain bus conductors
- Motor operated disconnect switch for protection of underground feeders
- Bus supports with insulators
- Site grading and expanded ground grid
- Drilled shaft foundations to support the new equipment and bus

Summary of Assumptions for Cost Estimates

The following are the general cost assumptions used to develop the overall estimated project cost:

- *The routing/siting cost includes the cost to perform a detailed routing study and to assist with the preparation of the necessary permitting and siting applications.*
- *No land acquisition costs are expected or included for the transmission line or at West Orange Substation.*
- *The transmission line engineering, procurement, and construction estimates include the cost to perform the detailed engineering, procure the transmission cable, splice vaults, and other associated equipment, and construct the transmission line.*
- *The substation engineering, procurement, and construction estimates include the cost to perform the detailed engineering, procure the substation equipment, and complete the expansion.*
- *The project and construction management estimates include costs such as preliminary designs, drawing reviews, other engineering support, construction supervision, and construction inspections by a third party hired by GridAmerica.*
- *The contingency is intended to address items such as scope changes, unknown subsurface conditions, permit delays, labor and material market conditions, schedule changes, and mitigation measures that may affect the cost of the Project.*
- *Escalation cost is not included in the estimate provided, which is in 2015 dollars.*

- AFUDC cost is not included in the estimate provided.
- *There are no NEPA requirements as part of route study.*
- *There are no EA /EIS as part of route study.*

Estimated Project Benefits

GridAmerica estimates that the net present value of the overall benefits over the 15-year (2019-2034) long-term market efficiency period is approximately $2 billion. While these benefits are predominantly Reliability Pricing Benefits, more modest Energy Market Benefits are also included. Based on GridAmerica's estimated $125 million project cost, the overall benefit-to-cost ratio is 15.4, which is significantly greater than PJM's minimum criteria for benefits consideration of 1.25. The study methodology and result are presented in confidential Appendix B.

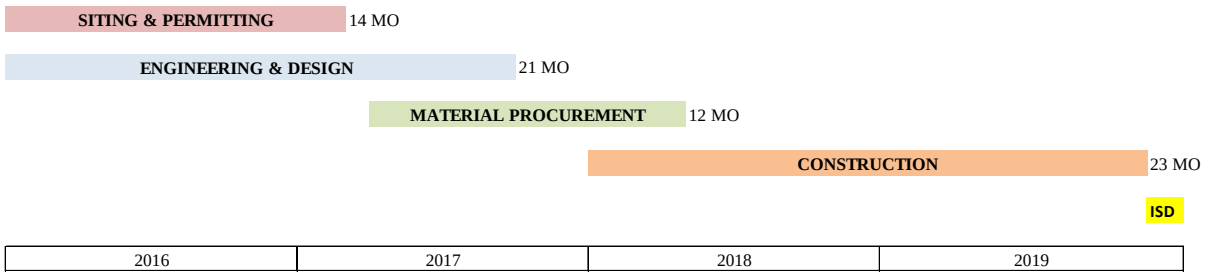
C.3 Schedule

GridAmerica developed a schedule that allows the Project to be placed into service in December 2019. The proposed schedule includes concurrent and overlapping activities to complete the Project in the most cost efficient and effective manner. Discussions with local, state and federal agencies and officials will be required to firm up the schedule details.

The following assumptions were used to determine the schedule which we believe provides a reasonable view at this phase of the proposal process:

- PJM approval has been obtained by the end of 2015.
- Permitting will take about 15 months. Permitting efforts will start immediately after PJM approval is gained and will include routing and environmental studies.
- Preliminary Project design will be initiated in advance of the permitting process. This preliminary design will facilitate more timely initiation of survey, right-of-way, and environmental activities.
- Final Project design will begin prior to final permits. This will follow key confirmations of the proposed route within the approval process.
- Procurement of underground cables will be coincident with receipt of relevant permits.

Figure C-5: Schedule



C.4 On-going Transmission Facility Items

C.4.a. Operational Plan

GridAmerica proposes that all substation upgrades be implemented by the incumbent transmission owner, PSE&G. Accordingly, GridAmerica envisions that PSE&G will also incorporate the operational monitoring and control interface within its existing control center(s) and PJM for its expanded substation facilities.

C.4.b. Maintenance Plan

GridAmerica's proposal includes a program of routine inspection and preventive maintenance to assure the continued integrity of the proposed 230 kV line. This constitutes an inspection and preventive maintenance program to address potential concerns of environmental and electrical integrity. Bi-monthly inspections will include visual inspections of the riser cable and terminations at the remote substation ends shown in table 1.1. Five year inspections will include vault and manhole inspections broken down in table 1.1.

GridAmerica estimates annual recurring maintenance costs at $25,000 which include crew time to perform inspections and make necessary repairs. Typical items that may need repairs include but are not limited to; general corrosion, broken or corroded bonding leads, broken termination base plate insulators, link box damage, corroded or damaged cable clamps, peeling arc-proofing tape, vault concrete, and manhole cover and frame damage.

GridAmerica's proposal includes spare material including one reel of cable equivalent to the length of the longest vault to vault pull, two complete splice kits, one complete termination kit, and one of each type of link box.

TABLE 1.1
Solid Dielectric Cable Inspection and Maintenance Activities

LOCATION - ITEM This table shows the frequency of inspection and maintenance requirements for the major components. Detailed requirements are provided in the sections indicated in brackets. I = Inspection M = Maintenance	BI-MONTHLY	ANNUALLY	FIVE YEAR CYCLE	RESPONSIBLE
Substation A Terminals Link Boxes	 I I			O&M
Manholes General Condition Cable and cable clamps Link box and bonding leads			 I I I	UG
Fiber Optic Manholes General Condition			 I	UG
Link boxes		***** M		Eng
Substation B Terminals Link Boxes	 I I			O&M
Spare Cable Materials Spare Cable Reel Spare Material			 I I	 UG Eng

***** The surge voltage limiters (SVLs) should be inspected and tested following a cable fault.

C.5. Assumptions

In addition to the assumptions and risks already identified and outlined throughout the proposal, the following are additional potential uncertainties that may arise and impact the estimated costs and schedules:

- *Crossing of highways and state and local land and easement areas*

- *Environmental mitigation requirements*
- *Permitting*
- *Soils composition*
- *Public opposition*
- *Outage coordination and availability*

Appendix A – Cost Analysis

[Redacted]

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Appendix B – Total Project Benefits Estimates

[Redacted]

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Appendix C –Benefit Analysis Supporting Files

[Redacted]