

The background of the entire page is a complex, abstract network diagram. It consists of numerous small, dark grey circular nodes connected by thin, light grey lines. The nodes are distributed across the page, with some appearing as larger, more prominent hubs. The lines connecting them form a dense, interconnected web, particularly in the upper and left portions of the page, while becoming sparser towards the bottom right. The overall color palette is a muted, light blue-grey.

Northeast Renewable Power Partners

BID A

MA83D Response

July 27, 2017

SECTION 83D

REQUEST FOR PROPOSAL APPLICATION FORM

NORTHEAST RENEWABLE POWER PARTNERS BID A

APPLICANT INFORMATION

Applicants: Brookfield Power US Holding America Co. (“Brookfield Renewable US”)
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[REDACTED]

[REDACTED]

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CERTIFICATION, PROJECT AND PRICING DATA

The Certification, Project and Pricing Data ("CPPD") document is a Microsoft Excel workbook that is provided on the website at www.MACleanEnergy.com.

Confidential Attachments 1.1 - 1.3 include the completed CPPD for each Bidder and GridAmerica Holdings Inc. in the required format. Attachments 1.1(A) – 1.3(A) provide the Certification and Authorization form.

GridAmerica Holdings, Inc. a subsidiary of National Grid USA ("**GridAmerica**") is the sponsor of the transmission project included with the proposal and has provided the information and documentation supporting the portion of the bid related to the transmission project. Included in Section 1 is a Proposal Certification Form executed by GridAmerica in regards to the transmission proposal. GridAmerica has also provided pricing information for the transmission project in Confidential Attachment 14.3.1.

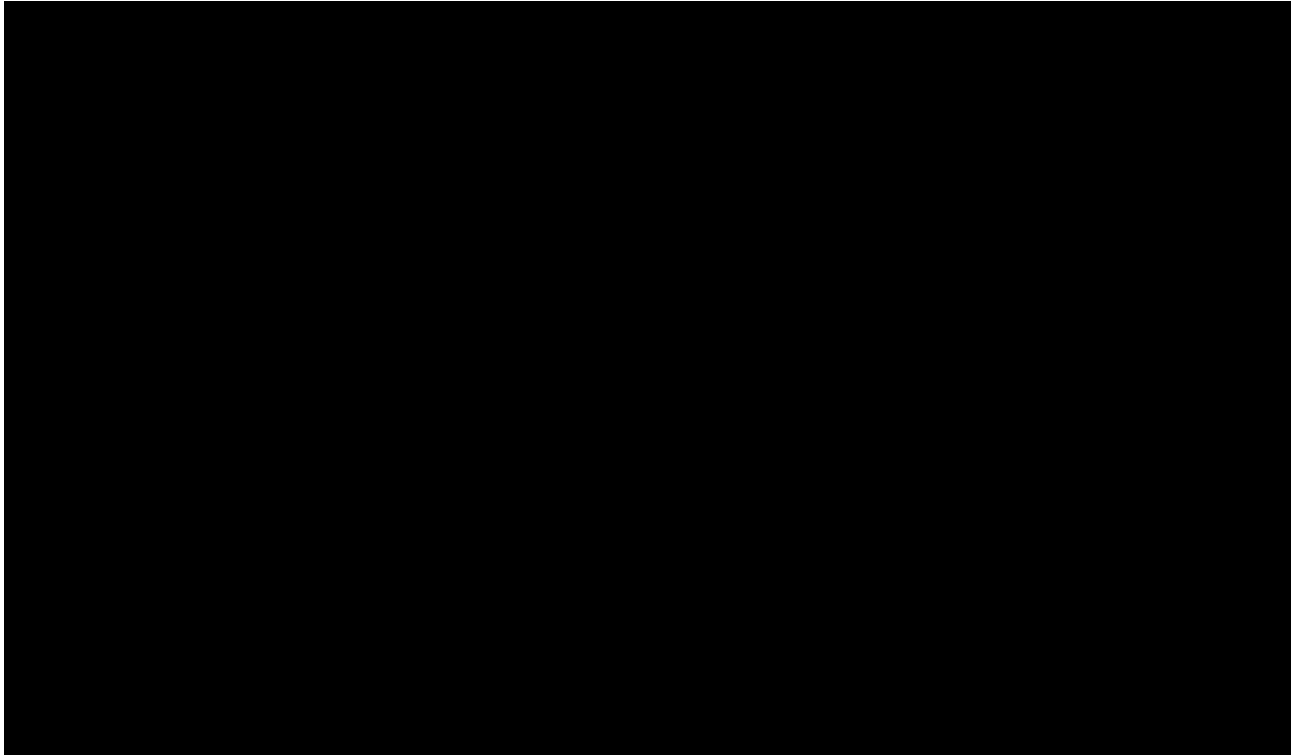
SECTION 2 OF APPENDIX B TO THE RFP
EXECUTIVE SUMMARY OF THE PROPOSAL (INCLUDING THE BASE PROPOSAL
AND ANY ALTERNATIVE PROPOSALS)

The bidder is required to provide an executive summary of the project proposal that includes a complete description of the proposed generation and/or transmission bid, the proposed contract term and pricing schedule, and other factors the bidder deems to be important.

Brookfield Power U.S. Holding America Co. (“**Brookfield Renewable US**”) and Avangrid Renewables, LLC (“**Avangrid**”) (Brookfield Renewable US and Avangrid are jointly referred to as the “**Northeast Renewable Power Partners**” or the “**Bidders**”), together with GridAmerica are pleased to submit this proposal (“**Proposal**”) to supply Clean Energy Generation and Environmental Attributes and RECs from new Class I RPS eligible wind and solar facilities (the “**Class I Facilities**”) and Incremental Hydroelectric Generation (the “**Firming Hydro Facilities**”) delivered over a new transmission project (the “**Northeast Renewable Link**” or “**NERL**”) (the Class I Facilities, the Firming Hydro Facilities and the Northeast Renewable Link jointly referred to as the “**Project**”) in response to the Request for Proposals for Long-Term Contracts for Clean Energy Generation Projects issued on March 31, 2017 by Fitchburg Gas & Electric Light Company (“**Unitil**”), Massachusetts Electric Company and Nantucket Electric Company (“**National Grid**”), and NSTAR Electric Company and Western Massachusetts Electric Company (“**Eversource**”) (Unitil, National Grid and Eversource jointly referred to as the “**Distribution Companies**”) (the “**RFP**”).

The Project will assist the Distribution Companies and the Commonwealth of Massachusetts in cost effectively meeting their Clean Energy Generation goals, pursuant to Section 83D of Chapter 169 of the Acts of 2008, An Act Relative to Green Communities, as amended by chapter 188 of the Acts of 2016, An Act to Promote Energy Diversity (“**Section 83D**”), by connecting approximately 1300 megawatts (MW) of renewable and permanently sustainable Clean Energy Generation facilities between New York and Massachusetts. The Project bundles energy from five new wind farms, three new solar farms and a portfolio of 70 existing hydroelectric facilities located on 14 river systems, to provide a diverse and reliable supply of Clean Energy Generation, transported over a new, 23-mile, dedicated high voltage transmission line and delivered to the New England transmission grid in western Massachusetts (refer to Figure ES-1).

Figure ES-1 Project Components



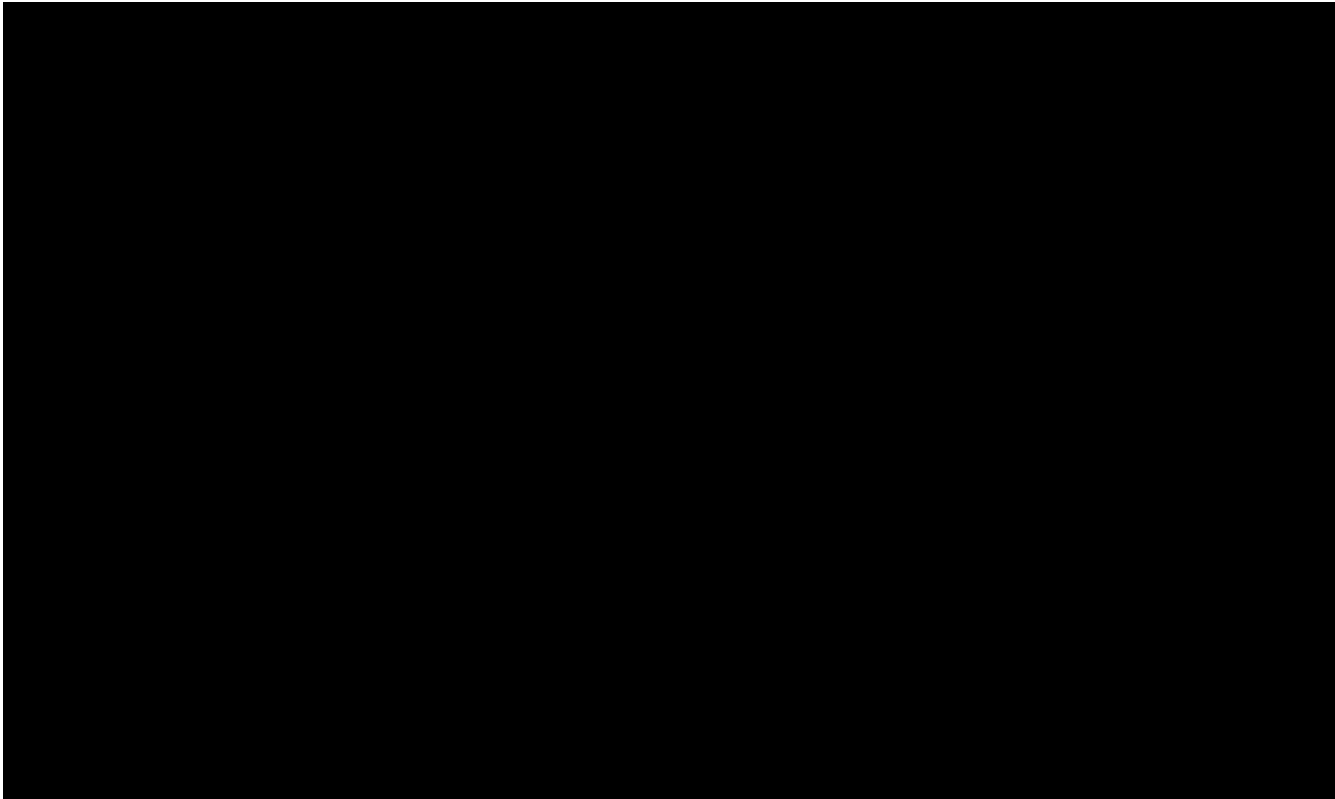
The Project not only offers Massachusetts access to reliable, U.S. supplies of Clean Energy Generation, but also represents significant benefits to the New England – New York region in terms of employment, income, taxes, and carbon emissions reduction. The Project exceeds all the objectives of the RFP and will provide abundant supplies of renewable energy to the region, at savings to consumers for years to come.

The Project offers [REDACTED] of Clean Energy Generation, with an expected [REDACTED] of Class I Renewable Energy Credits (“RECs”) and [REDACTED] of Environmental Attributes (“EAs”) from the Firming Hydroelectric Facilities, annually through a 20-year Long-Term Contract (“PPAs”) with each Distribution Company, starting on [REDACTED]. The cost of the transmission will be recovered under a FERC-approved tariff over the same 20-year period. The Bidders also expect to offer at least 360 MW of capacity in the ISO-NE Forward Capacity Market. The NERL project in-service date will also be [REDACTED]

The Project will provide an unconstrained, dependable supply of incremental Clean Energy Generation that can be counted on during peak winter conditions, with up to [REDACTED] of Clean Energy Generation in the peak winter period, almost [REDACTED] of which is firm. The output of the eight Class I Facilities coupled with Incremental Hydroelectric Generation from the Firming Hydro Facilities will fulfill over [REDACTED] of Massachusetts annual requirements of 9.45 TWh pursuant to Section 83D.

Based on the expected generation from the Class I Facilities and the expected generation from Firming Hydro Facilities, the Project will provide a winter peak dominant supply of Clean Energy Generation as illustrated by *Figure ES-2*:

Figure ES-2: Expected Deliveries



To facilitate this Proposal, the Bidders propose to form a generation joint venture (the “**Generator JV**”) to serve as the seller of the Products under the PPAs.

EFFICIENT DEAL STRUCTURE

<i>Many Products / Efficient PPA Structure</i>	Each Distribution Company will execute a 20-year PPA with the Generator JV as the single supplier of the combined Product supplied by the Class I Facilities and the Firming Hydro Facilities. <i>Figure ES-3</i> illustrates this PPA structure.
<i>Firm Transmission Capacity Purchase Agreement</i>	As illustrated by <i>Figure ES-3</i> , GridAmerica will enter into a 20-year, fixed-price Firm Transmission Capacity Purchase Agreement (“ FTCPA ”) with each Distribution Company.
<i>Transmission Rights Transfer</i>	As illustrated by <i>Figure ES-3</i> , the Distribution Companies will transfer their transmission rights secured under the FTCPA to the Generator JV to enable the

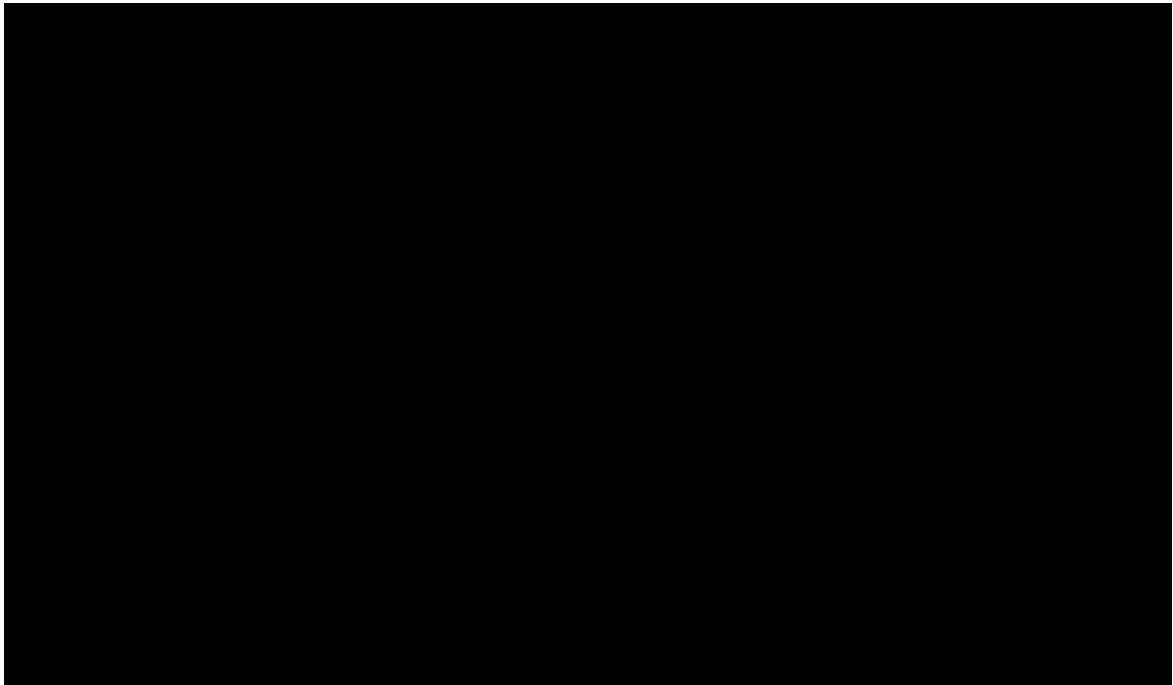
Agreement

Generator JV to deliver the Clean Energy Generation into Massachusetts through a Transmission Rights Transfer Agreement (“**TRTA**”).

Power Agency Agreement

As illustrated by *Figure ES-3*, the Generator JV will contract with Brookfield Energy Marketing LP (“**BEMLP**”) to act as its agent in the performance bidding and scheduling services associated with the delivery of Clean Renewable Generation to the Distribution Companies under a Power Agency Agreement (“**PAA**”).

Figure ES-3: Proposed Structure



SOUND ECONOMICS

<i>Energy Pricing</i>	This Proposal offers [REDACTED] Clean Energy Generation, [REDACTED] of Class I RECs and [REDACTED] of Environmental Attributes from the Firming Hydro Facilities annually for 20 years. The proposal provides cost effective Clean Energy Generation.
<i>Capacity value</i>	The Bidders intend to offer at least [REDACTED] of available Class I and Firming Hydro capacity in ISO-NE's Forward Capacity Market.
<i>Transmission Value</i>	The transmission investment will enable large flows of incremental and firm Clean Energy Generation, EAs and RECs from New York to New England for the benefit of Massachusetts customers. In addition, the transmission line will significantly improve the connectivity between New York and New England and will help mitigate the region's challenges in accessing additional gas resources.

COST CONTAINMENT

<i>Firm Power Purchase Pricing</i>	The Proposal offers firm price certainty. Avangrid bears development and construction risks and the cost of any generation interconnection upgrades required by NY-ISO for all Class I Facilities being developed.
<i>Existing Hydro</i>	The Firming Hydro Facilities, which will be incremental to Massachusetts, are expected to operate reliably through the term of the PPA with any required capital expenditures paid for by Brookfield without any additional exposure to the ratepayers of Massachusetts.
<i>Fixed-Price Transmission</i>	The NERL fixed-rate proposal ensures the Distribution Companies that any transmission cost overruns will not be borne by ratepayers.

NEW FIRM TRANSMISSION ALIGNED WITH ENVIRONMENTAL AND CONSUMER INTEREST

<i>New Firm Transmission</i>	Northeast Renewable Link (NERL) is a proposed HVAC transmission line that maximizes the use of existing rights of way and features a smart flexible AC design to provide access to some of the lowest cost clean energy within reach of New England. NERL will create a new 600 MW interconnection between the New York and New England electric systems, enabling delivery of new-build solar and wind, and incremental hydroelectric generation and providing Massachusetts an economically and environmentally efficient way to meet its greenhouse gas reduction goals to the benefit of the ratepayers of the Commonwealth.
<i>Reliability Improvements</i>	The NERL project is unique among transmission offerings because it aligns environmental and consumer interests in a project that will enhance the Commonwealth's ability to meet its goals under the Global Warming Solutions Act. NERL maximizes the use of an existing right of way to provide efficient

access to a firm wind/hydro supply offering within reach of New England.

The NERL project's co-location with existing transmission infrastructure on an expanded right of way avoids the view shed and environmental impact associated with new transmission corridors. The upgrades required by the project's interconnection in New England and New York are cost-effective and the new transmission line will require expansion of the existing right of way only along a nine-mile portion of the existing transmission corridor.

POLICY ALIGNMENT

Energy Security

The Project's generating facilities are eligible facilities under Section 83D and will produce approximately [REDACTED] GWh of Clean Energy Generation from a combination of Class I Facilities bundled with Firming Hydro Facilities ("Expected Deliveries"). Approximately [REDACTED] of the Expected Deliveries will be provided on an hourly firm basis. The Class I Facilities will deliver associated Class I RECs and the Firming Hydro Facilities will deliver associated EAs.

Policy Goal Advancement

NRPP will advance the Massachusetts public policy reflected by the recent adoption of Section 83D by providing Clean Energy Generation that will fulfill just under half of the total authorization. In addition, the Project provides Class I RECs that fulfill the Distribution Companies' obligation under the Massachusetts Renewable Portfolio Standard.

CREDIBILITY

Top Tier Energy Companies

The Northeast Renewable Power Partners and GridAmerica are members of world leading energy enterprises that have the financial resources to fund the required investment as well as the operating and development experience to reliably meet their obligations. Each company brings extensive expertise in their relevant energy technology and all three companies have significant experience in the ISO New England market.

Site Control

Currently, of the 23 miles of new transmission facilities only the last nine miles will require an expanded right-of-way parallel to existing transmission corridors. The remaining 14 miles do not require right-of-way expansion, offering a very efficient and low-impact solution for delivering vast amounts of clean energy resources.

SOCIAL AND ECONOMIC BENEFITS

*Reduction in
carbon emission
by [REDACTED]
[REDACTED]
annually*

Carbon reduction which is equivalent to [REDACTED] being removed from the roads each year and equates to a value of over [REDACTED] total over 20 years, based on USEPA's estimates of the social cost of carbon.

*Substantial
economic benefits
to New England
retail consumers*

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

*Short and long-
term employment,
income, and tax
benefits to
Massachusetts*

Direct or indirect creation of approximately 630 jobs during construction of the NERL project and increased property tax revenues to effected communities.

*Additional
employment,
income, and tax
benefits for New
York State*

Direct or indirect creation of approximately [REDACTED] during construction of the Class I Facilities and NERL and significant annual taxes to New York municipalities. [REDACTED]

*Assistance to low
income ratepayers*

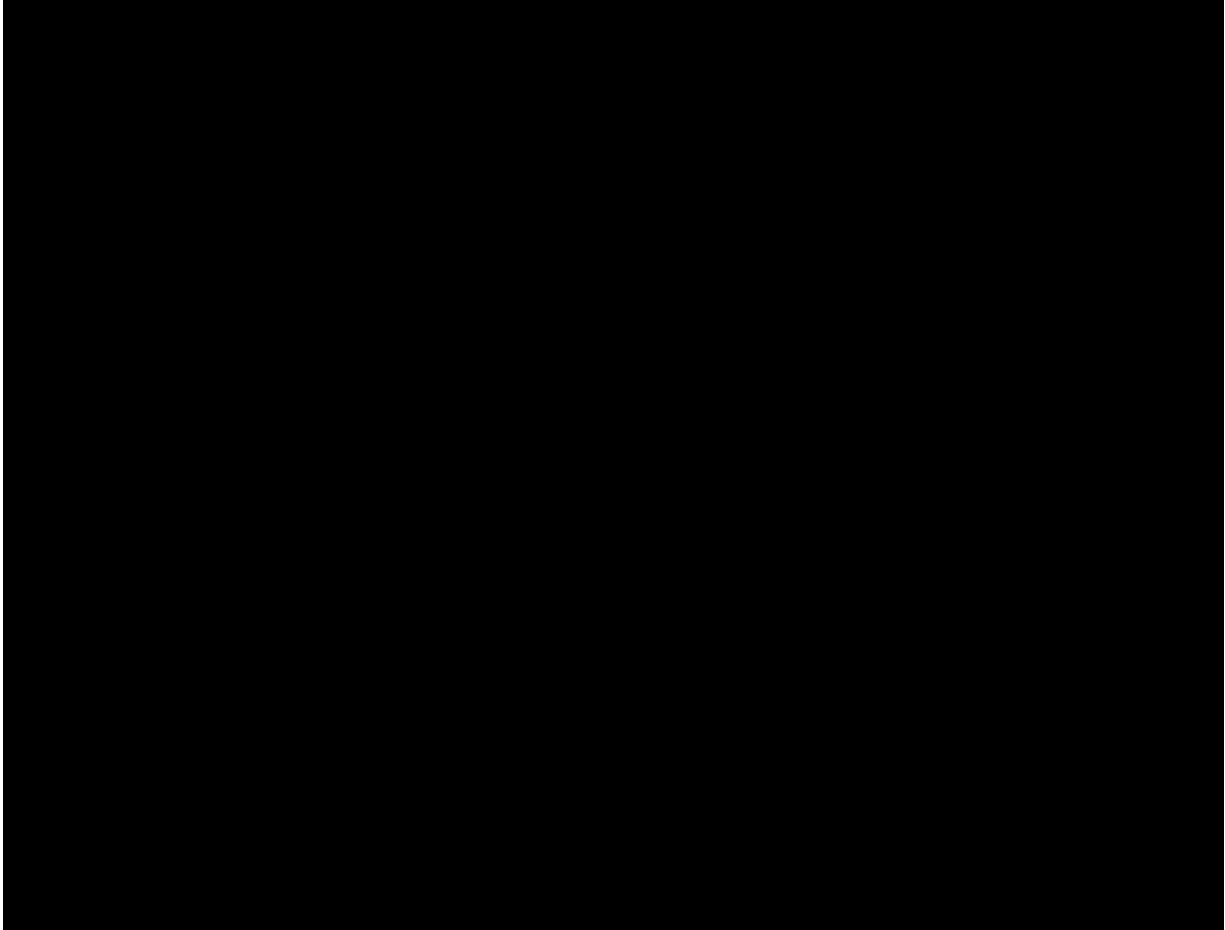
First there will be equity participation by Citizens Energy in the NERL project. GridAmerica will partner with Citizens Energy as a co-investor in the NERL project. Citizen Energy partners with utilities across the country to develop new high-voltage transmission lines and uses the proceeds of such investments to support funding of charitable programs for people living in the area. Citizens has committed 50% of the expected proceeds of its investment in the NERL project to assist low-income families in the Commonwealth with their energy needs.

[REDACTED]
[REDACTED]

MAP OF PROJECT FACILITIES

Figure ES-4 illustrates the general locations of the principal project elements.

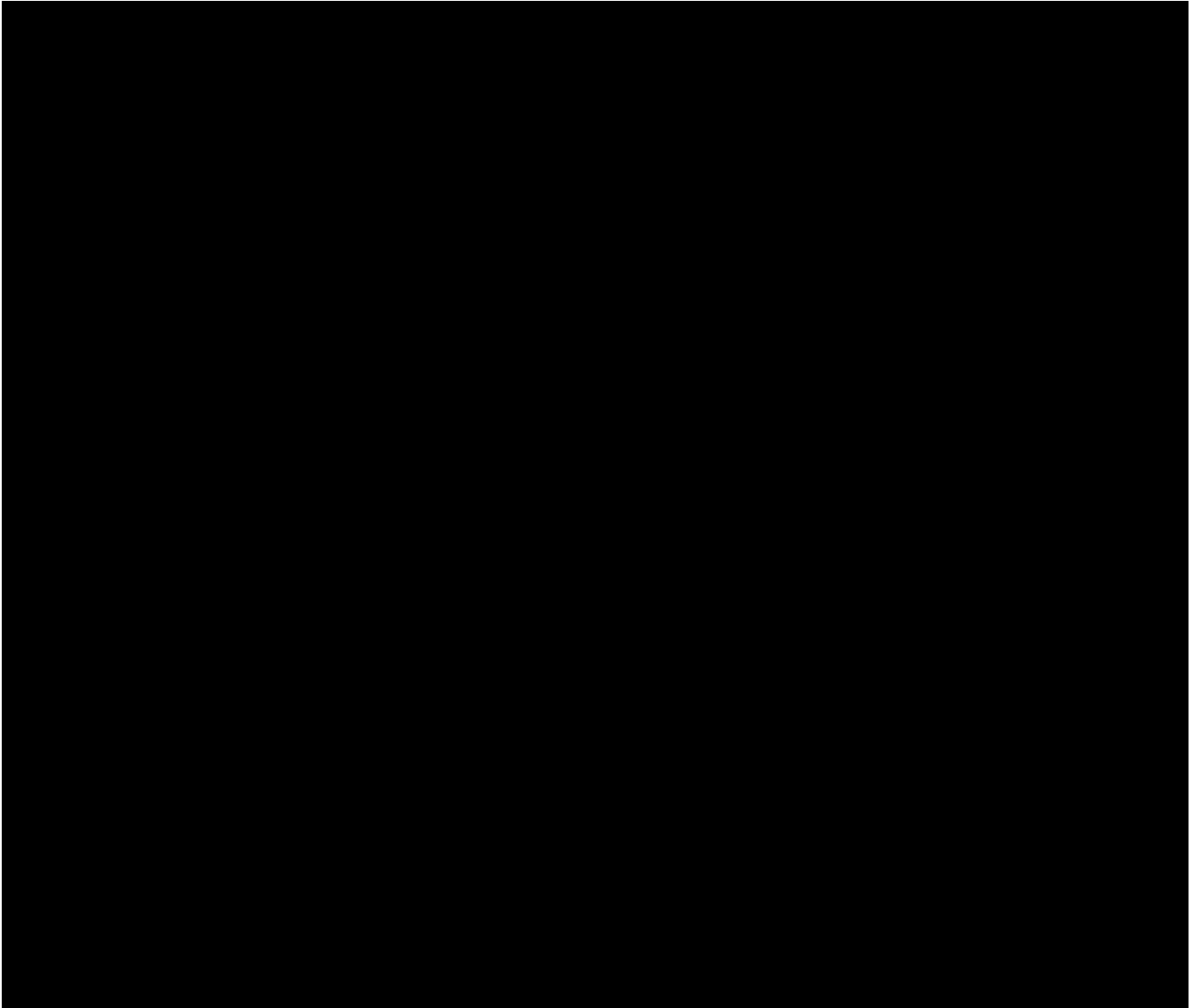
Figure ES-4: Project



CONCLUSION

The price and terms for the Project reflects the Bidders' and GridAmerica's extensive experience in successfully planning, developing and operating similar projects, both on schedule and within budget, and strong expertise delivering renewable generation across interfaces between power pools. The estimated Project development costs includes agreements with proven and trusted contractors, consultants, and material suppliers, as well as established mechanisms for addressing critical path tasks and for cost containment.

The Project schedule, which provides an in-service date of [REDACTED] or earlier for both the Class I Facilities and the Northeast Renewable Link, reflects the careful consideration of timelines for regulatory permitting processes, as well as for procurement and construction. Further, the schedule reflects the Bidders' and GridAmerica's prior experience with similar projects in both New York and New England.



SECTION 3 OF APPENDIX B TO THE RFP OPERATIONAL PARAMETERS

3.1 MAINTENANCE OUTAGE REQUIREMENTS – SPECIFY PARTIAL AND COMPLETE PLANNED OUTAGE REQUIREMENTS IN WEEKS OR DAYS FOR ALL GENERATION FACILITIES AND TRANSMISSION FACILITIES. ALSO, LIST THE NUMBER OF MONTHS REQUIRED FOR THE CYCLE TO REPEAT (E.G., LIST TIME INTERVAL OF MINOR AND MAJOR OVERHAULS, AND THE DURATION OF OVERHAULS).

Maintenance outages will be sequenced, as follows, to assure a consistent supply of incremental Clean Energy Generation, including during peak periods:

CLASS I FACILITIES

- Planned partial outages for individual solar module/inverter and wind turbine maintenance will be scheduled every 6 months and will last less than 24 hours.
- Substation maintenance at each solar and wind facility will require a complete outage for 1 – 2 days annually and 2 – 3 days every 5 years.
- Maintenance is scheduled to the greatest extent possible during low production periods. Maintenance of individual turbines is performed one-by-one, so that most turbines at a site remain online. Maintenance of the solar Class I Facilities is typically not disruptive to production and only occasionally requires maintenance.
- The firming capability of the Firming Hydro Facilities will further reduce the impact of Class I Facilities' maintenance outages on delivered quantities.

FIRMING HYDRO FACILITIES

- The Firming Hydro Facilities are inspected and tested regularly with the majority of inspections performed on an annual basis. Inspections are staggered across the various units to minimize the impact of outages.
- Maintaining high reliability and availability of all plants is critical. To the greatest extent possible, the operating teams perform all periodic and planned maintenance activities during periods of low hydrology. On average and historically, the facility availability factor has been and is expected to be greater than 90%.

NORTHEAST RENEWABLE LINK

- Recurring planned outages are not required for maintenance of transmission lines. All inspections and vegetation management and most maintenance and repairs can be performed with the line energized. Planned outages would be needed rarely for the transmission lines.

The Bidders will perform maintenance on a coordinated basis such that, to the extent possible:

- planned maintenance of the solar Class I Facilities will be scheduled for off-peak hours;
- planned maintenance of the wind Class I Facilities will be scheduled for low wind periods; and
- planned maintenance of Firming Hydro Facilities will be coordinated to meet firm energy delivery obligations.

Further, to minimize the risk of transmission system constraints, scheduled maintenance on the NERL project will be conducted in periods of low system demand and avoid the winter peak period. And finally,

under Section 3.5 of the PPA, the Generator JV agrees to use commercially reasonable efforts to not schedule outages during the summer or winter months.

3.2 OPERATING CONSTRAINTS – SPECIFY ALL THE EXPECTED OPERATING CONSTRAINTS AND OPERATIONAL RESTRICTIONS FOR THE PROJECT (I.E., LIMITS ON THE NUMBER OF HOURS A UNIT MAY BE OPERATED PER YEAR OR UNIT OF TIME). IF THE BID INCLUDES FIRM DELIVERIES, LIST THE ANTICIPATED SITUATIONS AND FREQUENCY OF INTERRUPTIONS OF TRANSMISSION SOURCES WHICH WOULD AFFECT POWER DELIVERIES.

The Project will not have significant operating constraints or restrictions for the following reasons:

CLASS I FACILITIES

The solar and wind Class I Facilities do not anticipate constraints to operations beyond normal maintenance. [REDACTED]

FIRMING HYDRO FACILITIES

The Firming Hydro Facilities consist of a portfolio of 70 hydroelectric generating facilities on 14 river systems. While individual units/stations may have constraints, as a portfolio there are no practical operating constraints or operational restrictions that are expected to impact the Firming Hydro Facilities' ability to supply energy to the contracting Distribution Companies in accordance with the terms of this Proposal. [REDACTED]

[REDACTED] The Firming Hydro Facilities are managed as a portfolio to create firm service through diversity of multiple units.

NORTHEAST RENEWABLE LINK

There are no operating constraints associated with the NERL project.

3.3 RELIABILITY – DESCRIBE HOW THE PROPOSAL WOULD PROVIDE ENHANCED ELECTRICITY RELIABILITY TO MASSACHUSETTS, INCLUDING ITS IMPACT ON TRANSMISSION CONSTRAINTS.

There are two aspects of electric system reliability:

- **Resource adequacy**, which is enhanced by a diversity of sources; and
- **Transmission security**, which is enhanced by the NERL project.

The Project's Expected Deliveries of wind, solar and hydroelectric energy, transmitted to Massachusetts over a dedicated, firm transmission path will substantially contribute to both aspects of reliability. In addition, our Proposal provides strong winter period deliveries well in excess of the minimum delivery threshold. The Project's specific enhancements to both resource adequacy and transmission security are summarized below:

Enhancements to Resource Adequacy and Diversity

- The Project will introduce approximately [REDACTED] of clean, renewable power into Massachusetts, helping to meet the Commonwealth's Global Warming Solutions Act ("GWSA") goals and

procurement pursuant to Section 83D. In addition, the supply of [REDACTED] of new Class I RECs will help the Commonwealth to meet its Renewable Portfolio Standards.

- The Project’s bundled solar, wind and hydroelectric power will provide needed diversity to the New England region’s generation fuel mix and thus help reduce dependence on natural gas.
- Bundling solar, wind and hydro mitigates the intermittency of solar and wind, thus enabling a more base-load delivery pattern, particularly in the critical winter peak months, and reducing the operational complexity as well as cost of integrating new Class I RPS eligible resources.
- The Project’s dedicated, controllable 600 MW transmission line will significantly improve the connectivity between New York and New England and will help mitigate the region’s challenges in accessing additional gas resources.
- The Project’s controllable AC technology will allow the aggregation and scheduling of the bundled energy portfolio as if the generation resources were physically located in New England.
- The transmission line will be interconnected to ISO-NE at the Capacity Capability Interconnection Standard and will allow for the import of up to 600 MW of incremental, qualified capacity. Northeast Renewable Power Partners commits to offer up to [REDACTED] of capacity into the ISO-NE Forward Capacity Market associated with the renewable facilities providing the Clean Energy Generation.

Transmission Security

- NERL project increases the AC Interface capability between ISO-NE and NYISO. This increases the reliability of the RTOs by adding operators’ flexibility to control flows between the two RTOs in both base case and under fault outage conditions.
- The Project provides the operators’ further flexibility for the capacity and energy markets between the two RTOs, allowing system operators to optimize the utilization of generating resources and reducing the overall cost of operation for ISO-NE and NYISO markets.
- The System Impact Study (“SIS”) being conducted by ISO-NE will determine whether the proposed Project satisfies the minimum characteristics required to interconnect in a manner that avoids any significant adverse effect on reliability, stability, and operability of the New England Transmission System, including protecting against the degradation of transfer capability for interfaces affected by the facility. A subsequent Group Study by the ISOs will determine whether the proposed NERL project can be interconnected in a manner that ensures intra-zonal deliverability by avoiding re-dispatch of other Capacity Network Resources and Elective Transmission Upgrades with similar Interconnection Service, as detailed in the ISO New England Planning Procedures.
- Where transmission constraints are identified, ISO-NE will propose system upgrades that will resolve the constraints. There is thus an assurance of no degradation of reliability as a minimum with the potential for improved reliability through the normal operations of NERL. GridAmerica has engaged Pterra to model the expected ISO-NE studies and has reflected the costs of expected upgrades in their fixed cost offer.

3.4	MODERATION OF SYSTEM PEAK LOAD – DESCRIBE HOW THE PROPOSAL WOULD CONTRIBUTE TO MODERATING SYSTEM PEAK LOAD REQUIREMENTS AND PROVIDE THE FOLLOWING INFORMATION:
I)	ESTIMATED AVERAGE OUTPUT FOR EACH SUMMER PERIOD (JUNE- SEPTEMBER) FROM 1:00 - 6:00 PM
II)	ESTIMATED AVERAGE OUTPUT FOR EACH WINTER PERIOD (OCTOBER-MAY) FROM 5:00 – 7:00 PM

The Project will moderate peak load requirements by [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Figure 3.4-1: Monthly Profile of Expected Deliveries

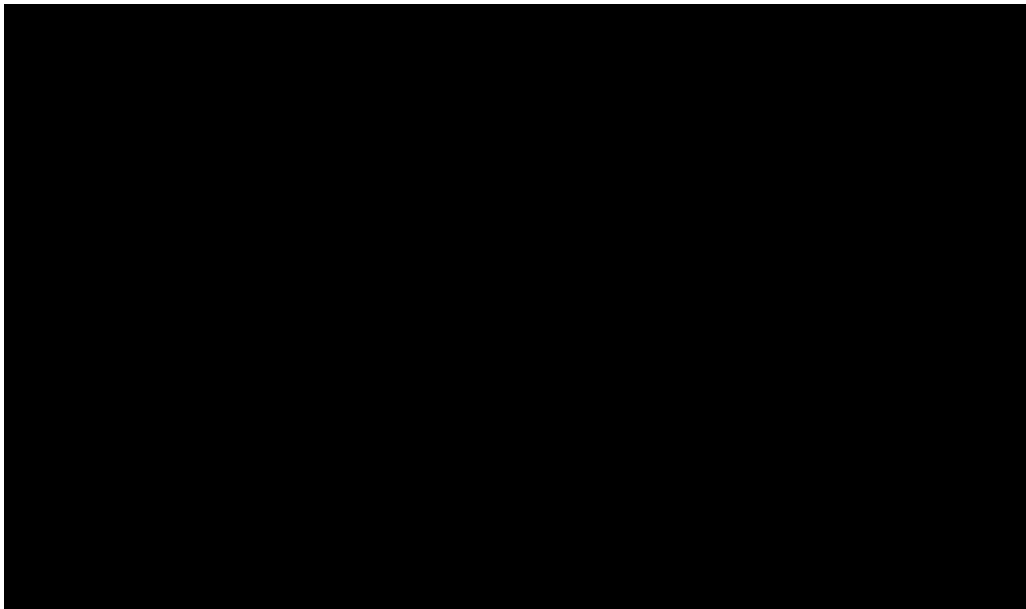


Figure 3.4-2: Hourly Profile of Expected Deliveries

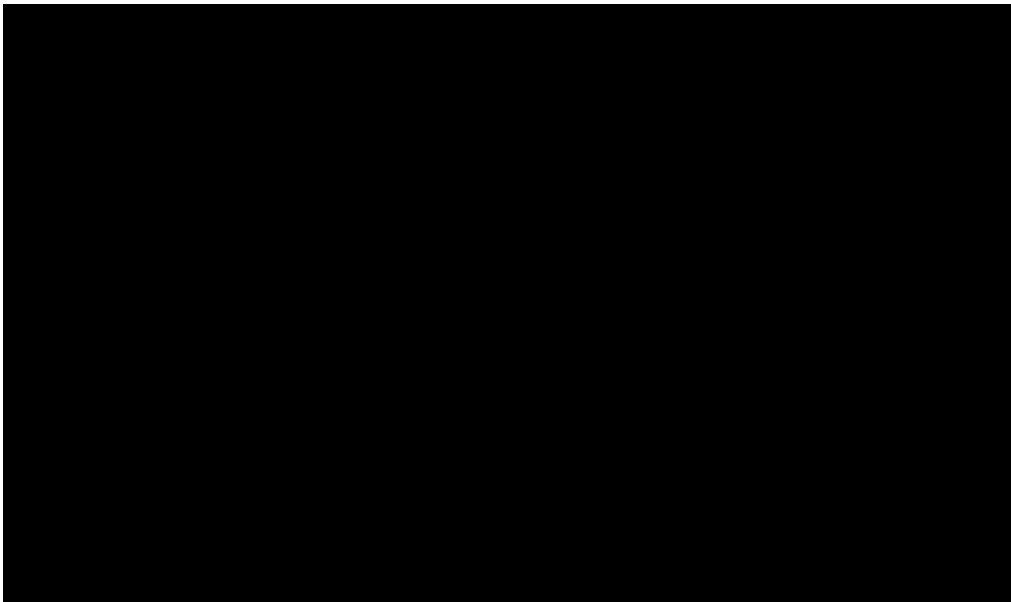


Table 3.4 provides a breakdown of total Expected Deliveries during the stated output period, based upon the sum of the expected generation from the Class I Facilities (“Expected Class I Deliveries”) as well as the expected generation from the Firming Hydro Facilities (“Expected Firming Hydro Deliveries”). In addition to the total Expected Deliveries, Table 3.4-1 also provides the amount of firm energy that the Generator JV guarantees to deliver to the Distribution Companies from the Class I Facilities and Firming Hydro Facilities on an annual basis (“Guaranteed Qualified Clean Energy”) during the specified output period. The annual profiles of the Expected Deliveries and Guaranteed Qualified Clean Energy are shown in Table 4.2-1.

Table 3.4-1: Expected Deliveries during the stated output period

[REDACTED]	
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Moreover, the Project is expected to bring [REDACTED] of qualified capacity into ISO-NE – approximately 91 MW from the Class I Facilities and approximately [REDACTED] from the Firming Hydro Facilities.

3.5	DEVELOPMENT STAGE OF ALL PHYSICAL ASPECTS OF THE BID – DESCRIBE WHETHER THE PROJECT IS IN OPERATION, IN CONSTRUCTION OR IN THE DEVELOPMENT PHASE.
(A)	IF IN OPERATION, WHEN DID THE PROJECT ACHIEVE COMMERCIAL OPERATION
(B)	IF IN CONSTRUCTION, WHEN DID CONSTRUCTION COMMENCE AND WHAT ARE THE PROJECTED DATES FOR INITIAL TESTING AND COMMERCIAL OPERATION.
(C)	IF THE PROJECT IS PARTLY IN ONE DEVELOPMENT STAGE AND PARTLY IN ANOTHER, PLEASE EXPLAIN IN DETAIL THE STATUS OF THE PROJECT.
	IF THE PROPOSED PROJECT IS AN EXPANSION, REPOWERING, ENVIRONMENTAL INVESTMENT OR OTHER MODIFICATION OF AN EXISTING FACILITY, PLEASE DESCRIBE THE PROJECT IN DETAIL, THE TOTAL COST AND COST ON A \$/KW BASIS SPECIFYING THE EXISTING PROJECT AND THE PROPOSED EXPANSION, REPOWERING OR OTHER MODIFICATION. INDICATE ANY INCREMENTAL OR DECREMENTAL CAPACITY.

The Project's Firming Hydro Facilities are already in operation, and the planning and development of the major elements of the wind, solar and transmission components of the Project are well advanced. The following summarizes the development status of the Project:

CLASS I FACILITIES

[REDACTED]

FIRMING HYDRO FACILITIES

The Firming Hydro Facilities consist of 70 existing hydroelectric generation facilities that have been operating reliably for decades. There are no upgrades required to interconnect the Firm Hydro Facilities, and the facilities pose no construction risk. Commercial Operation Dates (“**COD**”) and New York points of interconnection (NY PTID) are available in Confidential Attachment 6.1.4.

NORTHEAST RENEWABLE LINK

The NERL project is currently under development. The development activities can be generally broken down in the following categories, each of which is detailed throughout the proposal.

Interconnection Studies – GridAmerica has made a valid interconnection request to ISO-NE and ISO-NE will be conducting an SIS for the NERL project. GridAmerica has also submitted an interconnection request for NERL project with the NYISO because the Elective Transmission Upgrade (“**ETU**”) project is proposed as new HVAC-based link between New York and New England. NYISO will be conducting a System Reliability Impact Study (“**SRIS**”) for the NERL project. Section 6.6 contains more information on both interconnection requests.

SIS results were not available at the time of this Proposal.

GridAmerica contracted Pterra Consulting to complete a Feasibility Study for the NERL project. The study adhered to the NYISO and ISO-NE interconnection study processes for energy. The assessment for the ISO-NE portion of the NERL project was based on the 2016 revision of Schedule 25 for Eligible External ETU, and included power flow, short circuit and high-level stability assessment. The NYISO portion was based on the new Transmission Interconnection Process of 2016, and included power flow, short circuit, high-level stability, and transfer limit assessment.

Siting – GridAmerica is actively engaging stakeholders and landowners to secure easement along its preferred route. GridAmerica plans to site its entire project in New York and Massachusetts parallel to the existing transmission line, with over 50% of the line in an existing right-of-way (“**ROW**”). GridAmerica intends for the transmission lines and towers to be no taller than the existing facilities. GridAmerica is meeting with public officials and communities at both the town and state levels, as described in Section 7.4.

Permitting – GridAmerica plans to complete the majority of environmental surveys and field work in 2017 to support permits. Grid America will file for siting board review (with the New York State Public

Service Commission and the Massachusetts Energy Facilities Siting Board and Department of Public Utilities) and long-lead federal permits in Q2 2018. NERL project's permitting activities are described in detail in Section 7.

Design and Engineering – GridAmerica has completed the conceptual design phase and is working toward a preliminary design for the overhead HVAC transmission line and substations. The NERL project team anticipates completing the preliminary designs to accompany its permit applications in Q3 2018.

Stakeholder Engagement – Engagement with host communities is currently in progress and will continue throughout the remainder of development and through construction. Section 7.4 of this proposal highlights key outreach activities to date, and describes GridAmerica's plan for future engagement.

Integrated Project Development

Avangrid and GridAmerica have aligned their respective development efforts to ensure an integrated approach to the Project as a whole, having advanced the outstanding solar, wind and transmission components of the Project to support delivery of incremental Clean Energy Generation prior to the end of 2021, to assist the Commonwealth in meeting its GWSA goals.

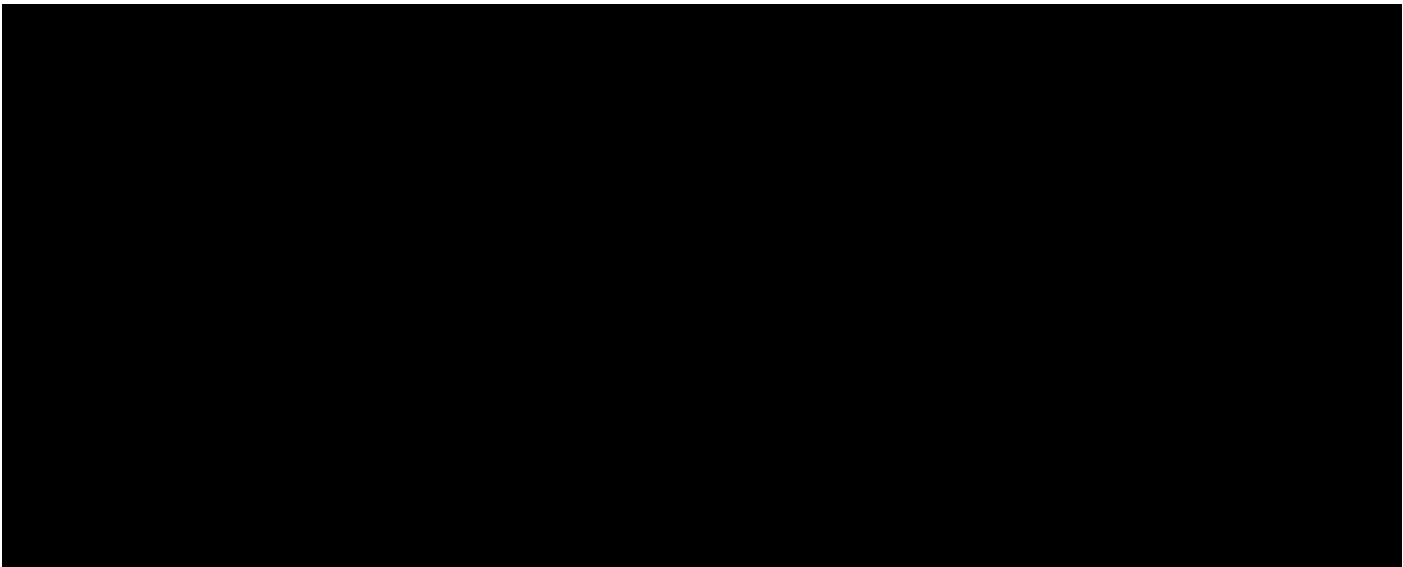
The NERL project in-service date is December 31, 2021.

SECTION 4 OF APPENDIX B TO THE RFP
ENERGY RESOURCE AND DELIVERY PLAN

4.1 FOR ELIGIBLE FACILITIES, THE BIDDER IS REQUIRED TO PROVIDE AN ENERGY RESOURCE OR FUEL SUPPLY PLAN FOR ITS PROPOSED PROJECT, INCLUDING SUPPORTING DOCUMENTATION. THE FUEL SUPPLY/ENERGY RESOURCE PROFILE INFORMATION SHOULD BE CONSISTENT WITH THE TYPE OF TECHNOLOGY/RESOURCE OPTION PROPOSED AND THE TERM PROPOSED. THE INFORMATION REQUESTED IS ORGANIZED ACCORDING TO THE TYPE OF PROJECT OR ENERGY RESOURCE. BIDDERS SHOULD RESPOND TO ALL INFORMATION REQUESTS WHICH ARE RELEVANT TO THE BID IN A TIMELY MANNER.

WIND ENERGY PROJECTS

PROVIDE A SUMMARY OF ALL COLLECTED WIND DATA FOR THE PROPOSED SITE. IDENTIFY WHEN THE DATA WAS COLLECTED AND BY WHOM.



A summary of wind data, collected by Avangrid within the period of 2004 – 2015, for each of the wind Class I Facility sites is provided in [REDACTED]. For each Class I Facility, the attachments include the following:

- **A Meteorology Brief (designated by an “(A)” extension in the attachment name).** The Meteorology Brief details the monitoring site configurations, data collection and handling, methodology for data collection and extrapolation, and the energy production estimate methodology.
- **A Generation worksheet (designated by a “(B)” extension in the attachment name).** The Generation Worksheet details the net capacity factor, hourly and seasonal generation, and power curve for the facility.

These attachments for each wind Class I Facility are:

■	[REDACTED]	[REDACTED]
■	[REDACTED]	[REDACTED]
■	[REDACTED]	[REDACTED]
■	[REDACTED]	[REDACTED]

INDICATE WHERE THE DATA WAS COLLECTED AND ITS PROXIMITY TO THE PROPOSED SITE. INCLUDE AN IDENTIFICATION OF THE LOCATION AND HEIGHT FOR THE ANEMOMETERS THAT WERE USED TO ARRIVE AT AN ASSESSMENT OF THE SITE GENERATION CAPABILITY.

All anemometers were located within or adjacent to the wind Class I Facility sites as depicted in [REDACTED] For the majority of the wind Class I Facilities, a 50-80 meter tubular tower was used and was equipped with redundant anemometry at lower heights.

PROVIDE (A) AT LEAST ONE YEAR OF HOURLY WIND RESOURCE DATA, AND (B) A WIND RESOURCE ASSESSMENT REPORT FROM A QUALIFIED UNAFFILIATED THIRD-PARTY WIND RESOURCE ASSESSMENT FIRM. INCLUDE AN ANALYSIS OF THE AVAILABLE WIND DATA WHICH ADDRESSES THE RELATIONSHIP BETWEEN WIND CONDITIONS AND ELECTRICAL OUTPUT. PROVIDE A PROJECTION OF NET ANNUAL ENERGY PRODUCTION, INCLUDING PROJECTIONS OF AVERAGE NET HOURLY ENERGY PRODUCTION, BASED ON THE WIND RESOURCE DATA (A 12 X 24 ENERGY PROJECTION) AT BOTH P50 AND P90 LEVELS.

Avangrid provides [REDACTED]

For each facility site, the **Meteorology Brief** includes a wind resources assessment report, an analysis of the available wind data, and addresses the relation between wind conditions and electrical output under the Energy Production Estimate Methodology section.

PROVIDE A SITE-ADJUSTED POWER CURVE. EACH CURVE SHOULD LIST THE ELEVATION, TEMPERATURE AND AIR DENSITY USED.

Avangrid provides [REDACTED]

Each **Generation Worksheet** provides a projection of net annual energy production of the Facility and a site-adjusted power curve. Specifically, the following information is included in each Generation Worksheet for each wind Class I Facility:

- 12x24 net capacity factor
- 12x24 net generation
- 12x24 net equivalent hours
- 12x24 power curve, detailing elevation, temperature, and air density used expected hourly net generation (P50)

Additional information required within the Generation Worksheets can be provided promptly upon request.

IDENTIFY THE ASSUMPTIONS FOR LOSSES IN THE CALCULATION OF PROJECTED ANNUAL ENERGY PRODUCTION, INCLUDING EACH ELEMENT IN THE CALCULATION OF LOSSES.

IF YOUR BID INCLUDES A DELIVERY FORECAST WHICH IS SUBSTANTIALLY DIFFERENT THAN NREL DATA WOULD SUGGEST, PLEASE RECONCILE THE DIFFERENCES.

The gross energy production must be discounted for various types of losses experienced by wind facilities. These include the “common” losses of turbine availability, icing, blade soiling, electrical, and various miscellaneous losses, as well as individual turbine array losses. Most projects average a loss of ~18% from gross to net energy. A detailed explanation of each loss type is provided in Confidential

SOLAR

PROVIDE AN ASSESSMENT OF THE AVAILABLE SOLAR INCIDENCE OR RESOURCE. DESCRIBE ANY TRENDS IN GENERATION CAPABILITY OVER TIME (I.E., ANNUAL DECLINE RATE OF EXPECTED OUTPUT).

Avangrid prepared the solar resource and energy production assessments with assistance from DNV GL. Each assessment included a comprehensive review of all available solar resource information available with ~100 miles of the proposed project location. Each source was then reviewed to consider the meteorological and orographic representativeness of the location of the data source relative to the location of the proposed site. The delivered production estimate includes industry best-practice assumptions for soiling and snow losses, electrical losses, availability loss, thermal losses, and others.

The energy estimate is produced with the use of the PVSyst software package that employs the Perez transposition model. Site-specific terrain horizon files are also used with this software program to reflect the terrain-induced shading impact on the project. Panel-to-panel shadings are also captured. Further detail about the methods and modeling approach taken by Avangrid can be verbally provided upon request.

DESCRIBE THE METHODOLOGY USED TO GENERATE THE PROJECTED GENERATION AND DESCRIBE THE IN-HOUSE OR CONSULTING EXPERTISE USED TO ARRIVE AT THE GENERATION ESTIMATES.

A summary of data, collected for each of the solar Class I Facility sites is provided in [REDACTED]
[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]

Additional information required within the Generation Worksheets can be provided promptly upon request.

HYDROPOWER
DESCRIBE THE PROJECT CHARACTERISTICS IN TERMS OF WATER FLOW (ON A MONTHLY BASIS) AND HEAD, AND STATE THE ASSUMPTIONS REGARDING SEASONAL VARIATIONS, AND A CONVERSION OF SUCH FLOW INTO MEGAWATTS AND MEGAWATT-HOURS.

The Firming Hydro Facilities make up a portfolio of 70 run-of-river hydro stations situated across 14 river systems in the state of New York, with an aggregate nameplate capacity of 691 MW [REDACTED]
[REDACTED]
[REDACTED]

The energy deliveries of the Firming Hydro Facilities are consistent throughout the year, as demonstrated by the Average Generation – data summarized in *Table 4.1-3*. Production from the portfolio is strongest during the November to April period – i.e., over the winter period, which is when New England has been facing its most challenging generation supply constraints.

Table 4.1-3: Firming Hydro Facilities Average Generation, By Month

[REDACTED]											
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For a description on water flow, please see Confidential Attachment 4.1.10.

PROVIDE MONTHLY FLOW DURATION CURVES BASED UPON DAILY STREAM FLOW RECORDS.

Monthly duration curves of all the stations are provided in Confidential Attachment 4.1.10. The stations are grouped by river system. Brookfield Renewable US can also provide energy flow duration curves upon request from the Distribution Companies.

IDENTIFY IF THE PROJECT IS RUN-OF-RIVER OR HAS STORAGE CAPABILITY.

The Firming Hydro Facilities are typically run-of-river plants, with five small reservoirs upstream of the river system. Those five reservoirs are: Carry Falls Reservoir (on Raquette River, 115,344 acre-feet), Stillwater Reservoir (on Beaver River, 103,591 acre-feet), Hinkley Reservoir (on West Canada Creek, 65,157 acre-feet), Salmon River Reservoir (on Salmon South, 58,663 acre-feet), and Lake Sacandaga (762,363 acre-feet). Total storage capability is 823,000 acre-feet.

SPECIFY IF THE PROJECT IS NEW, OR IF THE PROJECT IS AN EXPANSION OF AN EXISTING FACILITY.

[REDACTED]

DESCRIBE WHY THE GENERATION PROPOSAL QUALIFIES AS INCREMENTAL HYDROPOWER GENERATION. IF THE ENTIRE PROJECT IS NOT NEW, SPECIFY THE AMOUNT OF POWER PROVIDED TO OR SOLD INTO THE ISO-NE MARKET DURING 2014, 2015, AND 2016. PROVIDE INFORMATION WHICH DEMONSTRATES THAT THE RESOURCES AND TRANSMISSION CAPACITY DESCRIBED IN YOUR PROPOSAL ARE CAPABLE OF PROVIDING AN INCREASE IN THE AMOUNT OF SUCH POWER COMPARED TO THE AVERAGE POWER DELIVERIES IN ISO-NE OVER THOSE THREE YEARS.

[REDACTED]

[REDACTED]

[REDACTED]

THE BIDDER MUST DISCLOSE IN ITS BID HOW IT PROPOSES TO CERTIFY THAT THE ENVIRONMENTAL ATTRIBUTES ARE INCLUDED WITH THE ENERGY DELIVERED.

[REDACTED]

4.2 CLEAN ENERGY GENERATION DELIVERY PLAN

PLEASE PROVIDE DOCUMENTATION THAT ANY CLEAN ENERGY PLAN DELIVERY PLAN THAT INCLUDES HYDROELECTRIC GENERATION MEETS THE DEFINITION OF "INCREMENTAL HYDROELECTRIC GENERATION" AS DEFINED IN THE BODY OF THE RFP.

[REDACTED]

An hourly breakdown of average generation of the Firming Hydro Facilities is provided in the CPPD form. Further information on generation from the Firming Hydro Facilities can be provided to the contracting Distribution Companies upon request.

PLEASE PROVIDE AN ENERGY DELIVERY PLAN AND PROFILE FOR THE PROPOSED PROJECT, INCLUDING SUPPORTING DOCUMENTATION. THE ENERGY DELIVERY PROFILE MUST PROVIDE THE EXPECTED CLEAN ENERGY GENERATION TO BE DELIVERED INTO THE ISO-NE MARKET SETTLEMENT SYSTEM AND PERMIT THE EVALUATION TEAM TO DETERMINE THE REASONABLENESS OF THE PROJECTIONS FOR PURPOSES OF SECTIONS 2.2.1.3 ELIGIBLE BID CATEGORIES AND 2.2.1.7 MINIMUM CONTRACT SIZE OF THE RFP. SUCH INFORMATION SHOULD BE CONSISTENT WITH THE ENERGY RESOURCE PLAN PROVIDED ABOVE AND ALSO CONSIDERING ANY AND ALL CONSTRAINTS TO PHYSICAL DELIVERY INTO ISO-NE.

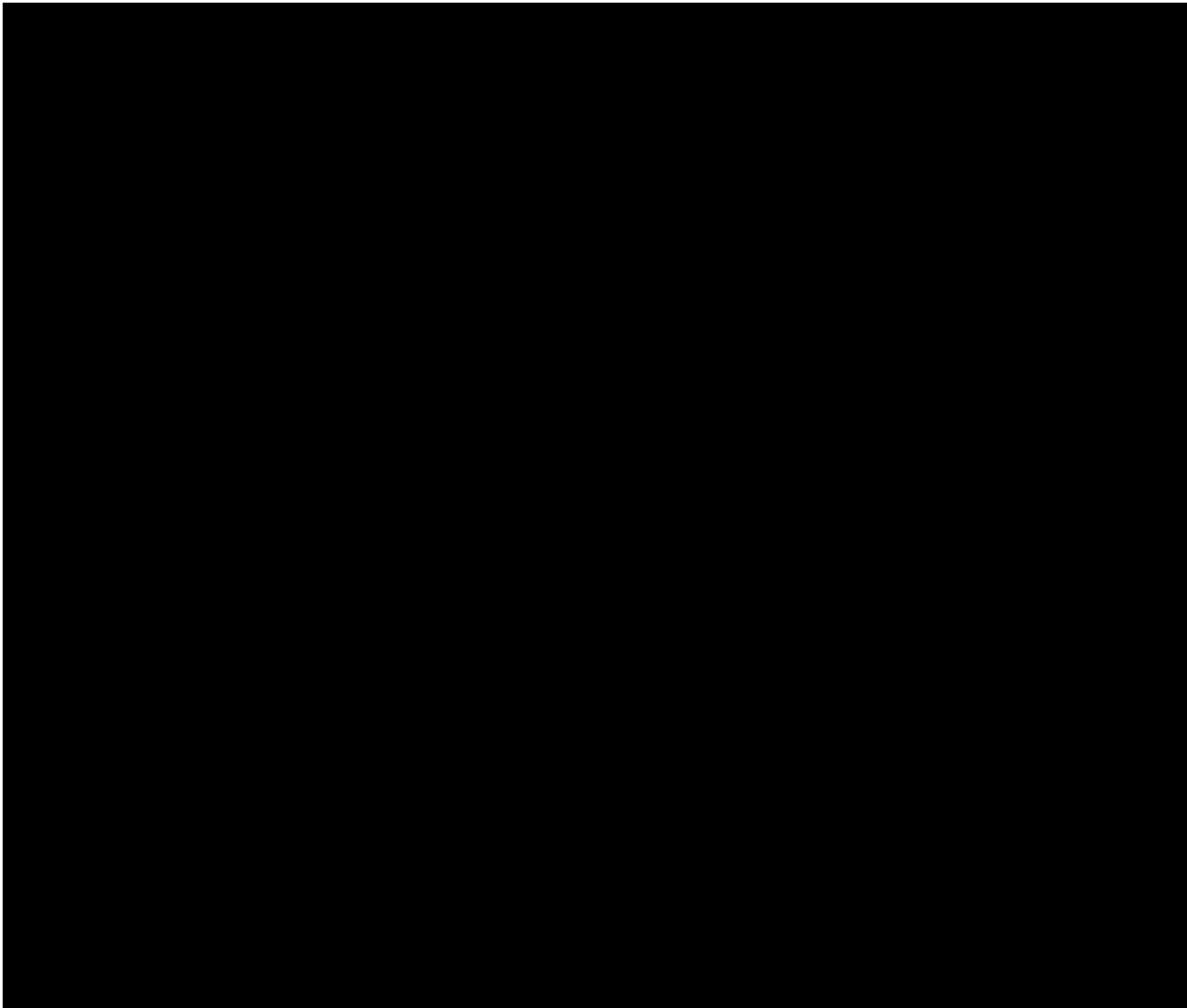
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

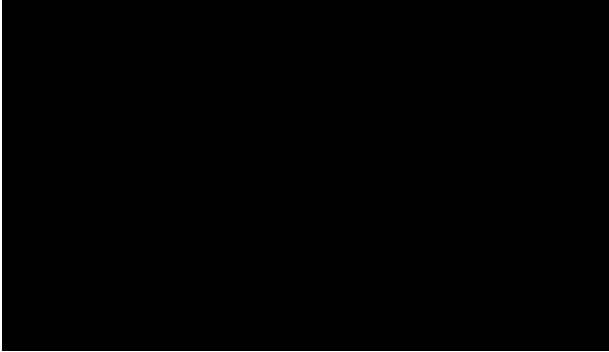
Table 4.2-1: Energy Delivery Plan



¹ On Peak hours are defined as peak hours ending 0800 to 2300 from Monday to Friday, excluding North American Reliability Corporation Holidays.



Conforming to Section 2.2.1.7 of the RFP, all generation facilities have a capacity greater than 20 MW:



The Clean Energy Generation will be delivered over the new Northeast Renewable Link, conforming to Eligible Bid Category 2.2.1.3.iv, “Clean Energy Generation from Incremental Hydropower Generation and/or New Class I RPS Eligible Resource with Class I RECs and/or Environmental Attributes via Long Term Contract with a Northeast Renewable Link under FERC Tariff.”

CLEAN ENERGY GENERATION FOR PROJECTS CONTAINING NEW CLASS I ELIGIBLE RESOURCES ONLY MUST COMPLY WITH SECTION 2.2.2.7 OF THE RFP. THEY MUST SUBMIT A DELIVERY PROFILE GUARANTEEING 70% OF THE ENERGY IN THEIR DELIVERY PROFILE FOR THE WINTER PEAK PERIOD OVER THE COURSE OF EVERY WINTER PEAK PERIOD ON THE CPPD FORM IN THEIR BIDDER RESPONSE PACKAGE.

CLEAN ENERGY GENERATION FOR PROJECTS CONTAINING FIRM SERVICE HYDROELECTRIC GENERATION, AND CLEAN ENERGY FROM NEW CLASS I RPS ELIGIBLE RESOURCES PAIRED WITH FIRM SERVICE HYDROELECTRIC GENERATION MUST COMPLY WITH SECTION 2.2.2.7 OF THE RFP. THEY WILL BE REQUIRED TO SUBMIT A DELIVERY PROFILE WITH NO WINTER PEAK PERIOD HOUR LESS THAN 60% OF THEIR HIGHEST ANNUAL SINGLE HOURLY DELIVERY CLAIMED IN THEIR ANNUAL DELIVERY PROFILE AS SUBMITTED AS A PART OF THEIR CPPD FORM IN THEIR BIDDER RESPONSE PACKAGE. BIDDERS WILL BE REQUIRED TO GUARANTEE THE SUBMITTED DELIVERY PROFILE IN ALL HOURS DURING THE WINTER PEAK PERIOD. BIDDERS SHOULD SUPPLY ANY STUDIES PERFORMED TO SUPPORT THIS PROFILE. BIDDERS SHOULD RESPOND TO ALL INFORMATION REQUESTS WHICH ARE RELEVANT TO THE BID IN A TIMELY MANNER.



An hourly breakdown of average generation of the Firming Hydro Facilities is provided in the CPPD form provided as Confidential Attachment 1.1.

Further information on generation from the Firming Hydro Facilities and Class I Facilities can be provided to the contracting Distribution Companies upon request.

4.3 REC/ENVIRONMENTAL ATTRIBUTE DELIVERY PLAN

PLEASE PROVIDE DOCUMENTATION DEMONSTRATING THAT THE PROJECT WILL DELIVER GIS CERTIFICATES REPRESENTING THOSE RECS OR ENVIRONMENTAL ATTRIBUTES. FOR PROJECTS LOCATED OUTSIDE OF THE ISO-NE CONTROL AREA, DESCRIBE HOW THE DELIVERED ENERGY AND ASSOCIATED RECS OR ENVIRONMENTAL ATTRIBUTES WILL SATISFY NEPOOL-GIS RULES FOR THE DELIVERY OF GIS CERTIFICATES.

[REDACTED]

SECTION 5 OF APPENDIX B OF THE RFP FINANCIAL/LEGAL

Bidders are required to demonstrate the financial viability of their proposed project. Bidders should provide the following information:

- 5.1 EACH BIDDER IS REQUIRED TO SUBMIT INFORMATION AND DOCUMENTATION THAT DEMONSTRATES THAT A LONG TERM CONTRACT RESULTING FROM THIS RFP PROCESS WOULD EITHER PERMIT THE BIDDER TO FINANCE ITS PROPOSAL THAT WOULD OTHERWISE NOT BE FINANCEABLE, OR ASSIST THE BIDDER IN OBTAINING FINANCING OF ITS PROPOSAL.

CLASS I FACILITIES

FIRMING HYDRO FACILITIES

NORTHEAST RENEWABLE LINK

The NERL project will be held by a new project-specific company to be set up as a direct wholly-owned subsidiary of GridAmerica (see Figure 5.1-1). Pursuant to an arrangement between Citizens Energy and GridAmerica, Citizens Energy may acquire up to a 10% interest in the NERL project. GridAmerica will finance NERL through internally generated funds from its parent company. While GridAmerica has committed significant funds to the development and siting of NERL, it seeks a long-term contract to support the financing and completion.

Figure 5.1-1: NERL Position Within High-Level Organizational Structure

**Project-specific entity not yet formed*



As set forth in Section 5.2(A) and *Figure 5.1-1* above, GridAmerica is a direct, wholly-owned subsidiary of National Grid USA (“NGUSA”), a Delaware corporation, which is in turn a direct wholly-owned subsidiary of National Grid North America Inc. and an indirect wholly-owned subsidiary of National Grid plc. National Grid plc, the ultimate parent of GridAmerica, manages its financing and liquidity on a group basis. For the U.S. subsidiaries under NGUSA, including GridAmerica, the short-term liquidity requirements are managed via the groups regulated and non-regulated money pools. GridAmerica can lend and borrow from the non-regulated money pool on a daily basis.

GridAmerica will provide the primary debt/equity financing for the development phase of the NERL project. As NGUSA will provide all necessary lending support and financing backing to GridAmerica, GridAmerica has the requisite financial capability to successfully develop, construct and operate the NERL project. NGUSA, through its subsidiaries, has a proven track record of developing, financing, constructing and operating transmission facilities in New England. NGUSA subsidiaries have financed, developed and operated approximately \$7 billion in energy projects over the past three years (2014 – 2016).

NGUSA has an investment-grade corporate rating and a stable long-term outlook. Specifically, NGUSA’s senior unsecured debt is rated by S&P (BBB+/Stable) and Moody’s (Baa1/Stable), which are investment-grade ratings assigned to the best quality and lowest risk issuers to indicate a very strong capacity to meet financial commitments. Investment grade credit ratings provide NGUSA with access to the full spectrum of public and private debt markets. The latest credit reviews are attached (see Confidential Attachment 5.1.1 and Confidential Attachment 5.1.2).

As shown in the NGUSA cash flow statement (Confidential Attachment 5.1.3), NGUSA funds approximately \$2.3 billion in capital spending each year to construct electric transmission and other infrastructure projects as assigned or required by its subsidiaries. NGUSA has additional funding capacity to increase borrowing levels to fund projects incorporated into the investment plans.

GridAmerica’s sources of funding for the NERL project during construction and operations will include a combination of cash flows from operations, short-term borrowings from the internal non-regulated money pool, issuance of inter-company debt and equity contributions from its parent company, NGUSA, if necessary. GridAmerica may explore refinancing options once the project is in operation, including limited or non-recourse options. NGUSA will also periodically consider issuing long-term debt depending on the capital market conditions and capital structure of the business. Regardless of the source of funds, any financing would be positively impacted by a long-term renewable energy contract.

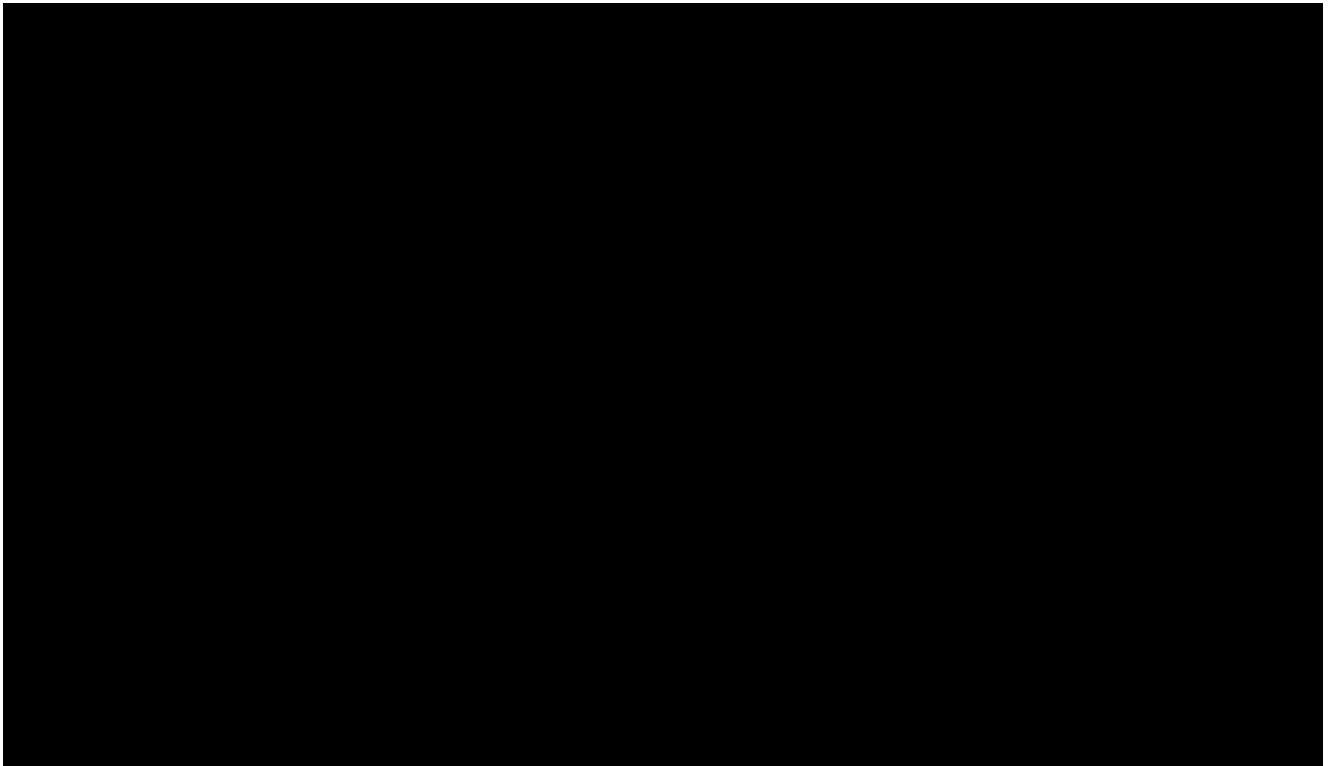
5.2 PLEASE PROVIDE A DESCRIPTION OF THE BUSINESS ENTITY STRUCTURE OF THE BIDDER’S ORGANIZATION FROM A FINANCIAL AND LEGAL PERSPECTIVE, INCLUDING ALL GENERAL AND LIMITED PARTNERS, OFFICERS, DIRECTORS, MANAGERS, MEMBERS AND SHAREHOLDERS, INVOLVEMENT OF ANY SUBSIDIARIES SUPPORTING THE PROJECT, AND THE PROVIDERS OF EQUITY AND DEBT DURING PROJECT DEVELOPMENT. PROVIDE AN ORGANIZATION CHART SHOWING THE RELATIONSHIP BETWEEN THE EQUITY AND DEBT PARTICIPANTS AND AN EXPLANATION OF THE RELATIONSHIPS. FOR JOINTLY OWNED FACILITIES, IDENTIFY ALL OWNERS AND THEIR RESPECTIVE INTERESTS, AND DOCUMENT THE BIDDER’S RIGHT TO SUBMIT A BINDING PROPOSAL.

The image shows a document that has been completely redacted. All text and graphics are obscured by solid black bars. The layout appears to be a list or a series of paragraphs, but the specific content is illegible.

To allow the Bidders to deliver Clean Energy Generation, Class I RECs and Environmental Attributes under the PPAs and to allow the Generator JV to perform its duties, the Bidders expect that the contracting Distribution Companies will make available to the Generator JV all transmission capacity rights of the Northeast Renewable Link under the TRTA for the duration of the term of the PPAs. Under the terms of the PAA, BEMLP will make efficient use of the firm transmission capacity of the Northeast Renewable Link.

As a counterparty to a proposed contract with the contracting Distribution Companies, each Bidder has the authority to submit this Proposal applicable to its Project element.

Figure 5.2: Proposed Commercial Structure



The information below highlights each Bidder and GridAmerica's corporate overview and project roles/responsibilities.

AVANGRID

Avangrid will own through project-specific entities the three new solar Class I Facilities and five new wind Class I Facilities. Avangrid is among the largest renewable developers in the world and has access to public debt and equity markets. Attachment 5.2.3(A) includes a full description of Avangrid's corporate structure. With a deep history and vast knowledge of the solar and wind industry, Avangrid has the experience and expertise to deliver its New Class I Renewable Portfolio Standard Eligible Resources on time and within budget.

BROOKFIELD RENEWABLE US

Brookfield Renewable US, a majority-owned subsidiary of Brookfield Renewable Partners L.P. ("**Brookfield Renewable**"), wholly owns Brookfield Renewable Erie and the Firming Hydro Facilities. Brookfield Renewable operates one of the largest publicly-traded, pure-play renewable power platforms globally, with approximately \$28 billion of assets under management. Diversified across 82 river systems and 15 power markets in North America, Colombia, Brazil and Europe, its portfolio is primarily hydroelectric and totals more than 10,600 MW of installed capacity.

BEMLP, an affiliate of Brookfield Renewable US, will provide scheduling services on behalf of the Generator JV. BEMLP schedules, dispatches and arranges for transmission of the power produced and the power supplied to third parties in accordance with prudent industry practices. As described in Attachment

5.2.3(B), BEMLP has a significant presence in the Northeast, and experience scheduling energy across different ISOs and RTOs.

Please refer to Attachment 5.6(B) for list of board positions and officers.

GRIDAMERICA

As described in Section 5.1, the NERL project will be held by new project-specific company to be set up as direct wholly-owned subsidiary of GridAmerica. NERL will be financed primarily by GridAmerica. The NERL project will be primarily financed by GridAmerica, and Citizens Energy Corporation has an option to acquire up to a 10% economic interest.

GridAmerica is a Delaware holding corporation set up to hold National Grid's electric transmission investments in the United States. It is a direct wholly-owned unregulated subsidiary of NGUSA. NGUSA is a public utility holding company with regulated subsidiaries engaged in the generation of electricity and the transmission, distribution and sale of both natural gas and electricity. NGUSA is a direct wholly-owned subsidiary of National Grid North America Inc. and an indirect wholly-owned subsidiary of National Grid plc, a public limited company incorporated under the laws of England and Wales. National Grid plc's ordinary shares are listed on the London Stock Exchange and its stock is also held by U.S. investors through American Depositary Shares that are listed on the New York Stock Exchange.

GridAmerica is managed by a Board of Directors, and John Flynn is its sole Director. *Table 5.2-1* lists the Officers of GridAmerica:

Table 5.2-1: GridAmerica Holdings Inc. Officers

Name	Title
John Flynn	President
Matthew R. Sachs	Vice President
Charles V. DeRosa	Vice President and Treasurer
William Hazelip	Vice President
Macdara Nash	Vice President
Sharon Partridge	Vice President and Controller
Adael Acosta	Assistant Treasurer
Susan Greene	Assistant Treasurer
Arthur Kiperberg	Assistant Treasurer
Timothy E. McAllister	Secretary
James Chicoski	Assistant Secretary
Reshmi Das	Assistant Secretary

Citizens Energy is a non-profit company founded in 1979 and headquartered in Boston, MA. Citizens uses profits from the businesses it owns and manages to provide funding for the charitable and social programs it operates to assist low-income families and the elderly. Citizens Energy owns 100% of a for-profit holding company, Citizens Enterprises Corporation, which in turn wholly owns several for-profit subsidiaries, including various special-purpose LLC companies established to participate in discrete energy projects (such as transmission, solar, and wind). Citizens will establish a unique project company to hold its interest in NERL.

Citizens Energy has a 38-year history of financing new business ventures and creating hundreds of millions of dollars of funding to support its charitable programs. In the past 5 years alone, Citizens has successfully financed \$300 million of large-scale energy projects in high-voltage transmission and solar generation. Citizens Energy maintains ongoing working relationships with a number of capital providers to ensure access to capital for its projects, and has the experience and financial capability to successfully finance its share of the NERL.

The senior management of Citizens Energy is provided in *Table 5.2-2*.

Table 5.2-2: Citizens Energy Officers

Name	Title
Joseph P. Kennedy II	Chairman and President
Peter Smith	Chief Executive Officer
Ernie Panos	Chief Financial Officer

- 5.2 FOR PROJECTS THAT INCLUDE NEW FACILITIES OR CAPITAL INVESTMENT, PROVIDE A DESCRIPTION OF THE FINANCING PLAN FOR THE PROJECT, INCLUDING CONSTRUCTION AND TERM FINANCING. THE FINANCING PLAN SHOULD ADDRESS THE FOLLOWING:
- I. WHO WILL FINANCE THE PROJECT AND THE RELATED FINANCING MECHANISM OR MECHANISMS THAT WILL BE USED (I.E. CONVERTIBLE DEBENTURE, EQUITY OR OTHER) INCLUDING REPAYMENT SCHEDULES AND CONVERSION FEATURES

CLASS I FACILITIES

[REDACTED]

FIRMING HYDRO FACILITIES

As noted in section 5.1, the Firming Hydro Facilities are fully operational and Brookfield Renewable US seeks to preserve and enhance the productivity, reliability, and longevity of each of its generating facilities. The cornerstone of its asset maintenance and enhancement program is a rolling 20-year forward looking capital reinvestment program. The program is designed to (i) repair or replace worn components or to increase or maintain the useful life, (ii) perform recommended projects that will maintain the net annual energy output, and (iii) complete specified and unspecified major maintenance projects necessary to maintain the useful life to maintain the net annual energy output.

NORTHEAST RENEWABLE LINK

See response to Section 5.1 above and section 5.2 above.

- II. THE PROJECT'S EXISTING INITIAL FINANCIAL STRUCTURE AND PROJECTED FINANCIAL STRUCTURE

CLASS I FACILITIES

[REDACTED]

FIRMING HYDRO FACILITIES

N/A, please refer to section 5.2(i).

NORTHEAST RENEWABLE LINK

See response to Section 5.1 and Section 5.2 above.

III. EXPECTED SOURCES OF DEBT AND EQUITY FINANCING

CLASS I FACILITIES

[REDACTED]

FIRMING HYDRO FACILITIES

N/A, please refer to section 5.2(i).

NORTHEAST RENEWABLE LINK

See Section 5.1 and Section 5.2(a).

IV. ESTIMATED CONSTRUCTION COSTS

CLASS I FACILITIES

[REDACTED]

FIRMING HYDRO FACILITIES

N/A, please refer to section 5.2(i).

NORTHEAST RENEWABLE LINK

The estimated total capital expenditure for the NERL project is \$400 million.

V. THE PROJECTED CAPITAL STRUCTURE

CLASS I FACILITIES

[REDACTED]

FIRMING HYDRO FACILITIES

N/A, please refer to section 5.2(i).

NORTHEAST RENEWABLE LINK

As the NERL project will be financed 90% by GridAmerica, with the financial backing and support of NGUSA, as described in Section 5.1, the capital structure of the NERL project will approximate that of National Grid’s corporate capital structure.

VI. DESCRIBE ANY AGREEMENTS, BOTH PRE AND POST COMMERCIAL OPERATION DATE, ENTERED INTO WITH RESPECT TO EQUITY OWNERSHIP IN THE PROPOSED PROJECT AND ANY OTHER FINANCING ARRANGEMENT.

CLASS I FACILITIES

[REDACTED]

FIRMING HYDRO FACILITIES

N/A, please refer to section 5.2(i).

NORTHEAST RENEWABLE LINK

See section 5.1 above and Section 5.2 above.

IN ADDITION, THE FINANCING PLAN SHOULD ADDRESS THE STATUS OF THE ABOVE ACTIVITIES AS WELL AS THE FINANCING OF DEVELOPMENT AND PERMITTING COSTS. ALL BIDDERS ARE REQUIRED TO PROVIDE THIS INFORMATION.

CLASS I FACILITIES

[REDACTED]

FIRMING HYDRO FACILITIES

N/A, please refer to section 5.2(i).

NORTHEAST RENEWABLE LINK

Please refer to section 5.1 and 5.2v.

Section 5.4 includes additional information regarding past financings by the respective organizations of each of those Bidders and GridAmerica, while Section 5.4 summarizes the strong financial condition of their sponsors in support of their contemplated financing plans.

5.3	<p>PROVIDE DOCUMENTATION ILLUSTRATING THE EXPERIENCE OF THE PROJECT SPONSOR IN SECURING FINANCING FOR PROJECTS OF SIMILAR SIZE AND TECHNOLOGY. FOR EACH PROJECT PREVIOUSLY FINANCED PROVIDE THE FOLLOWING INFORMATION:</p> <p>I. PROJECT NAME AND LOCATION</p> <p>II. PROJECT TYPE AND SIZE</p> <p>III. DATE OF CONSTRUCTION AND PERMANENT FINANCING</p> <p>IV. FORM OF DEBT AND EQUITY FINANCING</p> <p>V. CURRENT STATUS OF THE PROJECT</p>
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Each of the Bidders and GridAmerica has significant experience financing their infrastructure investments. Information listed below summarizes infrastructure financing experience of the Bidders and GridAmerica who will be constructing new facilities.

AVANGRID

Attachment 5.3.2(A) includes a list of operating projects of Avangrid (including the customers for each). Avangrid has secured financing for more than 50 utility-scale projects. The majority of Avangrid's projects were financed on its balance sheet. Avangrid considers its financing arrangements to be proprietary and can provide appropriate additional details in that regard on a confidential basis, upon request by the Distribution Companies.

BROOKFIELD RENEWABLE US

N/A, the 70 Firming Hydro Facilities are already operating and interconnected to the NYISO grid.

GRIDAMERICA

As explained in Section 5.1, GridAmerica is the primary project sponsor and will finance the NERL project through internally generated funds with its parent NGUSA. NGUSA and its U.S. subsidiaries have extensive experience in financing electric infrastructure projects of a similar size and technology to the NERL project as shown in Attachment 5.3.2. (For purposes of Attachment 5.3.2, "National Grid" means collectively NGUSA and its subsidiaries).

5.4	<p>FOR PROJECTS THAT INCLUDE NEW FACILITIES OR CAPITAL INVESTMENT, PROVIDE EVIDENCE THAT THE BIDDER HAS THE FINANCIAL RESOURCES AND FINANCIAL STRENGTH TO COMPLETE AND OPERATE THE PROJECT AS PLANNED.</p>
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Each Bidder and GridAmerica is part of a large, financially-sound organization with the resources and strength to complete and operate its portion of the Project as planned. The strong financial condition of each sponsor is evidenced by its financial reports and credit ratings from major ratings agencies as set forth in Section 5.5.

The following overview provides evidence of each Bidder and GridAmerica's financial resources and strengths:

AVANGRID

Avangrid is among the largest renewable developers in the world and has access to public debt and equity markets. Avangrid Renewable's most recent annual reports can be found at: www.avangrid.com

BROOKFIELD RENEWABLE US

Brookfield Renewable US' Firming Hydro Facilities are existing assets and sustaining capital is funded by internal cash generation. Since 2011, Brookfield Renewable has invested (along with its partners) over \$4 billion into growth opportunities and currently has approximately \$1.6 billion of near term liquidity (as of September 2016). See <https://bep.brookfield.com/~media/Files/B/Brookfield-BEP-IR/supplemental-information/2017/q1-2017-supplement.pdf> for additional information regarding Brookfield Renewable's financial resources and strengths.

GRIDAMERICA

While GridAmerica does not have external debt and is not rated by the credit agencies, as noted in Section 5.1, its parent corporation, NGUSA, which will provide lending support and financial backing for GridAmerica's investment in the NERL project, has an investment-grade corporate credit rating and a stable long-term outlook. See Section 5.1 and Confidential Attachment 5.1.1 – NGUSA Standard and Poor's 2013 and Confidential Attachment 5.1.2 – NGUSA Moody's 2016).

5.5 PROVIDE COMPLETE COPIES OF THE MOST RECENT AUDITED FINANCIAL STATEMENT OR ANNUAL REPORT FOR EACH BIDDER FOR EACH OF THE PAST THREE YEARS; INCLUDING AFFILIATES OF THE BIDDER (IF AUDITED STATEMENTS ARE NOT AVAILABLE, REVIEWED OR COMPILED STATEMENTS ARE TO BE PROVIDED). ALSO, PROVIDE THE CREDIT RATINGS FROM STANDARD & POOR'S AND MOODY'S (THE SENIOR UNSECURED LONG TERM DEBT RATING OR IF NOT AVAILABLE, THE CORPORATE RATING) OF THE BIDDER AND ANY AFFILIATES AND PARTNERS.

Attachment 5.5 includes links to the following reports of the sponsors of the Bidders and GridAmerica, including the following requested financial statements:

AVANGRID

Annual reports, financial statements and other pertinent information of Iberdrola, S.A. for the fiscal years ended December 31, 2016, December 31, 2015 and December 31, 2014.

BROOKFIELD RENEWABLE US

Annual Reports of Brookfield Renewable for the fiscal year ended December 31, 2016, December 31, 2015 and December 31, 2014.

GRIDAMERICA

The newly formed entity to own and operate the NERL project will be a special purpose vehicle with no audited financial statements. The new project-specific company will be established as a direct wholly-owned subsidiary of GridAmerica, which in turn is a direct wholly-owned subsidiary of NGUSA. NGUSA audited financial statements for the period ending March 31, for years 2014 – 2016, are provided as Attachment 5.5.1, Attachment 5.5.2, and Attachment 5.5.3.

As stated in Sections 6.1 and 5.4 above, NGUSA has an investment-grade corporate credit rating and a stable long-term outlook. Specifically, NGUSA's senior unsecured credit is rated by S&P (BBB+/Stable) and Moody's (Baa1/Stable). The latest credit reviews are provided as Confidential Attachment 5.1.1 and Confidential Attachment 5.1.2.

Hard copies of those reports are available upon request. The credit ratings of the sponsors are as follows:

Sponsor	Standard & Poor	Moody's	DBRS
Avangrid	BBB (Stable)	Baa1 (Stable)	Not Rated
Brookfield Renewable (corporate credit rating)	BBB (Stable)	Not Rated	BBB (High)
NGUSA	BBB+ (Stable)	Baa1 (Stable)	Not Rated

5.6 PLEASE ALSO INCLUDE A LIST OF THE BOARD OF DIRECTORS, OFFICERS AND TRUSTEES FOR THE PAST THREE YEARS AND ANY PERSONS WHO THE BIDDER KNOWS WILL BECOME OFFICERS, BOARD MEMBERS OR TRUSTEES.

AVANGRID

Please refer to Attachment 5.6(A).

BROOKFIELD RENEWABLE US

Please refer to Attachment 5.6(B).

GRIDAMERICA

A list of the current board of directors and officers for GridAmerica is provided in *Table 5.2-1. Attachment 5.6 – GridAmerica Board Positions and Officers*, provides information regarding changes over the past three years. The officer/board member who will be responsible for this project will be Will Hazelip, Vice President, GridAmerica.

5.7 THE BIDDER SHOULD DEMONSTRATE ITS ABILITY (AND/OR THE ABILITY OF ITS CREDIT SUPPORT PROVIDER) TO PROVIDE THE REQUIRED SECURITY, INCLUDING ITS PLAN FOR DOING SO.

AVANGRID AND BROOKFIELD RENEWABLE US

The Bidders will arrange for the required Letter(s) of Credit to the Distribution Companies that will satisfy the requirements of the PPAs.

GRIDAMERICA

The security requirement for the NERL project will be funded through cash on hand, letter of credit or via additional debt funding from GridAmerica, as described in Section 5.1.

5.8 PROVIDE A DESCRIPTION OF ANY CURRENT OR RECENT CREDIT ISSUES/ CREDIT RATING DOWNGRADE EVENTS REGARDING THE BIDDER OR AFFILIATE ENTITIES RAISED BY RATING AGENCIES, BANKS, OR ACCOUNTING FIRMS.

AVANGRID

[REDACTED]

BROOKFIELD RENEWABLE US

[REDACTED]

GRIDAMERICA

The primary credit provider for the NERL project is GridAmerica, a direct wholly-owned subsidiary of NGUSA. As explained in Section 5.1, GridAmerica does not have external debt and is not rated by the credit agencies. The credit position of NGUSA senior unsecured debt is Stable at both S&P and Moody's – S&P (BBB+/Stable) and Moody's (Baa1/Stable) ratings. There are no credit issues with these companies. The latest credit reviews are provided as Confidential Attachment 5.1.1 and Confidential Attachment 5.1.2.

5.9 DESCRIBE THE ROLE OF THE FEDERAL PRODUCTION TAX CREDIT OR INVESTMENT TAX CREDIT (OR OTHER INCENTIVES) ON THE FINANCING OF THE PROJECT.

[REDACTED] Tax Credits and Investment Tax Credits would not be applicable for either the Firming Hydro Facilities or NERL.

5.10 BIDDERS MUST DISCLOSE ANY PENDING (CURRENTLY OR IN THE PAST THREE YEARS) LITIGATION OR DISPUTES RELATED TO PROJECTS DEVELOPED, OWNED OR MANAGED BY BIDDER OR ANY OF ITS AFFILIATES IN THE UNITED STATES, OR RELATED TO ANY ENERGY PRODUCT SALE AGREEMENT.

There is no litigation pending that relates to any existing or proposed facilities that are offered as part of the Project by the Bidders.

With regard to affiliates, each Bidder is part of a large corporate entity and, consequently, its affiliates are involved in litigation and disputes from time to time. Material litigation and disputes regarding affiliates of each Bidder for the past three years are found in the annual reports and related financial information referenced by that Bidder in Section 5.5 (see the links to those reports in Attachment 5.5). Any affiliate litigation will not have a material effect on that Bidder's ability to perform on the contracts described in this Proposal.

Further, there are no pending (currently or in the past three years) litigation or known disputes related to competitive transmission projects developed, owned or managed by GridAmerica or any of its affiliates in the United States. This response does not include information that may be in the possession of the Distribution Companies affiliated with GridAmerica.

5.11 WHAT IS THE EXPECTED OPERATING LIFE OF THE PROPOSED PROJECT? WHAT IS THE DEPRECIATION PERIOD FOR ALL SUBSTANTIAL PHYSICAL ASPECTS OF THE BID, INCLUDING GENERATION FACILITIES, TRANSMISSION LEAD LINES TO MOVE POWER TO THE GRID, TRANSMISSION PROPOSALS, AND MANDATORY AND VOLUNTARY TRANSMISSION SYSTEM UPGRADES?

CLASS I FACILITIES

All major components of the Class I Facilities have useful lives in excess of the term of the proposed PPAs. The estimated useful life of the solar and Class I Facilities is [REDACTED]

FIRMING HYDRO FACILITIES

Brookfield Renewable makes appropriate investments (maintenance and refurbishments) in the Firing Hydro Facilities on a regular basis to ensure the facilities can be operated well beyond the term of the PPA in accordance with the highest industry standards.

NORTHEAST RENEWABLE LINK

The expected operating life, and depreciation period, for the NERL project is 40 years.

5.12 FOR PROJECTS THAT INCLUDE NEW FACILITIES OR CAPITAL INVESTMENT, HAS THE BIDDER ALREADY OBTAINED FINANCING, OR A COMMITMENT OF FINANCING, FOR THE PROJECT? IF FINANCING HAS NOT BEEN OBTAINED, EXPLAIN HOW OBTAINING A LONG-TERM AGREEMENT AS PROPOSED WILL HELP YOU IN OBTAINING FINANCING FOR THE PROPOSED PROJECT, IN OBTAINING MORE FAVORABLE TERMS FOR THE FINANCING OF THE PROPOSED PROJECT, OR IN SUPPORTING THE FUTURE CAPITAL INVESTMENT.

Neither Avangrid nor GridAmerica have secured financing for the Class I Facilities or the Northeast Renewable Link; such financing is contingent on this Proposal being selected and obtaining long-term agreements. Firing Hydro Facilities are in operation and financing for the assets is already in place. The following summarizes the approach that the developers of the Class I Facilities and Northeast Renewable Link would implement upon award under the RFP:

- **Avangrid** – [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
- **GridAmerica** – Please refer to Section 5.1.

5.13 STATE WHETHER THE BIDDER OR ITS AFFILIATES HAVE EXECUTED AGREEMENTS WITH RESPECT TO ENERGY, RECS AND/OR CAPACITY FOR THE PROJECT (INCLUDING ANY AGREEMENTS THAT HAVE BEEN TERMINATED) AND PROVIDE INFORMATION REGARDING THE ASSOCIATED TERM AND QUANTITIES, AND WHETHER BIDDER HAS BEEN ALLEGED TO HAVE DEFAULTED UNDER OR BREACHED ANY SUCH AGREEMENT.

CLASS I FACILITIES

There are no executed agreements with respect to energy, RECs, or capacity for the solar and wind Class I Facilities.

FIRMING HYDRO FACILITIES

There are no existing energy, REC, or capacity sales agreements with respect to the Firming Hydro Facilities that would adversely affect the eligibility or performance of the transactions contemplated under this Proposal.

NORTHEAST RENEWABLE LINK

There are no executed agreements for the capacity of the Northeast Renewable Link.

5.14 LIST ALL OF THE BIDDER'S AFFILIATED ENTITIES AND JOINT VENTURES TRANSACTING BUSINESS IN THE ENERGY SECTOR.

The Bidders, GridAmerica and their affiliates (including as described in Section 5.2) regularly conduct business in the energy sector. Information regarding those activities is contained in the annual reports referenced in Section 5.5, and Section 11 includes some representative experience of each Bidder and GridAmerica in the energy sector.

In addition to the statements made in Appendix D – Certification, the Bidders confirm that they are aware that BEMLP, an affiliate of Brookfield Renewable US, will be submitting one or more proposals in response to this RFP.

In addition to the statements made in Appendix D – Certification, GridAmerica confirms that it will be submitting one or more separate proposals in response to this RFP.

Following is a list of GridAmerica's affiliated entities and joint ventures actively engaged in the generation of electricity, and the transmission, distribution and sale of electricity and natural gas in the US and UK:

Table 5.14: GridAmerica's Affiliated Entities & Joint Ventures

United States	United Kingdom
<ul style="list-style-type: none">• ALGONQUIN GAS TRANSMISSION, LLC• BOSTON GAS COMPANY• COLONIAL GAS COMPANY• CLEAN LINE ENERGY PARTNERS LLC• DOMINION MIDSTREAM PARTNERS, LP• KEYSpan GAS EAST CORPORATION• MASSACHUSETTS ELECTRIC COMPANY• MILLENNIUM PIPELINE COMPANY, LLC• NANTUCKET ELECTRIC COMPANY• NATIONAL GRID GENERATION LLC• NATIONAL GRID GLENWOOD ENERGY CENTER, LLC• NATIONAL GRID LNG LLC• NATIONAL GRID PORT JEFFERSON	<ul style="list-style-type: none">• NATIONAL GRID GAS PLC• NATIONAL GRID GRAIN LNG LIMITED• NATIONAL GRID ELECTRICITY TRANSMISSION PLC• NATIONAL GRID INTERCONNECTOR HOLDINGS LIMITED• CADENT GAS LIMITED (previously National Grid Gas Distribution Limited)• BRITNED LIMITED

ENERGY CENTER, LLC <ul style="list-style-type: none"> • NATIONAL GRID TRANSMISSION SERVICES CORPORATION • NEW ENGLAND ELECTRIC TRANSMISSION CORPORATION • NEW ENGLAND HYDRO-TRANSMISSION CORPORATION • NEW ENGLAND HYDRO-TRANSMISSION ELECTRIC COMPANY, INC. • NEW ENGLAND POWER COMPANY • NEW YORK TRANSCO LLC • NIAGARA MOHAWK POWER CORPORATION • THE BROOKLYN UNION GAS COMPANY • THE NARRAGANSETT ELECTRIC COMPANY • TRANSGAS, INC. • VERMONT GREEN LINE DEVCO, LLC 	
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The NERL project will be held by a new project-specific company to be set up as a direct wholly-owned subsidiary of GridAmerica. Refer to Sections 5.1 and 5.2 for additional information.

5.15 HAS BIDDER, OR ANY AFFILIATE OF BIDDER, IN THE LAST FIVE YEARS, (A) CONSENTED TO THE APPOINTMENT OF, OR WAS TAKEN IN POSSESSION BY, A RECEIVER, TRUSTEE, CUSTODIAN OR LIQUIDATOR OF A SUBSTANTIAL PART OF ITS ASSETS, (B) FILED A BANKRUPTCY PETITION IN ANY BANKRUPTCY COURT PROCEEDING, (C) ANSWERED, CONSENTED OR SOUGHT RELIEF UNDER ANY BANKRUPTCY OR SIMILAR LAW OR FAILED TO OBTAIN A DISMISSAL OF AN INVOLUNTARY PETITION, (D) ADMITTED IN WRITING OF ITS INABILITY TO PAY ITS DEBTS WHEN DUE, (E) MADE A GENERAL ASSIGNMENT FOR THE BENEFIT OF CREDITORS, (F) WAS THE SUBJECT OF AN INVOLUNTARY PROCEEDING SEEKING TO ADJUDICATE THAT PARTY BANKRUPT OR INSOLVENT, (G) SOUGHT REORGANIZATION, ARRANGEMENT, ADJUSTMENT, OR COMPOSITION OF IT OR ITS DEBT UNDER ANY LAW RELATING TO BANKRUPTCY, INSOLVENCY OR REORGANIZATION OR RELIEF OF DEBTORS?

Neither Bidders nor GridAmerica nor any affiliate of Bidder/GridAmerica has engaged in the aforementioned actions related to bankruptcy in the last five years. This response does not include information that may be in the possession of the Distribution Companies affiliated with the Bidders or GridAmerica.

5.16 BRIEFLY DESCRIBE ANY KNOWN CONFLICTS OF INTEREST BETWEEN BIDDER OR AN AFFILIATE OF BIDDER AND ANY DISTRIBUTION COMPANY, OR ANY AFFILIATES OF THE FOREGOING.

Neither of the Bidders is aware of any conflicts of interest with any of the Distribution Companies whether directly or through affiliates of any Distribution Company.

Also, GridAmerica and its affiliates do not have any known conflicts of interest with any Distribution Companies and their affiliates that are not appropriately addressed through the Utility Standards of Conduct applicable to this solicitation and other state and federal standards of conduct that apply to GridAmerica and its affiliates.

Notwithstanding the above, it should be noted that GridAmerica Holdings Inc. is an affiliate of Massachusetts Electric Company and Nantucket Electric Company, two of the Distribution Companies and members of the Evaluation Team.

5.17 DESCRIBE ANY LITIGATION, DISPUTES, CLAIMS OR COMPLAINTS INVOLVING THE BIDDER OR AN AFFILIATE OF BIDDER, AGAINST ANY DISTRIBUTION COMPANY OR ANY AFFILIATE OF ANY DISTRIBUTION COMPANY.

Neither of the Bidders is aware of any pending litigation, disputes, claims or complaints against any of the Distribution Companies or any affiliate of the Distribution Companies. Any material litigation, disputes, claims or complaints involving any other affiliate of a Bidder and any of the Distribution Companies or any affiliate of the Distribution Companies would be disclosed in the annual reports referenced in Section 5.6.

Also, there is currently no pending significant litigation, disputes, claims or complaints involving GridAmerica or any affiliate of GridAmerica against any Distribution Company or any affiliate of any Distribution Company. From time to time, NGUSA's operating company subsidiaries and other subsidiaries may be involved in routine business, commercial, contractual and tort litigation, disputes, claims or complaints in which a Distribution Company may be involved. This response does not include information that may be in the possession of Distribution Companies affiliated with GridAmerica.

5.18 DESCRIBE ANY LITIGATION, DISPUTES, CLAIMS OR COMPLAINTS, OR EVENTS OF DEFAULT OR OTHER FAILURE TO SATISFY CONTRACT OBLIGATIONS, OR FAILURE TO DELIVER PRODUCTS, INVOLVING BIDDER OR AN AFFILIATE OF BIDDER, AND RELATING TO THE PURCHASE OR SALE OF ENERGY, CAPACITY OR RENEWABLE ENERGY CERTIFICATES OR PRODUCTS.

Neither of the Bidders has been implicated in any material litigation, disputes, claims or complaints, or events of default or other material failure to satisfy contract obligations, or material failure to deliver products in each case involving, and relating to, the purchase or sale of energy, capacity or renewable energy certificates or products.

With regard to affiliates, each Bidder is part of a large corporate entity and, consequently, its affiliates are involved in litigation and disputes from time to time. Material litigation and disputes regarding affiliates of each Bidder for the past three years are found in the annual reports and related financial information referenced by the Bidders in Section 5.5 (see the links to those reports in [Attachment 5.5](#)). Any litigation and other disputes involving an affiliate will not have a material effect on that Bidder's ability to perform on the contracts described in this Proposal.

Furthermore, in the US, there are no current pending litigations, known disputes, claims or complaints involving GridAmerica relating to the purchase or sale of energy, capacity or renewable energy certificates or products. From time to time, NGUSA's operating company subsidiaries and other subsidiaries may be involved in routine collections, business, commercial and tort litigation which may involve the purchase and sale of energy. NGUSA's subsidiary Massachusetts Electric Company is involved in litigation entitled Allco Renewable Energy LTD v. Massachusetts Electric Company, Angela M. O'Connor, Juliette A. Westbrook, Robert Hayden and Judith Judson which matter broadly involves the purchase and sale of energy. NGUSA's other subsidiary The Narragansett Electric Company is involved in litigation entitled Riggs, et. al. v. Margaret Curran, Paul Roberti, Herbert DeSimone, Jr., The Narragansett Electric Company and Deepwater Wind Block Island, LLC. which matter broadly involves the purchase and sale of energy.

In the ordinary course of GridAmerica's UK affiliates' operations, they are parties to various litigations, claims and investigations, or events of defaults or other failures to satisfy contract obligations, or failures to deliver products, involving such affiliates and relating to the purchase or sale of energy, capacity or renewable energy certificates or products. Recently a counterparty to an energy supply contract with one of GridAmerica's UK affiliates terminated a contract claiming termination payment or liquidated damages under the terms of the contract, the ultimate resolution of which is not expected to have a material adverse effect on the such affiliates' operations, cash flows or financial position.

This response does not include information that may be in the possession of Distribution Companies affiliated with GridAmerica, other than described above.

5.19 CONFIRM THAT BIDDER, AND THE DIRECTORS, EMPLOYEES AND AGENTS OF BIDDER AND ANY AFFILIATE OF BIDDER ARE NOT CURRENTLY UNDER INVESTIGATION BY ANY GOVERNMENTAL AGENCY AND HAVE NOT IN THE LAST FOUR YEARS BEEN CONVICTED OR FOUND LIABLE FOR ANY ACT PROHIBITED BY STATE OR FEDERAL LAW IN ANY JURISDICTION INVOLVING CONSPIRACY, COLLUSION OR OTHER IMPROPRIETY WITH RESPECT TO BIDDING ON ANY CONTRACT, OR HAVE BEEN THE SUBJECT OF ANY DEBARMENT ACTION (DETAIL ANY EXCEPTIONS).

Each Bidder is part of a large corporate entity and, consequently, the Bidders and their directors, employees and agents, as well as their respective affiliates, have been involved in regulatory investigations by governmental authorities from time to time. Neither of the Bidders, nor any of their directors, employees agents, and affiliates, has in the last four years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction, in each case involving conspiracy, collusion or other impropriety with respect to bidding on any contract, or has been the subject of any debarment action. Any such regulatory investigations will not have a material effect on that Bidder's ability to perform on the contracts described in this Proposal.

Further, neither GridAmerica nor any of its director, employee and agent or affiliates is currently under investigation by any governmental agency and has not in the last four years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction involving conspiracy, collusion, or other impropriety with respect to bidding on any contract, nor has it been subject to any debarment action with respect to bidding on any contract. This response does not include information that may be in the possession of Distribution Companies affiliated with GridAmerica.

5.20 IDENTIFY ALL REGULATORY AND OTHER APPROVALS NEEDED BY BIDDER TO EXECUTE A BINDING SALE AGREEMENT.

[REDACTED]

The transaction also will require applicable State commission approvals; otherwise, no external approval will be necessary to execute a binding sale agreement related to the Firming Hydro Facilities.

In addition to the permits and approvals required to site, develop, construct and operate the Project as described in this Proposal, including in Sections 7.1 and 7.2, FERC has jurisdiction over all wholesale transmission rates, terms and conditions, including transmission service provided under Negotiated Rate Authority. The approvals needed by the NERL project to execute a Firm Transmission Capacity Purchase Agreement pursuant to a FERC-approved Negotiated rate Tariff are the following:

- (i) FERC approval of negotiated rate authority, FERC approval of the Firm Transmission Capacity Purchase Agreement, and FERC approval of the ISO-NE rate schedule governing the rates and terms of service for the sale of additional transmission capacity over the line; and (for Category IV bids) FERC approval of the Transmission Rights Transfer Agreement under which transmission capacity sold to the EDCs as part of a Category IV bid under the Firm Transmission Capacity Purchase Agreement is sold back to the Clean Energy Generation supplier for purposes of scheduling the Clean Energy Generation delivered to the EDCs; see Section 5.20 (b) for approval process and timing;
- (ii) Land rights - see Section 6.2 for discussion of acquisition by the NERL project of real property rights from relevant third parties and timeline for obtaining any required landowner approvals or consents;
- (iii) Zoning - see Section 6.3 for discussion of any zoning approvals required and being sought by NERL, and the timeline for obtaining such approvals;
- (iv) FERC acceptance of an Interconnection Agreement negotiated between the NERL project (or an affiliate thereof), ISO-NE, and the local transmission owner in ISO-NE (approved within 60 days after filing with FERC, assuming that the agreement is not disputed) - see Section 6.6 for a discussion of the status of ISO-NE approval of the NERL project's interconnection requests for the project, and related approval processes and timelines; and
- (v) Permits - see Sections 7.1 and 7.2 for NERL's discussion of all United States Federal, state and local permits, approvals and licenses required for the project and being sought by the NERL team, and the applicable timelines for obtaining the same.

The Board of Directors of GridAmerica (or the board of the NERL project's operating company) will need to approve the Firm Transmission Capacity Purchase Agreement(s) and authorize an appropriate officer of GridAmerica (or the NERL project's operating company) to execute the same.

The Generator JV and the Distribution Companies will also need to approve and execute one or more Transmission Rights Transfer Agreements.

5.20 DESCRIBE HOW THE PROJECT WILL CONFORM TO FERC'S APPLICABLE REGULATORY REQUIREMENTS, INCLUDING, BUT NOT LIMITED TO, FERC REQUIREMENTS RELATING TO ALLOCATION OF TRANSMISSION CAPACITY AND OPEN ACCESS, THE JUSTNESS AND REASONABLENESS OF RATES, THE POTENTIAL FOR UNDUE PREFERENCE OR DISCRIMINATION, AND AFFILIATE DEALINGS, IF ANY. DESCRIBE HOW YOUR PROPOSED APPROACH IS CONSISTENT WITH FERC PRECEDENT AND RATEMAKING PRINCIPLES.

This Proposal will fully conform to FERC's applicable regulatory requirements.

The Bidders will ensure they have all necessary FERC authorizations to supply power in connection with this Proposal. Avangrid will register as Exempt Wholesale Generators with FERC and file for market based rate authority. Brookfield Renewable Erie is registered as an Exempt Wholesale Generator with FERC. In addition, the Class I Facilities will adhere to all mandatory reliability standards.

The Firm Transmission Capacity Purchase Agreement will provide the contracting Distribution Companies with firm transmission capacity rights for 20 years in exchange for the payment thereunder. Specifically with regard to the allocation of transmission capacity and open access, the Firm Transmission Capacity Purchase Agreement gives the contracting Distribution Companies firm priority transmission capacity rights over the NERL to support the delivery of power from their selected suppliers. GridAmerica will enter into the Firm Transmission Capacity Purchase Agreement with the Distribution Companies pursuant to negotiated rate authority, rather than at a cost-based rate.

Upon selection of this bid, GridAmerica will file an application under Section 205 of the FPA for approval of negotiated rate authority under FERC procedural guidelines and Part 35 of FERC's regulations. The Commission applies a four-factor analysis in evaluating negotiated rate applications: (1) the justness and reasonableness of rates; (2) the potential for undue discrimination; (3) the potential for undue preference, including affiliate preference; and (4) regional reliability and operational efficiency requirements.

The NERL project will satisfy the first factor by assuming the full market risk for the Project, not seeking recovery of the costs of the Project from captive ratepayers, not allocating capacity to an affiliate, demonstrating that no entity is required to purchase transmission service over the Project, and turning over operational control of the line to ISO-NE, which will operate the line under its Open Access Transmission Tariff (OATT).

The NERL project will satisfy the second factor and demonstrate no undue discrimination by conducting an open solicitation process and committing to file the results of the open solicitation with FERC. As part of the open solicitation, the NERL project will broadly solicit interest in the project from potential customers and also demonstrate that the solicitation, selection of customers, and negotiation of contracts with those customers met the criteria included in the *Policy Statement*. Following the open solicitation and subsequent negotiations, the NERL project will submit a report to FERC demonstrating that the process enabled the identification of transmission customers and execution of contractual arrangements in a manner consistent with FERC's *Policy Statement* and open access policies.

The NERL project will satisfy the third factor by demonstrating that the capacity allocations were not unduly discriminatory or preferential and by turning over operational control of the project to ISO-NE.

The NERL project will satisfy the fourth factor by turning control over to ISO-NE and registering with the North American Electric Reliability Corporation as a Transmission Owner and Transmission Operator and complying with the applicable Reliability Standards.

No capacity on the line will be allocated other than through the FERC-approved process.

The precedent for approval of such negotiated rate authority includes the FERC *Policy Statement* on the use of open solicitations for the initial allocation of capacity over merchant transmission projects, 142 FERC ¶ 61,038 at P 31, as well as the subsequent line of cases under which merchant transmission developers have sought and received negotiated rate authority, *see, e.g., Western Spirit Clean Line*, 155 FERC ¶ 61,252 at PP 28-29; *Plains and Eastern Clean Line*, 148 FERC ¶ 61,122 at P 25; *Grain Belt Express Clean Line*, 147 FERC ¶ 61,098 at PP 19-22.

Instead of a cost-based rate, under the FERC-approved negotiated rate authority process, the rate charged for transmission service will be as negotiated by the parties. For the NERL project, the negotiated rate will be supported by the pricing data as submitted in Section 14.2, the performance specification, and the requirements of the applicable OATT provisions for HVDC transmission lines. Other terms and conditions that are part of the negotiated rate for long term transmission capacity on NERL will be proposed through a Firm Transmission Capacity Purchase Agreement that will be modeled on the well-established basis of the Firm Transmission Capacity Purchase Agreements entered for other controllable HVDC projects in *Neptune Regional Transmission System*, 96 FERC ¶ 61,147 and *Hudson Transmission Partners*, 135 FERC ¶ 61,104. The proposed Firm Transmission Capacity Purchase Agreement is provided in response to Section 15 and discussed in detail therein.

Transmission service on the NERL project will be taken in accordance with a schedule under the ISO-NE OATT, as is done with the Cross Sound Cable, Neptune, Hudson and other controllable lines, which complies with FERC's requirements under Section 205 of the FPA to have operating control vested in an independent system operator. *See, e.g., ISO-NE OATT Schedule 18 MTF Service, see also PJM Tariff, Schedule 17 (Hudson Transmission Service); PJM Business Practices for Hudson Transmission Service.* Operation of the line will be regulated by the terms of the ISO-NE Interconnection Agreement for the NERL project, including the technical specifications for design and operation of the line. Finally, as required by ISO-NE, appropriate Transmission Operating Agreements will be executed.

Detailed provisions for the provision of ancillary services such as dynamic reactive power have been also been a part of such projects in ISO-NE. *See Operating Protocol For and Compensation of the Cross Sound Cable for the Provision of Dynamic Reactive Power Support Under Schedule 2 to ISO-NE OATT.* The resale of the transmission capacity from the EDCs to the Clean Energy Generation supplier under the Firm Transmission Capacity Purchase Agreement for purposes of scheduling the Clean Energy Generation delivered to the EDCs will also need to be filed with FERC. The assignment will take place in accordance with the FTCPA provisions governing assignment of capacity as well as the ISO-NE OATT Schedule provisions on capacity reassignment. That filing will be submitted under Section 205 of the Federal Power Act and should therefore be filed more than 60 days prior to the first day of service over the NERL.

5.21	<p>DESCRIBE AND DOCUMENT ANY AND ALL DIRECT AND INDIRECT AFFILIATIONS AND AFFILIATE RELATIONSHIPS, FINANCIAL OR OTHERWISE IN THE PAST THREE YEARS BETWEEN THE BIDDER AND ONE OR MORE OF THE DISTRIBUTION COMPANIES AND THEIR AFFILIATES, INCLUDING ALL RELATIONSHIPS IN WHICH ONE OF THE DISTRIBUTION COMPANIES HAS A FINANCIAL OR VOTING INTEREST (DIRECT OR INDIRECT) IN THE BIDDER OR THE BIDDER'S PROPOSED PROJECT. THESE RELATIONSHIPS INCLUDE:</p> <ul style="list-style-type: none"> • CORPORATE OR OTHER JOINT ARRANGEMENTS, JOINT VENTURES, JOINT OPERATIONS WHETHER CONTROL EXISTS OR NOT; • MINORITY OWNERSHIP (50% OR LESS INVESTEE); • JOINT DEVELOPMENT AGREEMENTS; • OPERATING SEGMENTS THAT ARE CONSOLIDATED AS PART OF THE FINANCIAL REPORTING PROCESS ; • RELATED PARTIES WITH COMMON OWNERSHIP; • CREDIT, DEBENTURE, AND FINANCING ARRANGEMENTS, WHETHER A CONVERTIBLE EQUITY FEATURE IS PRESENT OR NOT; • WHOLLY OWNED SUBSIDIARIES; AND • COMMERCIAL (INCLUDING REAL PROPERTY) RELATIONSHIPS WITH ANY DISTRIBUTION COMPANY.
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GridAmerica, Massachusetts Electric Company and the Nantucket Electric Company and their affiliates are indirect wholly-owned subsidiaries of National Grid plc as described herein.

The NERL project will be held by a new project-specific company to be set up as a direct wholly-owned subsidiary of GridAmerica. GridAmerica is a Delaware holding corporation set up to hold National Grid's electric transmission investments in the United States. It is a direct wholly-owned unregulated subsidiary of NGUSA. NGUSA is a public utility holding company with regulated subsidiaries engaged in the generation of electricity and the transmission, distribution and sale of both natural gas and electricity. NGUSA is a direct wholly-owned subsidiary of National Grid North America Inc. and an indirect wholly-owned subsidiary of National Grid plc, a public limited company incorporated under the laws of England and Wales.

NGUSA has two major lines of business, "gas distribution" and "electric services," and operates various services and investment companies. NGUSA's wholly-owned New England subsidiaries include, Massachusetts Electric Company and the Nantucket Electric Company. The other wholly-owned New England subsidiaries of NGUSA include New England Power Company, the Narragansett Electric Company, the Boston Gas Company, and the Colonial Gas Company. NGUSA's wholly-owned New York subsidiaries include Niagara Mohawk Power Corporation, National Grid Generation, LLC, the Brooklyn Union Gas Company, and the KeySpan Gas East Corporation. Under its holding company structure, NGUSA has no independent operations or source of income of its own and conducts all of its operations through its subsidiaries.

In the ordinary course of operations, GridAmerica's affiliates engage in commercial transactions and arrangements for services with Distribution Companies and their affiliates. GridAmerica or its affiliates

have also entered into joint arrangements with Distribution Companies and their affiliates in the past three years.

[REDACTED]

SECTION 6 OF APPENDIX B TO THE RFP
SITING, INTERCONNECTION, AND DELIVERABILITY

This section of the proposal addresses project location, siting, real property rights and interconnection issues. Bidders should ensure that the threshold criteria outlined in Section 2.2 of the RFP for generation, transmission proposals, and system upgrades are verified in their responses.

6.1 PROVIDE A SITE PLAN INCLUDING A MAP OF THE SITE THAT CLEARLY IDENTIFIES THE LOCATION OF THE ELIGIBLE FACILITY SITE AND/OR TRANSMISSION PROJECT ROUTE, THE ASSUMED RIGHT-OF-WAY WIDTH, THE TOTAL ACREAGE FOR ELIGIBLE FACILITIES, THE ANTICIPATED INTERCONNECTION POINT (OR, IF APPLICABLE, MULTIPLE POINTS FOR A TRANSMISSION PROJECT), AND THE RELATIONSHIP OF THE SITE TO OTHER LOCAL INFRASTRUCTURE, INCLUDING TRANSMISSION FACILITIES, ROADWAYS, AND WATER SOURCES. IN ADDITION TO PROVIDING THE REQUIRED MAP, PROVIDE A SITE LAYOUT PLAN WHICH ILLUSTRATES THE LOCATION OF ALL MAJOR EQUIPMENT AND FACILITIES ON THE SITE.

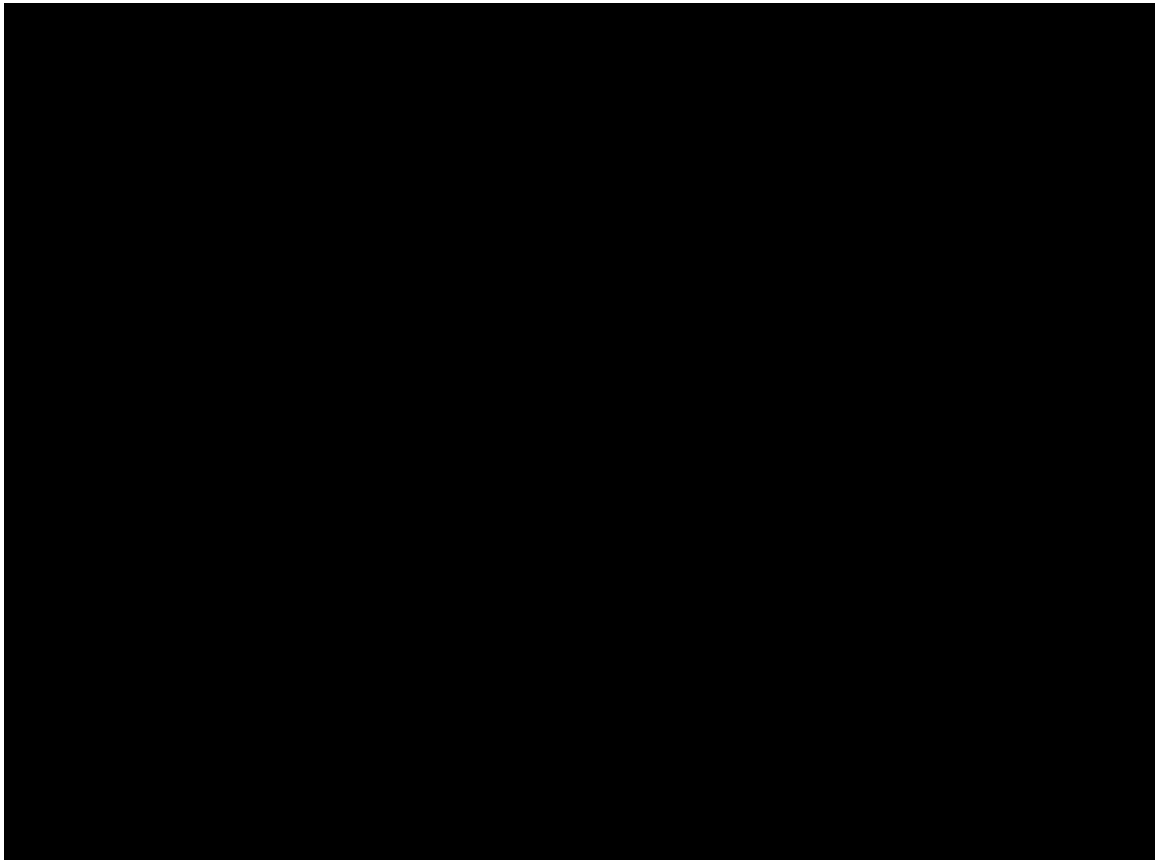
SITE PLAN INCLUDED? YES ☒ NO ☐ IF NOT, PLEASE EXPLAIN:

The Project involves a combination of new solar and wind Class I Facilities, existing Firming Hydro Facilities, and the NERL project, as described in Section 2 and illustrated generally on the project map, *Figure 6.1*.

[REDACTED]

The Project's Firming Hydro Facilities are already sited and interconnected with the NYISO grid.

Figure 6.1 – Project Components, Including RTO System Impact Upgrades



CLASS I FACILITIES

■	[REDACTED]
■	[REDACTED]
	[REDACTED]
	[REDACTED]
■	[REDACTED]
	[REDACTED]

FIRMING HYDRO FACILITIES

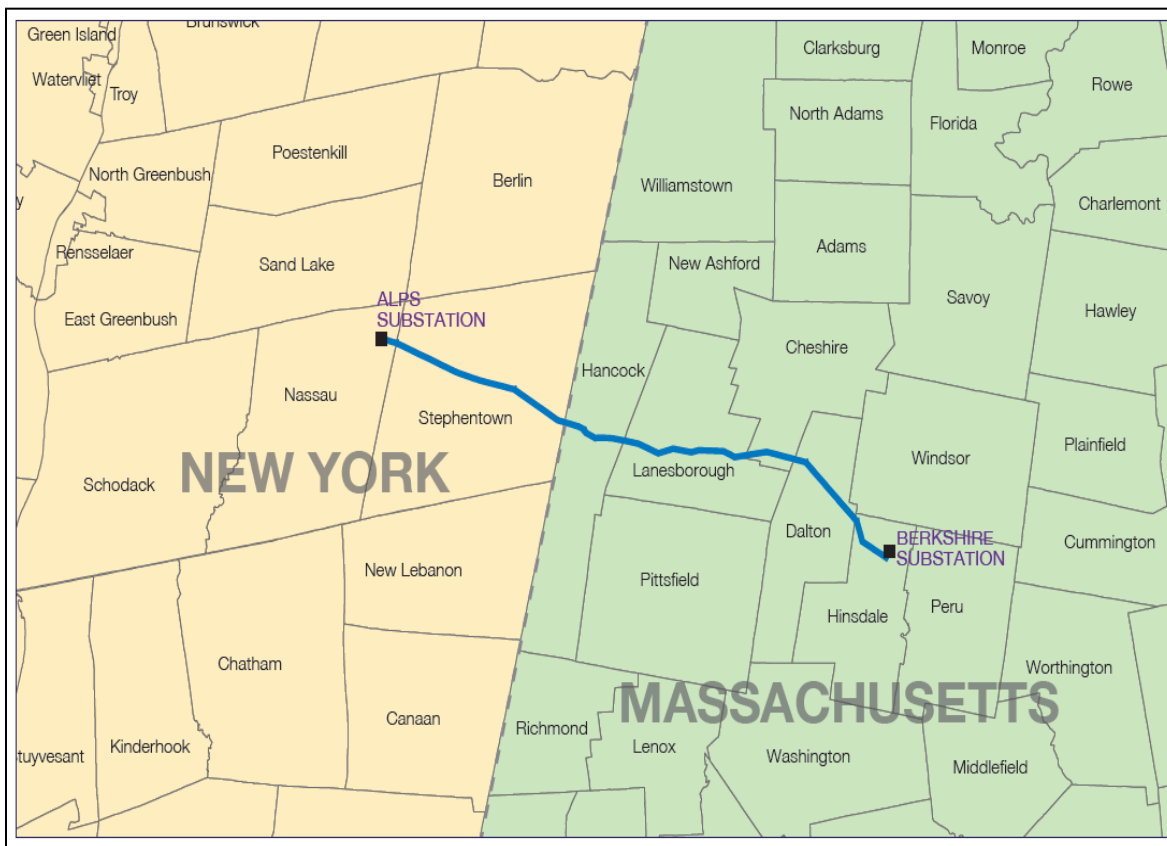
- Attachment 6.1.3 illustrates the location of the 70 Firming Hydro Facilities (by county, municipality, and acreage).
- Confidential Attachment 6.1.4 identifies the 70 Firming Hydro Facilities by river system, name, in-service date, number of units, turbine type, average net head, design flow, ICAP (MW), NYISO PTID, and FERC license number, issue date, and expiration date. Of the 70 facilities, 41 are certified by the Low Impact Hydropower Institute (“LIHI”) (see Attachment 6.1.5).
- Attachment 6.1.5 lists the 41 Firming Hydro Facilities that are LIHI certified.

NORTHEAST RENEWABLE LINK

GridAmerica is developing the NERL project within or adjacent to existing transmission corridors to minimize impacts and drive down project costs. *Figure 6.1-1* below presents an overview of the project

corridor in New York and Massachusetts. A more detailed overview map is provided as Confidential Attachment 6.1-1.

Figure 6.1-1: Overview Map of the NERL project Corridor



GridAmerica's NERL project is an approximately 23-mile 345 kV AC transmission line interconnecting at the NMPC Alps Substation in Nassau, New York and the Berkshire Substation in Hinsdale, Massachusetts. The proposed HVAC line will be parallel and along the north side of the existing 345kV transmission line between the NMPC Alps substation to the Eversource Berkshire Substation. The proposed line will use the same type of structures as are used on the existing 345 kV line and will be placed next to the existing towers to minimize visual impact. The proposed NERL project will have a Phase Angle Regulator ("PAR") installed at the NMPC Alps substation.

The NERL project will be located in an area of New York and Massachusetts known as the Northeast Appalachians, which can be characterized as much less densely populated as compared to most areas of the two states. The two sub-districts of the Northeast Appalachians where the NERL project is proposed are the Taconic Mountains in New York and the Berkshires in Massachusetts. The Berkshires region includes western Massachusetts and northwest Connecticut. The Taconic Mountains extend through eastern New York along the Massachusetts border. The region benefits from an active tourism industry based on recreation and local points of interest. General land use along the NERL project is characterized as forested, open land, and/or agricultural land. The Project passes through the towns of Nassau and Stephentown, New York, both of which have populations under 5,000. In Massachusetts, the NERL

project passes through the towns of Hancock, Lanesborough, the southernmost portion of Cheshire and then Dalton, and into Hinsdale; each with a population of less than 7,000. The Project crosses approximately 30 roads, including State Routes 22, 43, 7, 8, and 9; however, the majority of roads crossed are local residential roads with few homes.

A total of 12 streams mapped in the National Hydrography Dataset (“**NHD**”) are crossed by the proposed transmission line: five in New York and seven in Massachusetts. The majority of these stream crossings are also associated with remotely-mapped wetlands. The five stream crossings in New York are: West Brook, Roaring Brook, Tackawasick Creek, East Brook, and Black River. The seven stream crossings in Massachusetts are: Hollow Brook, Weston Brook, Town Brook, Hoosic River, Secrum Brook, Wahconah Falls Brook, and Kinderhook Creek. As with wetlands, an overhead configuration for the NERL project will generally be more protective of streams as the transmission line structures will be located to provide a vegetative buffer along stream banks.

Currently, of the 23 miles of new transmission facilities only the last nine miles will require an expanded right-of-way parallel to existing transmission corridors. The remaining 14 miles do not require right-of-way expansion, offering a very efficient and low-impact solution for delivering vast amounts of clean energy resources.

Detailed maps showing the entire length of the transmission Project route from New York to Massachusetts are provided as Confidential Attachment 6.1.7(A) – (H).

6.2 IDENTIFY ANY REAL PROPERTY RIGHTS (E.G., FEE-OWNED PARCELS, RIGHTS-OF-WAY, DEVELOPMENT RIGHTS OR EASEMENTS OR LEASES) THAT PROVIDE THE RIGHT TO USE THE ELIGIBLE FACILITY SITE AND/OR TRANSMISSION PROJECT ROUTE, INCLUDING, FOR ELIGIBLE FACILITIES, AND ANY RIGHTS OF WAY NEEDED FOR INTERCONNECTION.

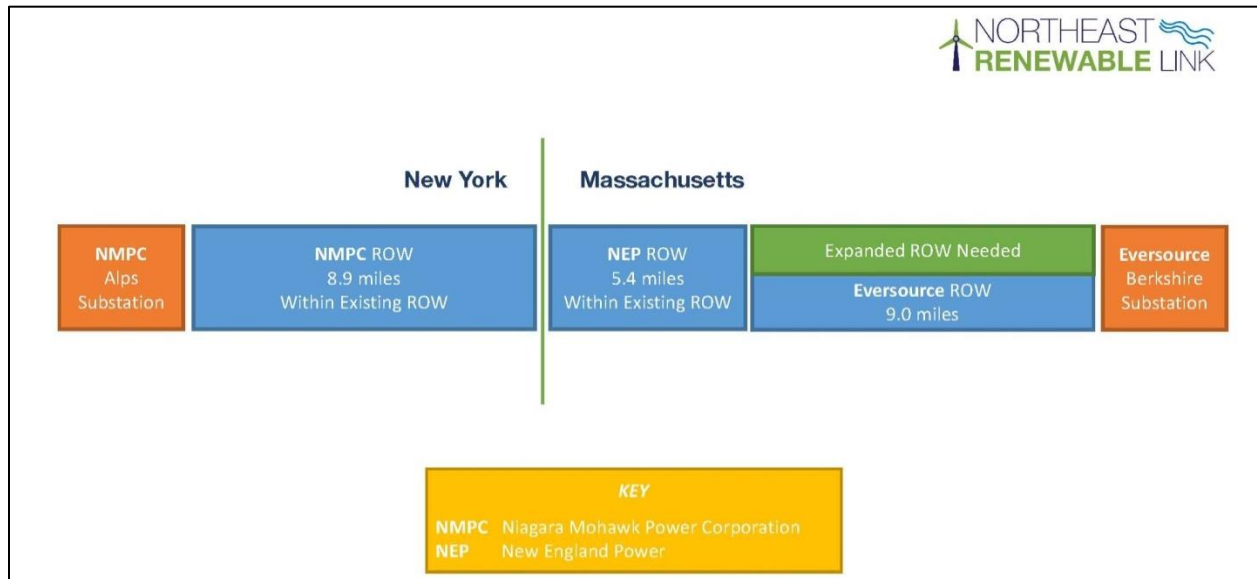
I. DOES THE PROJECT HAVE A RIGHT TO USE THE ELIGIBLE FACILITY SITE AND/OR TRANSMISSION PROJECT ROUTE FOR THE ENTIRE PROPOSED TERM OF THE PPA OR TARIFF (E.G., BY VIRTUE OF OWNERSHIP OR LAND DEVELOPMENT RIGHTS OBTAINED FROM THE OWNER)?

YES ☐ NO ☒ IF NOT, PLEASE EXPLAIN:

Brookfield Renewable US owns or otherwise has all required rights and interest for the Firming Hydro Facilities. Avangrid has largely achieved site control for the Class I Facilities, including the area necessary to construct associated substations.

In Massachusetts, the NERL project team is actively acquiring land rights (or options to secure such rights), both fee and easement (depending on the parcel and its intended use), for approximately 108 parcels owned by private, governmental, utility and not-for-profit landowners and railroads. The linear rights to be acquired in Massachusetts include occupation rights in the five miles of existing New England Power Company (“**NEP**”) Company rights-of-way (“**ROW**”) and rights adjoining Eversource Energy’s existing ROW for nine miles up to the Berkshire Substation. In New York, linear rights need to be acquired from the Niagara Mohawk Power Corporation (“**NMPC**”) for the occupation of NMPC’s ROW for approximately nine miles.

Figure 6.2-1: NERL Right-of-Way Illustration



II. IF SO, PLEASE DETAIL THE BIDDER'S RIGHTS TO CONTROL THE ELIGIBLE FACILITY SITE AND/OR TRANSMISSION PROJECT ROUTE CONTROL.

CLASS I FACILITIES

[REDACTED]

FIRMING HYDRO FACILITIES

[REDACTED]

NORTHEAST RENEWABLE LINK

N/A.

III. DESCRIBE THE STATUS OF ACQUISITION OF REAL PROPERTY RIGHTS, ANY OPTIONS IN PLACE FOR THE EXERCISE OF THESE RIGHTS AND DESCRIBE THE PLAN FOR SECURING THE NECESSARY REAL PROPERTY RIGHTS, INCLUDING THE PROPOSED TIMELINE. INCLUDE THESE PLANS AND THE TIMELINE IN THE OVERALL PROJECT TIMELINE.

CLASS I FACILITIES

FIRMING HYDRO FACILITIES

NORTHEAST RENEWABLE LINK

The NERL project team is currently pursuing the acquisition of necessary property rights and plans to have rights to the project route by the end of 2017. The NERL property team brings extensive experience acquiring real property rights to facilitate similar, large electric transmission projects in New York and New England. All such rights to the transmission line route will be acquired prior to the start of construction, and the NERL project team is planning to procure all such rights, either via option agreements or outright, by the end of this calendar year in accordance with the Project schedule provided in Section 10. The required land parcels and landowners are described below:

1. The first nine miles in New York from the NMPC Alps substation to the NY/MA border will be constructed within the current ROW owned by NMPC.
2. From the NY/MA border going east about five miles, the NERL project will use the existing ROW currently held by NEP.
3. For the rest of the nine miles of the project until it connects with the Eversource Berkshire Substation, the NERL project will expand the current ROW up to 150 feet beyond the existing ROW. For this section, we cross approximately 108 separate land parcels.

IV. IDENTIFY ANY JOINT USE OF EXISTING OR PROPOSED REAL PROPERTY RIGHTS

CLASS I FACILITIES

Avangrid does not have any joint use of existing or proposed real property rights.

FIRMING HYDRO FACILITIES

Brookfield Renewable US does not have any joint use of existing or proposed real property rights.

NORTHEAST RENEWABLE LINK

As described above, the proposed NERL project will involve joint use of 23 miles of existing ROW, including expansion of nine miles of ROW by up to 150 feet.

6.3 PROVIDE EVIDENCE THAT THE ELIGIBLE FACILITY SITE AND/OR TRANSMISSION PROJECT ROUTE IS PROPERLY ZONED OR PERMITTED. IF THE ELIGIBLE FACILITY SITE AND/OR TRANSMISSION PROJECT ROUTE IS NOT CURRENTLY ZONED OR PERMITTED PROPERLY, IDENTIFY PRESENT AND REQUIRED ZONING AND/OR LAND USE DESIGNATIONS AND PERMITS AND PROVIDE A PERMITTING PLAN AND TIMELINE TO SECURE THE NECESSARY APPROVALS.

DETAIL THE ZONING AND PERMITTING ISSUES:

CLASS I FACILITIES

FIRMING HYDRO FACILITIES

Brookfield Renewable US operates the Firming Hydro Facilities in 19 counties and 63 municipalities. All of the 70 Firming Hydro Facilities are either FERC-licensed or exempt from FERC jurisdiction with all required State licenses and approvals. All of the Firming Hydro Facilities are properly zoned and permitted.

NORTHEAST RENEWABLE LINK

In New York, the proposed 345 kV transmission line is subject to the New York Public Service Law Article VII “Siting of Major Utility Transmission Facilities” (Article VII). Article VII establishes a “one-stop” process for reviewing and certifying the siting of major electric and gas transmission facilities. Article VII bars municipalities from requiring any consent, permit, certificate or other condition for the construction or operation of the Project and authorizes the New York State Public Service Commission to administer the applicable substantive local laws and to refuse to apply any such law that the it finds to be unreasonably restrictive to construction or operation of the Project. Any zoning variances required for the construction or operation of the Project in New York will be addressed in the Article VII process.

In Massachusetts, the proposed new 345-kV transmission line requires approval by the Massachusetts Energy Facilities Siting Board (Siting Board) and the Department of Public Utilities (DPU). The DPU also has the authority under M.G.L. c. 40A, s. 3 to exempt the NERL project from local regulations governing structures and the use of land (commonly referred to as a Zoning Exemption), and GridAmerica will file such a petition simultaneously with the siting applications. If the DPU (or the EFSB in a consolidated docket) were to deny the Zoning Exemption, the NERL project would be subject to applicable regulations in the towns of Hancock, Lanesborough, Cheshire, Dalton, and Hinsdale. Zoning and permitting requirements for these towns are identified in *Table 6.3-1*. Subject to consultation with the local zoning officials, the NERL project may require a Special Permit and/or Site Plan Review in the towns of Lanesborough, Cheshire, Dalton, and Hinsdale.

Table 6.3-1: Zoning and Town Permitting Requirements in Massachusetts

Town	Current Zoning	Potential Permitting Requirements (Reviewing Entity)	Tentative Permitting Timeframe
Hancock	All uses by right with minimal exceptions for dwelling units	N/A	N/A

Lanesborough	Residential and Agricultural (R-A); Limited Business (LB)	Special Permit (Zoning Board of Appeals) Site Plan Review (Zoning Board of Appeals)	155 days
Cheshire	Agricultural Resident (A-R)	Special Permit and Site Plan (Planning Board)	155 days
Dalton	Residential and Agricultural District (R-1); Residential District	Special Permit and Site Plan (Board of Appeals)	155 days
Hinsdale	R-5 District (Agricultural and Residential)	Public Utilities not identified as requiring a Special Permit/Site Plan in R-5. Consultation with jurisdiction is required.	If Special Permit is required, 155 days

PERMITTING PLAN AND TIMELINE:

CLASS I FACILITIES

[REDACTED]

FIRMING HYDRO FACILITIES

The Firming Hydro Facilities are already interconnected to the New York transmission system.

NORTHEAST RENEWABLE LINK

As discussed in Section 7.2, the NERL project will file necessary permit applications in Q2 2018 and expects to receive all approvals by Q4 2019.

START DATE:

END DATE:

GridAmerica: [REDACTED] Start Date: Q2 2018 End Date: Q4 2019

6.4 PROVIDE A DESCRIPTION OF THE AREA SURROUNDING THE ELIGIBLE FACILITY SITE AND/OR TRANSMISSION PROJECT ROUTE, INCLUDING A DESCRIPTION OF THE LOCAL ZONING, FLOOD PLAIN INFORMATION, EXISTING LAND USE AND SETTING (WOODLANDS, GRASSLANDS, AGRICULTURE, OTHER).

CLASS I FACILITIES

[REDACTED]

FIRMING HYDRO FACILITIES

The 70 existing Firming Hydro Facilities are run-of-river plants, situated in a variety of rural and urban areas. All of the facilities have been in operation for decades. Acceptance of this Proposal will not result in the further development of any of these sites that could affect the surrounding environment. The Firming Hydro Facilities are compliant with various applicable ordinances and regulations.

NORTHEAST RENEWABLE LINK

The proposed NERL project will be located in an area of New York and Massachusetts collectively known as the Northeast Appalachians. The two sub-districts of the Northeast Appalachians where the NERL project is proposed are the Taconic Mountains in New York and the Berkshires in Massachusetts. The region benefits from an active tourism industry based on recreation and local points of interest. The Project passes through the towns of Nassau and Stephentown, New York, both of which have populations under 5,000. In Massachusetts, the NERL project passes through the towns of Hancock, Lanesborough, the southernmost portion of Cheshire and then Dalton, and into Hinsdale; each with a population of less than 7,000.

The area surrounding the proposed NERL project route is characterized by the existing electric utility right-of-way, which is bordered by forested and partially forested land, open land/grassland, agricultural land with pockets of conservation and recreation lands, and residential land and other development present. Tree clearing in limited areas will be required to accommodate the NERL project within the existing ROW. The proposed Project will also cross some lands with conservation easements in Massachusetts held by both private and public entities. The NERL project will also cross recreational resources and lands including the Appalachian National Scenic Trail (AT), Pittsfield State Forest and Cleveland Brook Reservoir Water Supply Lands, and several recreational trails (see Section 7.3).

The NERL project will be collocated within or adjacent to an existing, permitted 345-kV electric transmission line for its entire length. Zoning districts crossed by the proposed NERL project route (see Section 6.3, Table 6.3.1) are primarily rural residential districts characterized by scattered agricultural operations and residences, with relatively short distances crossing business and residential districts. Because the zoning districts crossed are the same as those crossed by the existing transmission line and its associated ROW, the expansion of the existing ROW and its use for a second transmission line is anticipated to be a suitable and compatible land use that meets approval criteria established for federal, state, and local land use and permitting. GridAmerica has initiated outreach to ensure that stakeholders are informed and any concerns can be identified and resolved early in the process.

The NERL project will cross the 100-year floodplain in several locations along low-lying areas adjacent to water bodies, including the following:

- East Brook and West Brook in the town of Stephentown, New York;
- Kinderhook Creek in the town of Hancock, Massachusetts;
- Town Brook and Cheshire Reservoir in the town of Lanesborough, Massachusetts; and
- Waconah Falls Brook and possibly a floodplain associated with the Cleveland Brook Reservoir in the town of Dalton, Massachusetts.

GridAmerica will identify all floodplain crossings through review of Federal Emergency Management Agency (FEMA) data, fieldwork and coordination with municipalities in 2017. To avoid and minimize impacts, wherever possible, transmission structures will be located outside of mapped floodplains and the conductor will span over these areas. Necessary staging areas and roadways will seek to avoid the floodplain areas. If structures or temporary construction areas are required within the floodplain area, GridAmerica will work to minimize potential impacts, and coordinate with local municipalities to comply with local flood zone permitting regulations.

6.5 FOR ELIGIBLE FACILITIES, DESCRIBE AND PROVIDE A MAP OF THE PROPOSED INTERCONNECTION THAT INCLUDES THE PATH FROM THE GENERATION SITE TO THE ISO NEW ENGLAND INC. ("ISO-NE") POOL TRANSMISSION FACILITIES ("PTF"). DESCRIBE HOW THE BIDDER PLANS TO GAIN INTERCONNECTION PATH SITE CONTROL.

INTERCONNECTION MAP INCLUDED? YES: ☒ NO: ☐ IF NOT, PLEASE EXPLAIN:

[REDACTED]

The NYISO PTIDs for the Firming Hydro Facilities connections are listed in Confidential Attachment 6.1.4. These interconnections are to the National Grid system and to Central Hudson Gas and Electric Corporation's 69-kV sub-transmission loop between the Grahamsville and Neversink power stations.

Please refer to Confidential Attachment 6.1.6 for a full map illustrating the proposed interconnection location.

INTERCONNECTION SITE CONTROL PLAN:

CLASS I FACILITIES

The interconnection points for the solar and wind Class I Facilities are shown in the site plans provided in Confidential Attachments 6.1.2(A) – (H). For each solar and wind site, the plan shows the number and location of the solar modules/inverters, turbines, the transmission line to which the facility will interconnect; and the location of a new substation where the interconnection will be made. Avangrid plans for acquiring control of each site are also provided in Confidential Attachments 6.2.2(A) – (H).

FIRMING HYDRO FACILITIES

The Firming Hydro Facilities are already interconnected to the New York transmission system.

NORTHEAST RENEWABLE LINK

Please refer to section 6.2.

6.6 PLEASE DESCRIBE THE STATUS OF ANY PLANNED INTERCONNECTION TO THE GRID. HAS THE BIDDER MADE A VALID INTERCONNECTION REQUEST TO ISO-NE, THE APPLICABLE NEW ENGLAND TRANSMISSION OWNER, OR ANY NEIGHBORING CONTROL AREAS, TO INTERCONNECT AT THE CAPACITY CAPABILITY INTERCONNECTION STANDARD? HAVE ANY STUDIES BEEN COMPLETED BY ISO-NE OR THE APPLICABLE TRANSMISSION OR DISTRIBUTION OWNER? IF MULTIPLE INTERCONNECTION REQUESTS HAVE BEEN MADE,

PLEASE SPECIFY ALL SUCH ACTIVE REQUESTS WHICH HAVE NOT BEEN SUPERSEDED BY SUBSEQUENT REQUESTS AND INFORMATION REGARDING THE STATUS OF EACH.. PROVIDE COPIES OF ANY REQUESTS MADE AND STUDIES COMPLETED. DESCRIBE HOW SUCH STUDIES AND INFORMATION SUPPORT THE COSTS ASSUMED IN PREPARING YOUR BID AND THE ASSOCIATED TIMELINE PROPOSED.

CLASS I FACILITIES

[REDACTED]

FIRMING HYDRO FACILITIES

The FIRMING Hydro Facilities are already interconnected to the New York transmission system.

NORTHEAST RENEWABLE LINK

The NERL project is in the ISO New England (“ISO-NE”) Queue as Queue #651, an Elective Transmission Upgrade (“ETU”) for 600 MW between NMPC Alps 345kV substation and Eversource Berkshire 345 kV substation with a 354-kV controllable Phase Angle Regulator (“PAR”) at the Alps substation. The SIS process is in progress. (see Confidential Attachment 6.6.7).

Since the NERL project has a termination in New York, it is also in the New York ISO (NYISO) Interconnection Queue as Queue # 632, with developer GridAmerica Holdings Inc. for AC transmission line Alps - Berkshire 345kV with a 354-kV controllable PAR at the Alps substation. The NYISO System Reliability Impact Study (SRIS) process is in progress. (see Confidential Attachment 6.6.8)

6.7 DESCRIBE THE PROJECT’S ELECTRICAL SYSTEM PERFORMANCE AND ITS IMPACT TO THE RELIABILITY OF THE NEW ENGLAND TRANSMISSION SYSTEM. FOR TRANSMISSION PROJECTS PROVIDE A DESCRIPTION OF HOW THE PROJECT WOULD SATISFY ISO NE’S I.3.9 REQUIREMENTS. PROVIDE THE STATUS OF ANY INTERCONNECTION STUDIES ALREADY UNDERWAY WITH ISO-NE AND/OR THE TRANSMISSION OWNER. PROVIDE A COPY OF ANY STUDIES COMPLETED TO DATE. PROVIDE A COPY OF AN INTERCONNECTION AGREEMENT, IF ANY, EXECUTED BY THE BIDDER WITH RESPECT TO THE PROPOSED PROJECT. IF AN INTERCONNECTION AGREEMENT HAS NOT BEEN EXECUTED, PLEASE PROVIDE THE STEPS THAT NEED TO BE COMPLETED BEFORE AN INTERCONNECTION AGREEMENT CAN BE EXECUTED AND THE ASSOCIATED TIMELINE.

PERFORMANCE AND ITS IMPACT:

System Performance

As described in detail in Section 3.3, there are two aspects of electric system reliability – resource adequacy, which is enhanced by a diversity of sources, and transmission security. The Project’s supply of 605 MW of bundled solar, wind and hydro energy that will be consistently available, including during winter peak periods; will contribute to New England’s resource adequacy and diversity in many ways;

² The interconnection request for Allegany, Q#532, was filed with the New York State Independent System Operator (NYISO) on 02/01/2016. By agreement, no feasibility study was performed and the process moved straight into the System Reliability Impact Study (SRIS) phase. The SRIS began in April 2017. Avangrid currently does not have study results back from NYISO with respect to Allegany at this moment.

and the Northeast Renewable Link's controllable transmission line and ancillary transmission system impact upgrades will greatly enhance transmission security.

To meet the reporting requirements per ISO-NE's Tariff Section I.3.9, National Grid has submitted an application for interconnection under Tariff Section II (the Open Access Transmission Tariff) Schedule 25—Standard Elective Transmission Upgrade Interconnection Procedures. The NERL project is listed as Queue #651 in the ISO-NE interconnection queue. The ISO-NE SIS is in currently progress. The NERL team expects to have the completed SIS and NYISO SRIS studies by the end of 2017.

Interconnection Studies

Class I Facilities –

[REDACTED]

Firming Hydro Facilities – The Firming Hydro Facilities are already interconnected to the New York transmission system.

Northeast Renewable Link – Northeast Renewable Link elected to begin the ISO-NE interconnection study process by requesting a System Impact Study (SIS). The SIS report is expected to be available in December 2017. No other studies have been either started or completed by ISO-NE as part of the ISO-NE interconnection approval process. Therefore, neither ISO-NE studies nor Interconnection Agreements are attached to this bid.

ISO-NE Requirements and Plan for Interconnection of Transmission Facilities

The NERL project will fully satisfy the requirements of ETU Schedule 25 of ISO-NE's tariff. GridAmerica has already begun the ISO-NE interconnection approval process by first requesting a SIS. The interconnection approval process steps are listed below along with an anticipated completion date for each.

System Impact Study – The SIS will demonstrate that the NERL project, together with any identified required network upgrades, does not harm the reliability or operability of the ISO-NE transmission system. The SIS will be performed by a consultant designated by ISO-NE in accordance with applicable ISO-NE planning procedures, criteria, and guidelines. As part of the interconnection approval process, the NERL project's SIS will undergo a peer review by participants from various Transmission Owners within the ISO-NE control area. The final SIS report will be issued to GridAmerica and this is anticipated to take place in the fourth quarter of 2017. The SIS will include planning grade estimates for interconnection facilities and network upgrade facilities associated with reliable interconnection of the NERL project.

Facilities Study – Upon acceptance of the findings in the NERL project's SIS, GridAmerica will have the option to proceed with a Project Facilities Study by entering into an Interconnection Facilities Study Agreement, or waive the rights to a Facilities Study and move directly into the ETU Interconnection Agreement.

The Facilities Study will provide further details, refined cost estimates, and project schedules for those interconnection and network upgrades identified in the SIS. This information will be included within the ETU Interconnection Agreement. If elected by NERL, it is anticipated that the Facilities Study will begin in the first quarter of 2018.

GridAmerica may elect to waive the Facilities Study phase and move directly to an ETU Interconnection Agreement (IA). Refined cost estimates for required transmission upgrades will be provided by the Transmission Owner(s) in accordance with the negotiated provisions of the ETU IA.

ETU Interconnection Agreement – GridAmerica will enter into an Interconnection Agreement applicable to its ETU Interconnection Request per the form that is included in Schedule 25 to Section II of the ISO-NE Tariff. It is anticipated that GridAmerica will enter into a four-party ETU IA with ISO-NE, National Grid, and Eversource in the first quarter of 2018.

I.3.9 Approval – The NERL project will fully comply with the requirements of Section I.3.9 of ISO-NE's tariff. After GridAmerica's review and acceptance of the ISO-NE SIS for the NERL project, GridAmerica will submit required Project Plan Applications for approval by the NEPOOL Reliability Committee in accordance with Section I.3.9 of the ISO-NE Tariff. Correspondingly, any transmission upgrades identified in the SIS to support the reliable interconnection of the NERL will be submitted for approval by the appropriate Transmission Owner as part of the I.3.9 approval process. It is anticipated that I.3.9 approval will take place in the second quarter of 2018.

ATTACHMENTS:

COPY OF COMPLETED STUDIES ATTACHED: ☐ IF NONE, PLEASE EXPLAIN:

Please see above.

COPY OF INTERCONNECTION AGREEMENT ATTACHED: ☐ IF NONE, PLEASE EXPLAIN:

Please see above.

6.8 PROJECTS THAT DO NOT HAVE I.3.9 APPROVAL FROM ISO-NE MUST INCLUDE TECHNICAL REPORTS OR SYSTEM IMPACT STUDIES THAT APPROXIMATE THE ISO-NE INTERCONNECTION PROCESS, INCLUDING BUT NOT LIMITED TO CLEAR DOCUMENTATION OF STUDY TECHNICAL AND COST ASSUMPTIONS, REASONING, AND JUSTIFICATION OF SUCH ASSUMPTIONS. ALL STUDIES MUST ASSUME THE PROJECT WILL INTERCONNECT USING THE CAPACITY CAPABILITY INTERCONNECTION STANDARD, MUST USE THE CURRENT ISO-NE INTERCONNECTION PROCESS (INCLUDING NETWORK IMPACT SCENARIOS FROM MULTIPLE PROJECTS INTERCONNECTING), AND MUST ALSO DETAIL ANY ASSUMPTIONS WITH RESPECT TO PROJECTS AHEAD OF THE PROPOSED PROJECT IN THE ISO-NE INTERCONNECTION QUEUE AND ANY ASSUMPTIONS AS TO CHANGES TO THE TRANSMISSION SYSTEM THAT DIFFER FROM THE CURRENT ISO-NE REGIONAL SYSTEM PLAN. PLEASE INCLUDE A SCENARIO ANALYSIS THAT SHOWS HOW CHANGES IN THE PROJECT INTERCONNECTION QUEUE COULD IMPACT INTERCONNECTION COSTS.

GridAmerica engaged Pterra Consulting to conduct a feasibility study of the proposed project approximating the ISO-NE interconnection process. The following sections describe, in sequence, the study assumptions, analytical findings and conclusions. The Pterra Consulting study is provided as Confidential Attachment 6.8.1.

Study Assumptions

Standards and Criteria: The applicable aspects of the following standards and criteria were considered in this analysis:

- ISO-NE:
 - Tariff Schedule 25, specifically, Network Capability Interconnection Standard (NCIS) and Interconnection procedures
 - Tariff and Planning Procedure 5-6, Interconnection Planning Procedure for Generation and Elective Transmission Upgrades
 - Planning Procedure No. 3, “Reliability Standards for the New England Area Bulk Power Supply System “
 - Planning Procedure No. 5-3, “Guidelines for Conducting and Evaluating Proposed Plan Application Analysis “
 - Planning Procedure 5-6, “Interconnection Planning Procedure for Generation and Elective Transmission Upgrades”
 - Transmission Planning Technical Guide
 - Operating Procedure 19
- NERC:
 - Standard TPL-001-4 — Transmission System Planning Performance Requirements
 - Northeast Power Coordinating Council (NPCC) Reliability Reference Directory #1 “Design and Operation of Interconnected Power Systems”
- Utility Standards:
 - Transmission Reliability Standards for Eversource (EE), dated May 2008
 - National Grid Transmission Group Procedure (TGP) #28 – “Transmission Planning Guide for the National Grid USA Service Company”

Steady-State Analysis

For N-1 contingency analysis, steady-state performance is tested with and without the NERL project using AC power flow solutions. The thermal criteria are as shown in *Table 6.8-1*, while voltage criteria for the neighboring utilities, Eversource, Vermont Electric, and National Grid (name NG utility), are provided in *Table 6.8-2*. The power flow solution options set in the TARA software are summarized in *Table 6.8-3*.

Table 6.8-1: Thermal N-1 Steady-State Criteria

System Condition	Time Interval	Maximum Allowable Facility Loading
Pre-contingency	Continuous	Normal rating
Post-contingency	Less than 15 minutes after contingency	Short Time Emergency Rating (STE)
	More than 15 minutes after contingency	Long Time Emergency Rating (LTE)

Table 6.8-2: Steady-State Voltage Criteria for Neighboring Utilities

Transmission Utility	Voltage Levels	Allowable Bus Voltage Range in %			Voltage Deviation	
		All Lines In	Post-Contingency Pre-Adjustment	Post-Contingency Post-Adjustment	Pre-Adjustment of taps and shunts	Post-Adjustment
Eversource	≥69 kV	95 to 105%	90 to 105%	95 to 105%	15% ±	10% ±
Vermont Electric	≥230 kV	98 to 105%	N/A	95 to 105%	N/A	5% ±
	69 & 115 kV	95 to 105%	N/A	95 to 105%	N/A	10% ±
	≤46 kV	90 to 110%	N/A	90 to 110%	N/A	10% ±
National Grid	≥230 kV	98 to 105%	90 to 105%	95 to 105%	N/A	5% ±
	115 kV	95 to 105%	N/A	90 to 105% (with exclusions)	15% ±	10% ±

Table 6.8-3: Power Flow Solution Options for TARA/Steady-State Analysis

Case	Transformer Tap-Changers	PARs	DC Taps	Switched Shunts	Area Interchange Control
Pre-Contingency	Stepping	Regulating	Regulating	Regulating	Enabled
Post-Contingency Pre-Adjustment	Fixed	Fixed at pre-contingency angle	Regulating	Continuous controlling devices regulating, discrete shunts locked at pre-contingency settings	Disabled
Post-Contingency Post-Adjustment	Stepping	Fixed at pre-contingency angle	Regulating	Regulating	Disabled

Power Flow Models

The Base Case 2021 Summer Peak Model was modified to include the following projects on the ISO New England interconnection queue:

- Queue #498, ETU project for NY-VT 400 MW HVDC terminating at New Haven 345 kV
- Queue #501, ETU project Quebec-VT 1000 MW at Coolidge 345 kV
- Queue#592, 66 MW upgrade for Bear Swamp Pumped Storage

Table 6.8-4 lists a set of normal and stressed system conditions (in accordance with ISO-NE procedures) to test for steady-state performance with all lines in and under n-1 contingencies. Each condition is represented by two power flows, one with the NERL project, and another without the Project.

Table 6.8-4: List of Steady-State Normal and Stressed Conditions

Test Condition	Description
Condition 1	The revised 2021 NERC TPL summer peak power flow after the above queue projects are modeled.
Condition 2	2021 summer peak load, with stressed NY to NE transfer of about 1,700 MW, maximum western Massachusetts generation.
Condition 3	2021 summer peak load, with stressed NY to NE transfer of about 1600 MW, minimum western Massachusetts generation.
Condition 4	2021 summer peak load, with NE to NY transfer of about 900 MW or to the maximum that the Project PARs will allow, maximum western Massachusetts generation, Q498 is offline.
Condition 5	2021 shoulder load, with stressed NY to NE transfer of about 1,700 MW, maximum western Massachusetts generation, but with Q498 and Q501 offline.
Condition 6	2021 shoulder load (Northfield and Bear Swamp in pumping mode), with NY to NE transfer of about 1400 MW, minimum western Massachusetts generation, but with Q498 and Q501 offline.
Condition 7	2021 minimum load, with NY to NE transfer at about 0 MW.

For each steady-state condition, a complementary power flow is developed with the NERL project in service. For Conditions 1 through 7, the Project is modeled with 600 MW NY-to-NE setting on the PAR. For re-dispatch in New York, generation in Zones A, B and D are scaled up by 600 MW; while in New England, generation is reduced Northfield, 115 kV gen (Bear Swamp, Harriman, and Cabot Hydro), and Sandy Pond HVDC Phase 2 import. In Condition 7, the Sandy Pond HVDC II is out of service. The Project is displaced by reducing New England generation by 600 MW.

The n-1 steady-state contingencies comprise the design contingencies specific to the 2021 summer peak model, plus single line outages in the western Massachusetts area. For steady-state n-1 analysis, the set of contingencies are applied to each of the Conditions, with and without the NERL project, using the TARA software. Any new thermal loading or voltage violations identified with the Project in service as compared to the complementary model without the NERL project is designated as an impact from the Project.

Short Circuit Models and Analysis

The starting pre-Project database for short circuit analysis is the 2021 Model developed for NERC TPL studies by ISO-NE. The database is in ASPEN OneLiner format. To this database, a model for the Project is added. Using ISO-NE standard assumptions for fault analysis, fault levels are calculated in the region of the Berkshire 345 substation, for the databases with and without the Project.

Increments in fault levels with the Project in service (compared to the fault level without the Project) of greater than 100 A are identified and flagged as potential impact from the Project.

The impacted substations will require breaker rating information to determine if breakers need to be upgraded. The breaker rating check and any breaker-by-breaker analysis are outside the scope of the current study.

High-Level Stability Model and Analysis

For the high-level stability analysis, only a selected number of normal contingencies (3-phase faults cleared by the slower of the two fastest protection groups or 1-phase faults with backup clearing) are tested.

Stability analysis is conducted with the Project in service. If a contingency shows transient stability problems, the same contingency is tested without the Project to determine if the Project is the cause of the instability impact.

In accordance with ISO-NE planning guidelines, stability analysis will be conducted for system conditions representing different load levels and transmission stress states. The system conditions studied for the high-level stability assessment are listed in *Table 6.8-5*.

**Table 6.8-5:
Definition of Test Conditions Considered for High-Level Stability Assessment for ISO-NE**

Test Condition	Description
Condition S-1	2021 light load with stressed NY to NE transfer of about 1,600 MW, maximum western Massachusetts generation, high West-East and ME stresses.
Condition S-2	2021 light load, with NY to NE transfer of about 600 MW (only the Project contributing), high West-East stress.
Condition S-3	2021 peak load NY to NE transfer at about 1600 MW, low western Massachusetts generation and high southern ME stress. Bear Swamp and Northfield generating. Phase II at 1500 MW.
Condition S-4	2021 peak load NY to NE transfer at about 600 MW, East-West and ME neutral stress. Bear Swamp and Northfield generating.

Common to the above conditions is the following modeling for the NERL project:

- Re-dispatch: New York: scale generation in Zones A, B and D by 600 MW; reduce NE generation at the following: Northfield, Bear Swamp, Harriman, and Cabot Hydro, and Sandy Pond HVDC Phase 2 import.

The proposed normal contingencies are provided in Confidential Attachment 6.8.1.

The stability criteria for normal contingencies are listed in *Table 6.8-6*.

Table 6.8-6: List of ISO-NE Normal Contingency Stability Criteria

Criteria ID	Description
NC-1	All units should be transiently stable with positive damping
NC-2	A 53% reduction in the magnitude of system oscillations must be observed over four periods of the oscillation
NC-3	A loss of source greater than 1,200 MW is not acceptable

6.8.2 Feasibility Study Findings and Conclusions

Please refer to Confidential Attachment 6.8.1.

6.9 TO THE EXTENT THAT YOU PROVIDE AN ALTERNATIVE INTERCONNECTION SCENARIO BASED ON ISO-PROPOSED INTERCONNECTION PROCESS CHANGES, YOU MUST ALSO INCLUDE STUDIES USING THE PROPOSED ISO-NE-PROPOSED PROCESS. ANY SUCH STUDIES MUST BE ACCOMPANIED WITH CLEAR DOCUMENTATION OF STUDY TECHNICAL AND COST ASSUMPTIONS, REASONING, AND JUSTIFICATION OF SUCH ASSUMPTIONS.

The NERL project is in the ISO-NE Queue as Queue #651, an ETU for 600 MW between NMPC Alps 345kV substation and Eversource Berkshire 345 kV substation with a 354-kV controllable PAR at the Alps substation. The SIS is in progress, and if an alternative interconnection scenario is required, will be identified therein.

6.10 PROVIDE THE ELECTRICAL MODELS OF ALL ENERGY RESOURCES SUPPORTING THE PROPOSED PROJECT IN ACCORDANCE WITH THE FILING REQUIREMENTS OF THE ISO-NE TARIFF SCHEDULE 22 AND 23.

ELECTRICAL MODELS ATTACHED: ☐ IF NONE, PLEASE EXPLAIN:

Electrical models of the Class I Facilities and Firming Hydro Facilities can be provided upon request.

Further, please refer to Confidential Attachment 6.8.1 for the electrical models of the energy resources supporting NERL.

6.11 PROVIDE A COPY OF AN ELECTRICAL ONE-LINE DIAGRAM SHOWING THE INTERCONNECTION FACILITIES AND THE RELEVANT FACILITIES OF THE TRANSMISSION AND/OR DISTRIBUTION PROVIDER.

ELECTRICAL ONE-LINE DIAGRAM ATTACHED: ☒ IF NONE, PLEASE EXPLAIN:

CLASS I FACILITIES

[REDACTED]

FIRMING HYDRO FACILITIES

Because the 70 Firming Hydro Facilities are already operating and interconnected to the NYISO grid, one-line diagrams for these hydro facilities are not included. Copies will be provided upon request.

NORTHEAST RENEWABLE LINK

Please refer to Confidential Attachment 6.8.1 – Feasibility Study for the Northeast Renewable Link for the electrical one-line diagram.

6.12 SPECIFY AND DESCRIBE THE CURRENT OR NEW INTERCONNECTION FACILITIES (LINES, TRANSFORMERS, SWITCHING EQUIPMENT, SYSTEM CONTROL PROTECTION, ETC.) THAT BIDDER OWNS OR IS INTENDING TO CONSTRUCT OR HAVE CONSTRUCTED IN ORDER TO DELIVER THE PROPOSED ENERGY.

CLASS I FACILITIES

FIRMING HYDRO FACILITIES

The Firming Hydro Facilities are interconnected at different points of delivery and voltages. Most of the assets are associated to river systems that stretch for 25+ miles. Brookfield generally owns infrastructure up to the step up transformer. Additional information is available in the [Confidential Attachment 6.1.4](#).

NORTHEAST RENEWABLE LINK

Please refer to [Confidential Attachment 6.8.1](#) – Feasibility Study for the Northeast Renewable Link for current and new interconnection facilities.

6.13 INCREMENTAL DATA REQUIREMENTS FOR PROJECTS THAT INCLUDE TRANSMISSION FACILITIES;

1. IDV FILE(S) IN PSSE V32 FORMAT MODELING ONLY THE NEW/MODIFIED TRANSMISSION COMPONENTS OF THE PROJECT: ☒ IF NONE, PLEASE EXPLAIN:

IDV file is used in modeling the new transmission components of the NERL project. Please refer to [Confidential Attachment 6.13](#) – NERL project IDV File.

IF THE BIDDER DOES NOT USE PSSE, PROVIDE IN TEXT FORMAT NECESSARY MODELING DATA AS FOLLOWS:

LINE DATA:

VOLTAGE THERMAL RATINGS

IMPEDANCES (R, X AND B)

LINE LENGTH: FROM TO

(BUS NUMBERS AND NAMES)

This section is not applicable to the Project; however, the Bidders and GridAmerica can provide submitted and/or additional information in a reasonably available format if requested by the Distribution Companies.

TRANSFORMER DATA (INCLUDING PHASE SHIFTING TRANSFORMERS IF APPLICABLE):

TERMINAL VOLTAGES THERMAL RATINGS

IMPEDANCE

FROM TO

(BUS NUMBERS AND NAMES)

This section is not applicable to the Project; however, the Bidders and GridAmerica can provide submitted and/or additional information in a reasonably available format if requested by the Distribution Companies.

- REACTIVE COMPENSATION MODELS AS NECESSARY

This section is not applicable to the Project; however, the Bidders and GridAmerica can provide submitted and/or additional information in a reasonably available format if requested by the Distribution Companies.

- OTHER CHANGES TO THE MODEL THAT WOULD OCCUR DUE TO A PROJECT SUCH AS TERMINAL CHANGES FOR LINES/TRANSFORMERS/GENERATOR LEADS/LOADS ETC.

This section is not applicable to the Project; however, the Bidders and GridAmerica can provide submitted and/or additional information in a reasonably available format if requested by the Distribution Companies.

6.14 PLEASE DETAIL WITH SUPPORTING INFORMATION AND STUDIES (AS AVAILABLE) THAT THE ENERGY CONTEMPLATED IN YOUR PROPOSAL IS ABLE TO BE DELIVERED TO THE DISTRIBUTION COMPANIES WITHOUT MATERIAL CONSTRAINT OR CURTAILMENT.

GridAmerica has submitted an application for interconnection under Tariff Section II (the Open Access Transmission Tariff) Schedule 25—Standard Elective Transmission Upgrade Interconnection Procedures, as an External ETU that is a controllable Merchant Transmission Facility. The proposed project is listed as Queue #651 in the ISO-NE interconnection queue.

The ISO-NE SIS is in currently progress, and will determine what upgrades are needed if necessary for the NERL project to satisfy the minimum characteristics required to interconnect in a manner that avoids any significant adverse effect on the reliability, stability, and operability of the New England Transmission System, including protecting against the degradation of transfer capability for interfaces affected by the facility. A subsequent Group Study by the ISOs will determine whether the proposed Project can be interconnected in a manner that ensures intra-zonal deliverability by avoidance of the re-dispatch of other Capacity Network Resources and Elective Transmission Upgrades with CNI Interconnection Service, in accordance with the CC Interconnection Standard and as detailed in the ISO New England Planning Procedures.

6.15 PLEASE PROVIDE SUFFICIENT INFORMATION AND DOCUMENTATION TO DEMONSTRATE THAT THE PROPOSED POINT OF DELIVERY INTO ISO-NE, ALONG WITH THEIR PROPOSED INTERCONNECTION AND TRANSMISSION UPGRADES INCLUDING ANY TRANSMISSION UPGRADES BEYOND THE POINT OF INTERCONNECTION, IS SUFFICIENT TO ENSURE FULL DISPATCH OF THE PROPOSAL'S CLEAN ENERGY GENERATION PROFILE.

The NERL project is in the ISO New England Queue as Queue #651, an external elective ETU for 600 MW between NY NMPC Alps 345kV substation and Eversource Berkshire 345 kV substation with a 354-kV controllable PAR at the Alps substation. The SIS is in progress.

The Interconnection Studies being conducted by ISO-NE will determine whether the proposed Project satisfies the minimum characteristics required to interconnect in a manner that avoids any significant adverse effect on the reliability, stability, and operability of the New England Transmission System, including protecting against the degradation of transfer capability for interfaces affected by the facility. A subsequent Group Study will determine whether the proposed Project can be interconnected in a manner that ensures intra-zonal deliverability by avoidance of the re-dispatch of other Capacity Network Resources and Elective Transmission Upgrades with similar Interconnection Service, as detailed in the ISO New England Planning Procedures.

The interconnection study will identify any constraints and the associated system upgrades in order to eliminate the constraints. Please refer to Confidential Attachment 6.8.1 – Feasibility Study for the Northeast Renewable Link for the identified possible constraints and the associated upgrades in New England.

The Network Interconnect process in both ISO-NE and NYISO coupled with the NERL line and above steps will ensure full dispatch of the proposed Projects Clean Energy Generation profile.

SECTION 7 OF APPENDIX B TO THE RFP ENVIRONMENTAL ASSESSMENT, PERMIT ACQUISITION PLAN AND NEW CLASS I RPS CERTIFICATION

This section addresses environmental and other regulatory issues associated with project siting, development and operations for both generation and transmission projects, as applicable.

7.1 PROVIDE A LIST OF ALL THE PERMITS, LICENSES, AND ENVIRONMENTAL ASSESSMENTS AND/OR ENVIRONMENTAL IMPACT STATEMENTS REQUIRED. IF A BIDDER HAS SECURED ANY PERMIT OR HAS APPLIED FOR A PERMIT, PLEASE IDENTIFY IN THE RESPONSE.

I. PROVIDE A LIST OF ALL FEDERAL, STATE AND LOCAL PERMITS, LICENSES, AND ENVIRONMENTAL ASSESSMENTS AND/OR ENVIRONMENTAL IMPACT STATEMENTS REQUIRED TO CONSTRUCT AND OPERATE THE PROJECT.

Overview of Environmental and Regulatory Siting and Approvals

Given the location of the Project facilities, various permits, certificates, and approvals have been or will be acquired from federal, state, and local agencies.

All of the Project's run-of-river, Firming Hydro Facilities, which are properly zoned and permitted, are presently licensed, operating, and will require no additional approvals in conjunction with the Project. These Firming Hydro Facilities are either FERC-licensed or, if exempt from FERC jurisdiction, have all required state licenses and approvals. Of the 70 facilities, two are non-jurisdictional (i.e., not under FERC jurisdiction); 41 are LIHI certified stations.

CLASS I FACILITIES

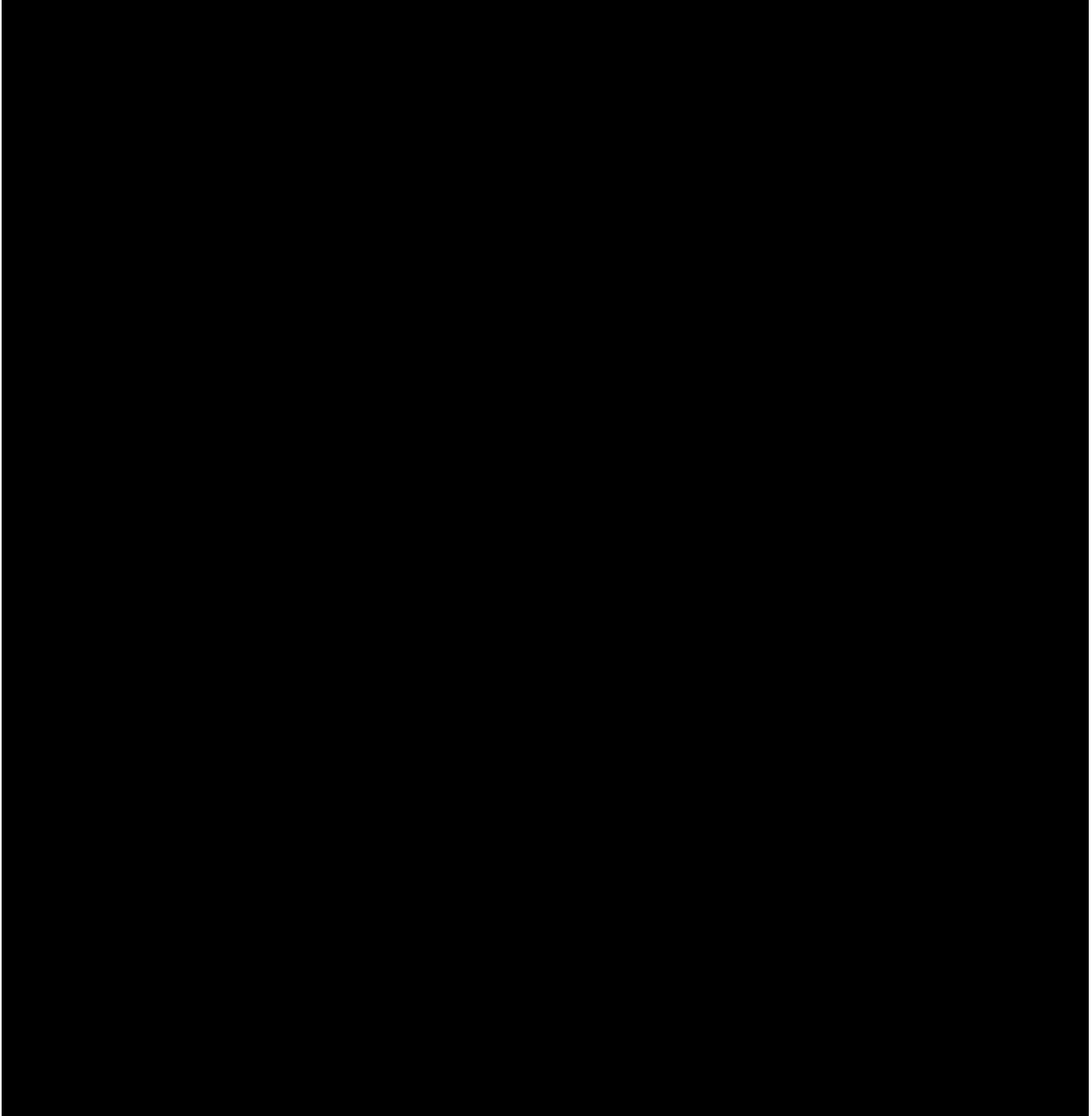
To develop the solar and wind generation facilities in New York State, permits and approvals will be required from federal agencies, including Federal Aviation Administration (FAA), the U.S. Army Corps of Engineers (USACE), and the U.S. Fish and Wildlife Service (SFWS). Permits or approvals also will be required from the New York State Board on Electric Generation Siting and the Environment (within the Department of Public Service), New York Board on Electric Generation Siting and Environment (within the Department of Public Service), New York State Department of Environmental Conservation (NYSDEC), and the New York Office of Parks, Recreation and Historic Preservation, State Historic Preservation Office (NY SHPO).

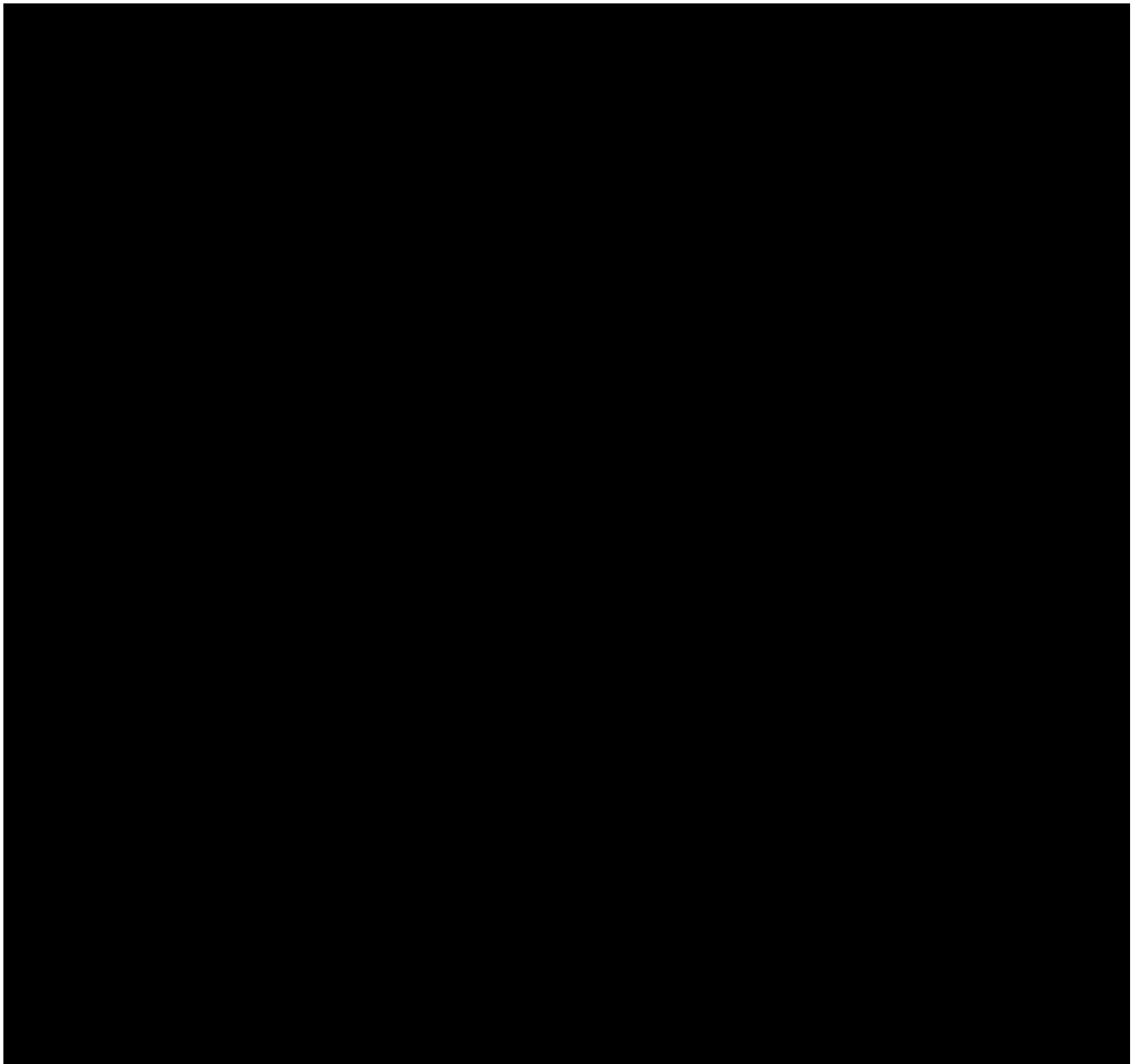
The counties and towns in which the solar and wind generation sites are located will provide input to these federal and state environmental permitting processes. In addition, these local agencies will be involved in issuing local permits and approvals for individual sites, as applicable.

Because each generation site is geographically distinct, each facility will be permitted separately. The specific permits required for each solar and wind Class I Facility may vary, depending on the environmental characteristics of each site (e.g., if no water resources will be affected at a particular site, then a permit from the USACE will not be required).

Table 7.1-1 lists all of the siting and regulatory approvals required for the wind Class I Facility, along with the government agencies that will issue and/or provide input to the approval process. The following summarizes the key permits and approvals that will be required for these project components.

**Table 7.1-1:
Summary List of Siting and Regulatory Approvals and Certifications required for the wind Class I
Facilities**





The following permits may be required for solar Class I Facilities. The timeline for solar Class I Facilities will be in line with the wind Class I Facilities. Please refer to the information below:

- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]

NORTHEAST RENEWABLE LINK

Table 7.1-2 below provides a list of expected federal, state, and local permits, approvals, and environmental reviews that will be needed to construct and operate the NERL project. At the time of this Bid submittal, GridAmerica has not yet submitted permit applications and has not yet received any of the permits identified in Table 7.1-2. However, preparations are underway for the studies required to support the permitting processes and consultations have been initiated with federal and state agencies to familiarize regulators with the NERL project, obtain initial feedback and establish appropriate protocols for planned investigations and analyses. As explained in Section 6.3, no local approvals will be necessary for the New York portion of the NERL project and a Zoning Exemption will be sought for the Massachusetts portion.

Table 7.1-2: Expected Federal, State, and Local Permits, Licenses, and Environmental Requirements for Constructing the Transmission Phase of the NERL project

Federal	
Permit / License / Environmental Requirement	Issuing Agency
U.S. Department of Army Permits (Section 10/Section 404)	U.S. Army Corps of Engineers
National Environmental Policy Act (NEPA) Review (if an Individual Permit is required)	U.S. Army Corps of Engineers
Determination of No Hazard (Air Navigation)	Federal Aviation Administration
NPDES Construction Stormwater Permit	United States Environmental Protection Agency
Endangered Species Act – Section 7 Consultation	U.S. Fish and Wildlife Service
National Historic Preservation Act (NHPA) – Section 106 Consultation	U.S. Army Corps of Engineers
State of New York	
Permit / License / Environmental Requirement	Issuing Agency
C Certificate of Environmental Compatibility and Public Need (PSL Article VII)	New York State Public Service Commission
Certificate of Public Convenience and Necessity (PSL Section 68)	New York State Public Service Commission
Approval of Environmental Management & Construction Plan	New York State Public Service Commission
Section 401 Water Quality Certification	New York State Department of Public Service
State Pollutant Discharge Elimination System Construction Stormwater Permit	New York State Department of Environmental Conservation
Endangered and Threatened Species Consultation	New York State Department of Environmental Conservation
Consultation under Section 106 of the Natural Historic Preservation Act and Section 14.09 of the New York State Historic Preservation Act	New York State Office of Parks, Recreation, and Historic Preservation

State of Massachusetts	
Permit / License / Environmental Requirement	Issuing Agency
Massachusetts Environmental Policy Act Certificate	Massachusetts Executive Office of Energy and Environmental Affairs
Approval to Construct under M.G.L. c. 164, s. 69J	Massachusetts Energy Facilities Siting Board
Section 72 Approval & Zoning Exemption	Massachusetts Department of Public Utilities (will request consolidation with EFSB proceeding)
Section 401 Water Quality Certification	Massachusetts Department of Environmental Protection
Chapter 91 Waterways License or Notice of Minor Project Modification	Massachusetts Department of Environmental Protection
Project review for Endangered, Threatened and Special Concern Species	Natural Heritage and Endangered Species Massachusetts Division of Fisheries and Wildlife
Project review under Massachusetts General Laws Chapter 9, §§ 26-27C and consultation under Section 106 of the NHPA	Massachusetts Historic Commission
Construction and Access Permit, Authorization for Use of Division of Fisheries and Wildlife Lands, and Land Disposition Request	Massachusetts Department of Conservation and Recreation Massachusetts Department of Fish & Game/Division of Fisheries and Wildlife Massachusetts Executive Office of Energy and Environmental Affairs
Article 97 Approvals	Massachusetts Legislature
Permit to Access State Highway (720 CMR 13.00)	Massachusetts Department of Transportation
Local	
Permit / License / Environmental Requirement	Issuing Agency
Local land use regulation is pre-empted by state statute in New York.	N/A
Local zoning regulation is pre-empted by issuance of Zoning Exemption	Massachusetts Department of Public Utilities (or Energy Facilities Siting Board, in a consolidated docket); Local Boards of Selectmen
Massachusetts Wetlands Protection Act Order of Conditions	Local Conservation Commissions
Franchise rights may be required for street crossings (M.G.L. c. 166, § 22)	Local Boards of Selectmen

The Bidders and GridAmerica have extensive experience with all of the required regulatory processes for siting and permitting both solar, wind and transmission projects and are proficient in compiling regulatory applications and in coordinating with the involved regulatory agencies to complete the approval processes efficiently and on schedule. The Bidders and GridAmerica also have direct expertise in developing interstate projects, involving the coordination of project plans, construction approaches, and environmental mitigation strategies among multiple federal and state agencies, including across different ISO regions.

Further, in planning the Project, the Bidders and GridAmerica used regulatory agencies' requirements for avoiding or minimizing adverse environmental impacts as key siting criteria. This approach, along with the overarching environmental benefit of the Project – that is, to provide supplies of Clean Energy Generation to the northeastern U.S. – will serve to facilitate the regulatory review processes in general.

II. IDENTIFY THE GOVERNMENTAL AGENCIES THAT WILL ISSUE OR APPROVE THE REQUIRED PERMITS, LICENSES, AND ENVIRONMENTAL ASSESSMENTS AND/OR ENVIRONMENTAL IMPACT STATEMENTS.

CLASS I FACILITIES

Please refer to Section 7.1(i).

FIRMING HYDRO FACILITIES

N/A, please refer to section 7.1(i).

NORTHEAST RENEWABLE LINK

Table 7.1-2 identifies the federal, state and Massachusetts local agencies that will issue or approve the required permits and/or conduct the required environmental assessments.

7.2 PROVIDE THE ANTICIPATED TIMELINE FOR SEEKING AND RECEIVING THE REQUIRED PERMITS, LICENSES, AND ENVIRONMENTAL ASSESSMENTS AND/OR ENVIRONMENTAL IMPACT STATEMENTS. INCLUDE A PROJECT APPROVAL ASSESSMENT WHICH DESCRIBES, IN NARRATIVE FORM, EACH SEGMENT OF THE PROCESS, THE REQUIRED PERMIT OR APPROVAL, THE STATUS OF THE REQUEST OR APPLICATION AND THE BASIS FOR PROJECTION OF SUCCESS BY THE MILESTONE DATE. ALL REQUIREMENTS SHOULD BE INCLUDED ON THE PROJECT SCHEDULE IN SECTION 10.

CLASS I FACILITIES

Please refer to Section 7.1(i).

FIRMING HYDRO FACILITIES

N/A, please refer to section 7.1(i).

NORTHEAST RENEWABLE LINK

GridAmerica understands the importance of a thoughtful, thorough and coordinated permitting plan. To begin this process, GridAmerica has conducted due diligence along the NERL project route and begun outreach to regulatory agencies for pre-application meetings and other stakeholders to ensure that the groundwork is laid for an effective and efficient permitting process. Interaction early and often with

regulatory agencies is integral to the successful approval of a transmission project, and GridAmerica will continue to engage with agencies and stakeholders throughout the process.

GridAmerica has not yet applied for the necessary permits identified in *Table 7.1-2* above. However, the GridAmerica team is experienced in managing the permitting process for transmission line projects and is confident that all permits will be received and all necessary environmental reviews completed within the timeframes identified in *Table 7.2-1*.

Table 7.2-1: Project Permitting Milestones

Critical Path Activity	Milestone Completion Date
Desktop Due Diligence	Q1 2017
Initiate Agency Consultation	Q2 2017
Initiate Environmental Field Surveys	Q3 2017
Complete Environmental Field Surveys	Q2 2018
File New York Permit Application(s)	Q2 2018
File New York Article VII Application	Q2 2018
File Massachusetts Permit Application(s)	Q2 2018
File Massachusetts EFSB & DPU Permit Applications	Q2 2018
File USACE Application and other Federal Approvals	Q2 2018
Receive Federal & State Approvals	End of Q4 2019
Start of Construction	Q1 2020

To facilitate the permitting process, GridAmerica has prepared a detailed schedule (see Section 10) that demonstrates the lead-time and expected agency review time needed to obtain the required permits. Careful planning allows for many of the permit applications to be submitted concurrently, thus allowing for faster and more efficient review and approval. There are also opportunities to streamline and consolidate certain permits and review processes, as discussed further in [Attachment 7.2](#), which can significantly enhance the overall permitting timeline.

Agency outreach for the NERL project is underway with regulatory authorities in both New York and Massachusetts. These initial meetings have involved discussion of timelines and technical requirements to gain permit approvals necessary to construct the project. While the timelines described are project-specific, they also rely on our experience with recent projects of similar scale and type that have been proposed and permitted in the region. The requirements listed above follow a conservative approach regarding agency review and permitting timelines, and appropriate windows are included to cover necessary studies that will be performed in support of the submissions outlined here. Project coordination with relevant agencies will continue to be active through 2017 to allow for timely approval of permit applications.

7.3	<p>PROVIDE A PRELIMINARY ENVIRONMENTAL ASSESSMENT OF THE SITE AND PROJECT, INCLUDING BOTH CONSTRUCTION AND OPERATION, AS APPLICABLE. IN ADDITION, THE BIDDER SHOULD IDENTIFY ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE PROPOSED PROJECT, ANY POTENTIAL IMPEDIMENTS TO DEVELOPMENT, AND ITS PLAN TO MITIGATE SUCH IMPACTS OR IMPEDIMENTS. THE ANALYSIS SHOULD ADDRESS EACH OF THE MAJOR ENVIRONMENTAL AREAS PRESENTED BELOW, AS APPLICABLE TO THE PROPOSED PROJECT:</p> <ul style="list-style-type: none"> I. IMPACTS DURING SITE DEVELOPMENT II. TRANSPORTATION INFRASTRUCTURE III. AIR QUALITY IMPACTS IV. ACCESS TO WATER RESOURCES/WATER QUALITY IMPACTS V. ECOLOGICAL AND NATURAL RESOURCES IMPACTS VI. LAND USE IMPACTS VII. CULTURAL RESOURCES VIII. PREVIOUS SITE USE (E.G., GREENFIELD, BROWNFIELD, INDUSTRIAL, ETC.) IX. NOISE LEVEL IMPACTS X. AESTHETIC/VISUAL IMPACTS XI. TRANSMISSION INFRASTRUCTURE IMPACTS XII. FUEL SUPPLY ACCESS, WHERE APPLICABLE
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Environmental analysis has been conducted for both the solar, wind generation and transmission components of the Project. The 70 Firming Hydro Facilities are operational and have all necessary environmental approvals; as a result, no additional environmental assessments of these facilities are necessary.

For the purposes of this discussion of the environmental review processes, the Project is divided into wind generation and transmission components, as separate types of permits and approvals will be obtained for each. The Project's solar and wind generation and transmission groups have comprehensive baseline knowledge of the project areas; extensive historical experience in planning, constructing, and operating similar generation and transmission facilities; and both recent and prior comprehensive expertise in successfully navigating federal, state, and local permitting processes.

CLASS I FACILITIES – Preliminary Environmental Assessment

[REDACTED]

[REDACTED]

[REDACTED]

NORTHEAST RENEWABLE LINK – Preliminary Environmental Assessment

The NERL project will be wholly collocated within or adjacent to, an existing, permitted 345 kV electric transmission line for its entire length. This collocation and adjacency will minimize impacts and avoid the need to create a new greenfield ROW. During construction, an estimated 150 feet of cleared right of way will be required. Minor grading may be needed at the structure locations and for some access routes. Existing access roads will be utilized wherever practicable to minimize new construction of access routes. Cable pulling and temporary staging areas will be located within the cleared ROW area. The existing access infrastructure is robust and extensive, and will minimize the need for additional access for construction and operation of the NERL project.

Temporary and permanent impacts will occur where the existing ROW will be expanded to accommodate the proposed transmission structures and associated ROW. The following provides a preliminary description of potential environmental impacts of the proposed Project by each resource area requested, and a discussion of how impacts may be avoided, minimized, or mitigated. For detailed information, please refer to Attachment 7.3.2.

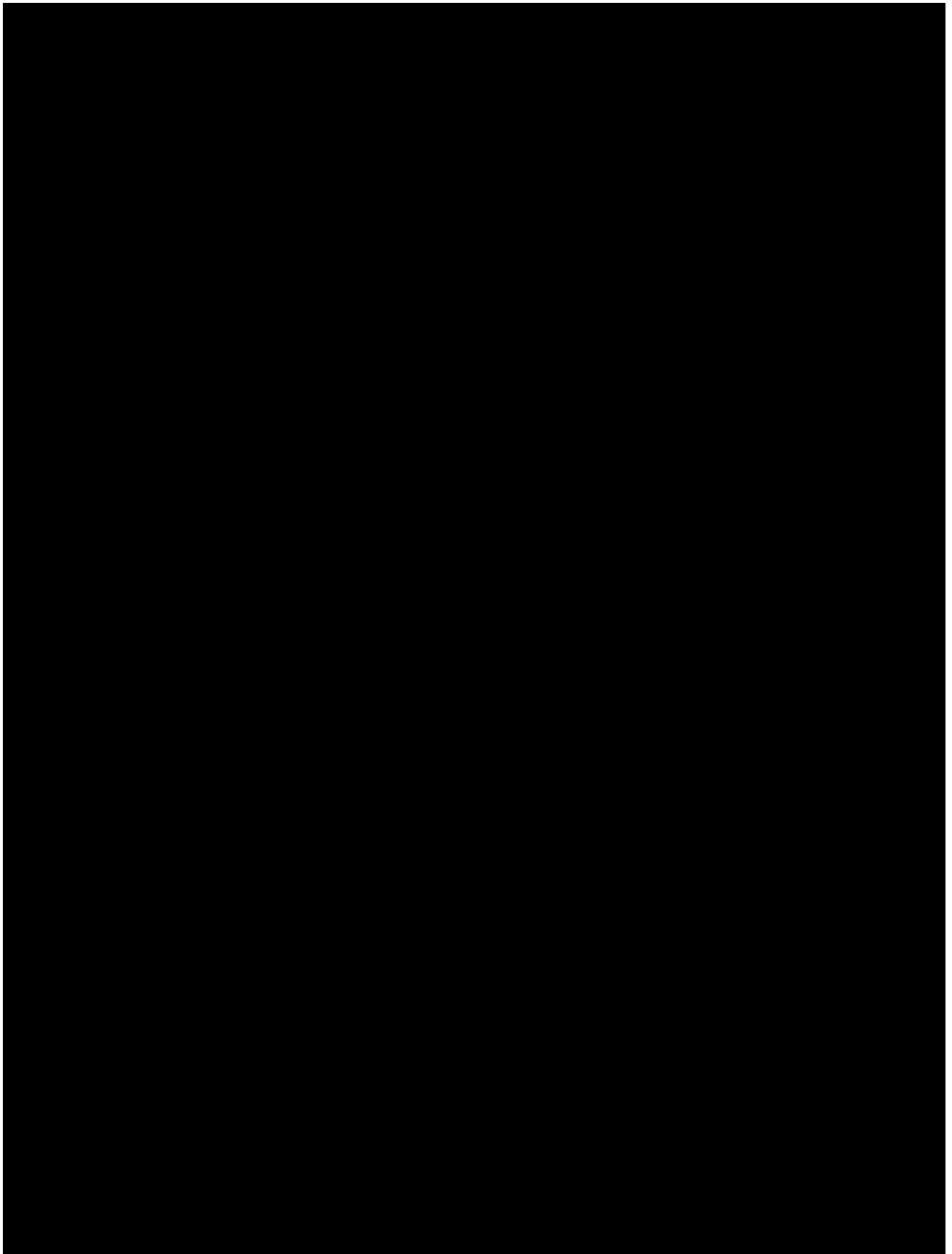
7.4 PROVIDE DOCUMENTATION IDENTIFYING THE LEVEL OF PUBLIC SUPPORT FOR THE PROJECT INCLUDING LETTERS FROM PUBLIC OFFICIALS, NEWSPAPER ARTICLES, ETC. INCLUDE INFORMATION ON SPECIFIC LOCALIZED SUPPORT AND/OR OPPOSITION TO THE PROJECT OF WHICH THE BIDDER IS AWARE. PROVIDE COPIES OF ANY AGREEMENTS WITH COMMUNITIES AND OTHER CONSTITUENCIES IMPACTED BY THE PROJECT, AND A PLAN FOR COMMUNITY OUTREACH ACTIVITIES, AND DISCUSS THE STATUS OF THAT PLAN.

CLASS I FACILITIES

[REDACTED]

Table 7.4-1: Typical Public Outreach Plan Elements

[REDACTED]





FIRMING HYDRO FACILITIES

Brookfield Renewable US strives to maintain transparent and well established relationships with local stakeholder groups and the communities in which it operates, as it is a key element of successfully operating and developing renewable power facilities. In order to ensure the successful renewal and implementation of water power licenses and land leases, Brookfield Renewable US consults and works proactively with local stakeholders and communities potentially affected by its operations.

In conjunction with the existing FIRMING Hydro Facilities, Brookfield Renewable US has established programs for coordinating with local communities and promoting recreation use of the rivers on which its facilities are located. Brookfield Renewable US has a strong commitment to sustainable development and to creating and maintaining open and collaborative relationships with communities and stakeholders. For its existing portfolio of projects, Brookfield Renewable US has demonstrated this commitment through its engagement and consultation with local governments, aboriginal groups, local stakeholders (e.g., watershed associations, recreational groups, community organizations, and environmental groups), as well as the broader public. A copy of community involvement information is available on Brookfield Renewable US' website. The outreach programs in New York are available at the following link:
<https://renewableops.brookfield.com/>.

NORTHEAST RENEWABLE LINK

Since early May 2017, the NERL team has conducted extensive outreach to residents, elected officials, and stakeholders in the seven towns along the project route: Nassau and Stephentown in New York; and Hancock, Lanesborough, Cheshire, Dalton, and Hinsdale in Massachusetts. Outreach began with calls and emails to the appropriate Town Administrator, Town Manager, or Town Supervisor, introducing them to the project and the potential impacts and benefits to their towns. In-person meetings with town officials and formal presentations to the Boards of Selectmen (in Massachusetts) and Town Councils (in New York) were offered. As of June 30th, formal presentations are scheduled for four Massachusetts towns during July, with the other three towns pending.

Public outreach has focused on the project's low visual and environmental impact, as all 23 miles of the line will be constructed within or adjacent to the current transmission corridor, and the initial reaction from town officials and members of the public has been positive. Most of the seven towns along the route have been actively involved in recent infrastructure projects, including a proposed natural gas line. The NERL team has identified a small number of potentially sensitive abutting landowners, and began contacting them via door knocking on July 17, 2017.

In addition to local outreach, we have informed members of the business community and state-level elected officials, including Congressman Richard Neal, State Senator Adam Hinds, State Representative

Paul Mark, and State Representative Gailanne Carridi, the Berkshire Regional Planning Commission, and the 1Berkshire Strategic Alliance, which is the region's de facto chamber of commerce.

GridAmerica has also established numerous channels through which members of the public can communicate with the NERL project team, including a website, toll-free hotline number, and email address. Through Cornerstone Engineering, GridAmerica notified landowners with parcels along the project route in June with an introductory letter, and providing them with the hotline number, website address, and email address.

GridAmerica has contacted 216 abutting landowners as of July 15, 2017 by letter: 8 in Nassau, NY; 45 in Stephentown, NY; 22 in Hancock, MA; 34 in Hinsdale, MA; 55 Lanesborough, MA; 27 in Cheshire, MA; and 25 in Dalton, MA. *Table 7.4-1* summarizes the current status of the NERL project outreach plan.

Table 7.4-1: NERL Outreach Activities and Current Status

Month	Outreach Activity	Status
June 2017	Public communications channels opened	<ol style="list-style-type: none"> 1. Toll-free hotline established 2. info@ email address established 3. Facebook and Twitter accounts established
	Collateral and project materials created	<ol style="list-style-type: none"> 1. Revised/enhanced website 2. Project Overview document 3. FAQ document 4. Public-facing Project PowerPoint presentation 5. Town-specific overviews 6. Project business cards
	Town Outreach	<ol style="list-style-type: none"> 1. Initial outreach to all five MA towns began on 6/7/17 2. Initial outreach to both NY towns began 6/23/17 <p>The primary purpose of the outreach to town officials was to introduce them to the project and schedule a formal presentation before each town's Board of Selectmen or Town Councils.</p>
	State and Legislative Outreach	Northwind and Hilltop coordinated to begin outreach to state legislators in late June.
	Abutters Outreach	Cornerstone/NERL mailed introductory letters to landowners with parcels along the project route (53 in New York; 163 in MA)
	Other Outreach	Additional outreach has been conducted to key local and regional stakeholders, such as the Berkshire Regional Planning Commission and the 1Berkshire Strategic Alliance.
July 2017	Town Outreach	<ol style="list-style-type: none"> 1. Presentations to Town Councils (NY) and Boards of Selectmen (MA) begin <ol style="list-style-type: none"> a. Stephentown, NY – 7/10 b. Hancock, MA – 7/18 c. Cheshire, MA – 7/18 d. Dalton, MA – 8/14 2. Public Community Meetings in each of the seven towns will be held in August and September <ol style="list-style-type: none"> a. Community Meetings will include Subject Matter Experts from NRL

	Abutters Outreach	<ol style="list-style-type: none"> 1. All direct and indirect abutters will be invited to Public Community Meetings 2. Cornerstone/Hilltop will continue abutter conversations, with initial engagements with property owners who will be affected by any needed expansions of easements and/or the ROW
	State and Legislative Outreach	Appropriate stakeholders on the state level will be kept informed of all project developments, including public meetings

7.5 FOR BIDS THAT INCLUDE NEW CLASS I RENEWABLE PORTFOLIO STANDARD ELIGIBLE RESOURCES, PROVIDE DOCUMENTATION DEMONSTRATING THAT THE PROJECT WAS OR WILL BE QUALIFIED AS SUCH. IF THE FACILITY IS ALREADY IN OPERATION, PLEASE INDICATE WHEN THE FACILITY RECEIVED SUCH QUALIFICATION.

CLASS I FACILITIES

The project is a solar and wind energy generation facility and is therefore qualified as a Class I Renewable Energy Source by Massachusetts General Laws Chapter 25A, Section 11F, and 225 CMR 14.05 (1) a 1 appropriate certifications will be requested by the appropriate state agency as necessary.

FIRMING HYDRO FACILITIES

N/A, Firming Hydro Facilities do not qualify as New Class I Renewable Portfolio Standard Eligible Resources.

7.6 ALL BIDDERS MUST INCLUDE SUFFICIENT INFORMATION AND DOCUMENTATION THAT DEMONSTRATES THAT THE BIDDER WILL UTILIZE AN APPROPRIATE TRACKING SYSTEM TO ENSURE A UNIT-SPECIFIC ACCOUNTING OF THE DELIVERY OF CLEAN ENERGY GENERATION, TO ENABLE THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, IN CONSULTATION WITH DOER, TO ACCURATELY MEASURE PROGRESS IN ACHIEVING THE COMMONWEALTH'S GOALS UNDER CHAPTER 298 OF THE ACTS OF 2008 OR CHAPTER 21N OF THE GENERAL LAWS. THE RECS AND ENVIRONMENTAL ATTRIBUTES ASSOCIATED WITH CLEAN ENERGY GENERATION MUST BE DELIVERED INTO THE DISTRIBUTION COMPANIES' NEPOOL GIS ACCOUNTS.

[REDACTED]

7.7 IDENTIFY ANY EXISTING, PRELIMINARY OR PENDING CLAIMS OR LITIGATION, OR MATTERS BEFORE ANY FEDERAL AGENCY OR ANY STATE LEGISLATURE OR REGULATORY AGENCY THAT MIGHT AFFECT THE FEASIBILITY OF THE PROJECT OR THE ABILITY TO OBTAIN OR RETAIN THE REQUIRED PERMITS FOR THE PROJECT.

Neither the Bidders nor GridAmerica are aware of such claims, litigation, or matters.

As mentioned above, there are no existing, preliminary or pending claims or litigation, or matters before any federal agency or any state legislature or regulatory agency that might affect the feasibility of the proposed project or the ability to obtain or retain the required permits for the project.

SECTION 8 OF APPENDIX B TO THE RFP ENGINEERING AND TECHNOLOGY; COMMERCIAL ACCESS TO EQUIPMENT

This section includes questions pertinent to the engineering design and project technology. This section must be completed for a project that includes new facilities or capital investments for both generation and transmission components if applicable. Bidders should provide information about the specific technology or equipment including the track record of the technology and equipment and other information as necessary to demonstrate that the technology is viable.

8.1	PROVIDE A REASONABLE BUT PRELIMINARY ENGINEERING PLAN WHICH INCLUDES THE FOLLOWING INFORMATION:
I.	TYPE OF GENERATION AND TRANSMISSION TECHNOLOGY, IF APPLICABLE
II.	MAJOR EQUIPMENT TO BE USED
III.	MANUFACTURER OF THE EQUIPMENT
IV.	STATUS OF ACQUISITION OF THE EQUIPMENT
V.	WHETHER THE BIDDER HAS A CONTRACT FOR THE EQUIPMENT. IF NOT, DESCRIBE THE BIDDER'S PLAN FOR SECURING EQUIPMENT AND THE STATUS OF ANY PERTINENT COMMERCIAL ARRANGEMENTS
VI.	EQUIPMENT VENDORS SELECTED/CONSIDERED
VII.	HISTORY OF EQUIPMENT OPERATIONS
VIII.	IF THE EQUIPMENT MANUFACTURER HAS NOT YET BEEN SELECTED, IDENTIFY IN THE EQUIPMENT PROCUREMENT STRATEGY THE FACTORS UNDER CONSIDERATION FOR SELECTING THE PREFERRED EQUIPMENT

CLASS I FACILITIES

Avangrid will use conventional modern solar module/inverter technology and wind turbine technology with proven reliability in applications in numerous locations worldwide. Avangrid has installed such technologies at other sites. For the Project, Avangrid will utilize the same engineering and procurement approach as it has done for many other recently-developed solar-based and wind-based generation facilities. Attachment 5.3.1 provides representative examples of Avangrid projects.

Based on the solar and wind resource and other studies conducted for the Class I Facilities, none of the solar and wind sites will require any enhanced engineering compared to other recently developed projects. Therefore, Avangrid expects to use traditional technology sourced from manufactures with existing relationships.

The solar modules/inverters and wind turbines will be the major equipment procured for the Class I Facilities. Based on past experience, including standard industry lead times, the solicitation of proposals for solar modules/inverters and wind turbines will precede the balance of plant items by approximately 12 months.

Assuming an award and execution of the PPAs under the schedule outlined in the RFP, Avangrid will start the procurement process for the Class I Facilities at an appropriate point in the siting and permitting

process. (Section 10 contains additional information regarding the procurement schedule for the Class I Facilities.)

To procure solar modules/inverters and wind turbines for the Class I Facilities, Avangrid will use a competitive solicitation process to select the equipment supplier. The factors to be evaluated in this solicitation process are:

- Energy production;
- Long-term reliability;
- Availability metrics;
- Track record;
- Installed base; and
- Operation and maintenance (service) terms and conditions.

The solicitation will include major turbine suppliers, such as Gamesa, General Electric, Siemens, Vestas, and others.

At this time Avangrid has not completed the final design and equipment selection for the solar facilities. There is a central procurement team in place that will manage the purchase of the project. Avangrid will consider using the preferred equipment suppliers if they meet the minimum performance and warranty criteria and offer a market competitive price and terms. Avangrid has not submitted request for pricing and schedule from any vendors at this time.

FIRMING HYDRO FACILITIES

The Firming Hydro Facilities are currently operating and no specific capital investment (other than normal sustaining capital) is required to meet its obligations under this Proposal.

NORTHEAST RENEWABLE LINK

i) Type of generation and transmission technology, if applicable

The project consists of a new AC 345 kV transmission line. Tubular steel pole structures and steel-reinforced aluminum conductors will be used to provide strength and durability for long-term reliability. To minimize the visual impact, the structures will be manufactured to appear similar to adjacent existing 345 kV structures, and they will be placed next to the existing structures whenever possible. The structures will be made from weathering steel, which will age to a dark brown color, further reducing the visual impact. Each of the line's three phases will be comprised of a bundle of two 1590 MCM ACSR 54/19 Falcon conductors. One of the two shield wires will be a 5/8" 19-strand extra-high-strength steel wire, and the second will be fiber optic ground wire (OPGW). Most structures will be directly buried in the ground. The remaining structures will be installed on reinforced concrete caisson foundations.

A phase angle regulator (PAR) installed at NMPC's Alps Substation is necessary for the project but is incidental in terms of scope. The PAR will utilize well-established existing technologies. Therefore, it is not described in detail in the subsequent discussions in order to provide a more easily understood narrative.

ii) Major equipment to be used

Major materials for the 345 kV transmission line consist of steel poles and cables (conductor, shieldwire, and optical ground wire).

iii) Manufacturer of the equipment

Manufacturers of materials for the 345 kV transmission line are described in section 8.2 below.

iv) Status of acquisition of the equipment

As the design of the transmission line progresses, bid packages will be offered to the competitive market to source the materials from approved vendors with a strong internal and project mandated quality control and quality assurance programs in a cost efficient and schedule conscious manner.

v) Whether the bidder has a contract for the equipment

If not, describe the bidder's plan for securing equipment and the status of any pertinent commercial arrangements

The plan for and status of the acquisition of materials for the 345 kV transmission line is described in section 8.1.iv.

vi) Equipment vendors selected/considered

The plan for and status of the acquisition of materials for the 345 kV transmission line is described in section 8.1.iv.

vii) History of equipment operations

GridAmerica's affiliates own and operate more than 8000 miles of electric transmission lines in the US, including more than 1000 miles of 345 kV lines. A significant portion of that network has been in service for more than 50 years. All the materials to be used on the project have a long history of reliable performance.

viii) *If the equipment manufacturer has not yet been selected, identify in the equipment procurement strategy the factors under consideration for selecting the preferred equipment*

As the design of the transmission line progresses, bid packages will be offered to the competitive market to source the materials from approved vendors with a strong internal and project mandated quality control and quality assurance programs in a cost efficient and schedule conscious manner.

8.2 IF THE BIDDER HAS NOT YET SELECTED THE MAJOR EQUIPMENT FOR A PROJECT, PLEASE PROVIDE A LIST OF THE KEY EQUIPMENT SUPPLIERS UNDER CONSIDERATION.

CLASS I FACILITIES

FIRMING HYDRO FACILITIES

The Firming Hydro Facilities are currently operating.

NORTHEAST RENEWABLE LINK

Steep Pole Vendors:

- Dis-Tran Steel LLC
- Engineered Endeavors
- MD Henry Co, Inc.
- Meyer Steel Structures
- Sabre-Fort Worth
- TransAmerica Power Products Inc.
- Valmont Industries
- Zhejang Shengda Steel Tower Co (ZSST)

Conductor and Shield Wire:

- 3M
- AFL
- American Wire Group
- Brugg
- Southwire
- General Cable
- Wuxi Jiang Nan Cable Company
- Qingdao Hanhe Cable Company
- Jiangsu Zhongtian Technology Company

Insulators:

- Lapp Insulator
- Newell Insulator
- Victor
- Dalian Insulator Group
- Suzhou Porcelain Insulator Works Company
- Sediver (SEVES)
- SGD

8.3 PLEASE IDENTIFY THE SAME OR SIMILAR EQUIPMENT BY THE SAME MANUFACTURER THAT ARE PRESENTLY IN COMMERCIAL OPERATION INCLUDING THE NUMBER INSTALLED, INSTALLED CAPACITY AND ESTIMATED GENERATION FOR THE PAST THREE YEARS.

The following summarizes this information for each component of the Project:

CLASS I FACILITIES

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

FIRMING HYDRO FACILITIES

The Firming Hydro Facilities includes horizontal and vertical Francis type turbines as well as propeller, Kaplan, and multiple runner turbines. These facilities have operated successfully for decades and there are an extensive number of similar facilities, worldwide. In the US alone, there are over 1,600 conventional hydropower facilities currently operating with a total capacity of over 100,000 MW.

NORTHEAST RENEWABLE LINK

GridAmerica's affiliates own and operate more than 8000 miles of electric transmission lines in the US, including more than 1000 miles of 345 kV lines. A significant portion of that network has been in service for more than 50 years. All the materials to be used on the project have a long history of reliable performance. They will be procured from established suppliers pre-approved for use by National Grid affiliates.

8.4 FOR LESS MATURE TECHNOLOGIES, PROVIDE EVIDENCE (INCLUDING IDENTIFYING SPECIFIC APPLICATIONS) THAT THE TECHNOLOGY TO BE EMPLOYED FOR ENERGY PRODUCTION IS READY FOR TRANSFER TO THE DESIGN AND CONSTRUCTION PHASES. ALSO, ADDRESS HOW THE STATUS OF THE TECHNOLOGY IS BEING CONSIDERED IN THE FINANCIAL PLAN FOR THE PROJECT.

CLASS I FACILITIES

All of the technology proposed for the Project has a reliable operational history. As described in Section 8.3, all equipment will be manufactured by industry leaders. As described in Section 5, each project sponsor typically finances its investments at the corporate level; therefore, technology is not a factor in the financial plan.

FIRMING HYDRO FACILITIES

The Firming Hydro Facilities are currently operating and utilize mature technology.

NORTHEAST RENEWABLE LINK

The proposed NERL project will use mature technologies,

8.5 PLEASE INDICATE IF THE BIDDER HAS A FULL AND COMPLETE LIST OF EQUIPMENT NEEDED FOR ALL PHYSICAL ASPECTS OF THE BID, INCLUDING GENERATION FACILITIES, TRANSMISSION LEAD LINES, TRANSMISSION PROPOSALS, AND MANDATORY AND VOLUNTARY TRANSMISSION SYSTEM UPGRADES. IF NOT, IDENTIFY THE AREAS OF UNCERTAINTY AND WHEN THE FULL AND COMPLETE LIST OF EQUIPMENT WILL BE IDENTIFIED.

CLASS I FACILITIES

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

FIRMING HYDRO FACILITIES

The Firming Hydro Facilities are currently operating.

NORTHEAST RENEWABLE LINK

GridAmerica has a list of equipment needed for the proposed 345 kV transmission line. The list of major equipment and approximate quantities are provided below:

- 69 miles of 1590 MCM ACSR 54/19 Falcon conductor
- 23 miles of optical ground wire
- 23 miles of 3/8" Extra High Strength steel wire
- 192 weathering steel H-Frame structures
- 27 weathering steel 3-pole pull-off structures

8.6 PLEASE INDICATE IF THE BIDDER HAS SECURED ITS EQUIPMENT FOR ALL PHYSICAL ASPECTS OF THE BID, INCLUDING GENERATION FACILITIES, TRANSMISSION LEAD LINES, TRANSMISSION PROPOSALS, AND MANDATORY AND VOLUNTARY TRANSMISSION SYSTEM UPGRADES. IF NOT, IDENTIFY THE LONG-LEAD EQUIPMENT AND DESCRIBE THE TIMING FOR SECURING THIS EQUIPMENT.

CLASS I FACILITIES

[REDACTED]

FIRMING HYDRO FACILITIES

The Firming Hydro Facilities are currently operating.

NORTHEAST RENEWABLE LINK

The long lead items associated with the transmission line portion of the project include the steel pole structures, conductor and shield wire. The timing of releasing bids for these items will be contingent upon permitting approval. The project schedule in Section 10 was developed with consideration of the manufacturing and delivery times associated with these materials.

SECTION 9 OF APPENDIX B TO THE RFP OPERATION AND MAINTENANCE

Projects that can demonstrate that the operation and maintenance (“O&M”) plan, level of funding, and mechanism for funding will ensure reliable operations during the term of the contract or the tariff are preferred.

9.1 PROVIDE AN O&M PLAN FOR THE PROJECT THAT DEMONSTRATES THE LONG TERM OPERATIONAL VIABILITY OF THE PROPOSED PROJECT. THE PLAN SHOULD INCLUDE A DISCUSSION OF THE STAFFING LEVELS PROPOSED FOR THE PROJECT, THE EXPECTED ROLE OF THE PROJECT SPONSOR OR OUTSIDE CONTRACTOR, SCHEDULING OF MAJOR MAINTENANCE ACTIVITY, AND THE PLAN FOR TESTING EQUIPMENT.

The Bidders and GridAmerica are affiliates of leaders in the energy industry with an established history of successfully operating and maintain billions of dollars of generation and transmission assets. Accordingly, each participant has procedures in place to similarly operate and maintain the proposed project facilities, along with its existing assets as summarized below.

CLASS I FACILITIES

Avangrid will integrate its project-specific solar and wind Class I Facilities into its existing O&M program, replicating staffing (dedicated and system support) plan develop through years of experience in operating and maintain large fleets of solar and wind facilities. Confidential Attachment 9.1.1 details Avangrid’s typical O&M plans, which will be applied to the respective solar and wind Class I Facilities for the Project.

Key Elements of the Class I Facility O&M Plans

- *Maintenance Inspections.* Upon commercial operation, a schedule of regular inspections will be instituted for each solar and wind Class I Facility. Multiple inspections will occur during the first year of operation, followed by annual and service interval inspections over a repeating 5-year cycle. Inspections are designed to check and test key components and to perform associated routine maintenance.
- *Maintenance Duties.* In addition to the mandatory inspection cycles, Avangrid will maintain crews (local and fleet-wide) to perform scheduled and unscheduled maintenance in the field, including periodic operational checks and tests, and regular preventive maintenance on all solar modules/inverters, turbines, related plant facilities, equipment, safety systems, controls, instruments and machinery. Regular maintenance will include compliance with manufacturers’ recommended and required activities and a comprehensive program for ensuring long-term viability, as incorporated in an O&M manual developed for each Class I Facility.
- *Staffing.* Avangrid maintains a combination of local and remote staff to operate and maintain solar and wind generation facilities. Avangrid has 24 hour oversight of each facility through in-house staff, usually supplemented by monitoring provided by the applicable turbine manufacturer. Avangrid plans to staff its wind Class I Facilities using the industry standard approach.

In additional to accessing its organization’s internal O&M resources, Avangrid will coordinate with its solar module/inverter and turbine manufacturer regarding the fulfillment of the warranty and other contractual obligations under the supply agreement. Typically, in the event of mechanical issues (e.g., serial defects that occur during the warranty period), the supplier will replace the defective components

within a reasonable amount of time. The suppliers also will maintain a suitable inventory of turbine parts at a facility located in the U.S. to ensure availability of spare equipment, as needed.

FIRMING HYDRO FACILITIES

Brookfield Renewable US operates and manages the 70 Firming Hydro Facilities as part of Brookfield Renewable's 10,600 MW of generating assets. At these existing facilities, the on-site management of operations is supported by the Atlantic Operations Center, as well as other resources within Brookfield Renewable's Operations Group.

All generation operation and majority of the maintenance is performed using internal resources. Typical maintenance activities include runner metal repair, bearing refurbishment, wicket gate overhauls, and rehabilitation of governor systems. A recent Independent Engineer's Technical Assessment of the Firming Hydro Facilities (performed by the consulting firm Hatch) concluded that the facilities have been operated and maintained in accordance with normal or better-than-normal practices employed by utility owners of similar assets, and the components and equipment are in a condition that is in line with, or exceeds, industry standards.

NORTHEAST RENEWABLE LINK

Preventive and Predictive Maintenance

GridAmerica will contract with affiliates of its parent, NGUSA, for operations and maintenance of the proposed transmission line. NGUSA has extensive preventive and predictive maintenance and testing programs. The new line will be seamlessly incorporated into these programs, which are documented in Electric Operating Procedure (EOP)-T007.00, *Inspection and Maintenance Activities* ([Attachment 9.1.1 - Inspection and Maintenance Activities](#)) and detailed in program-specific procedures that are summarized below, with detailed guidance documents provided as attachments.

- ***Aerial Visual Inspection (Semi-Annually)*** During the aerial visual inspection, the transmission line is checked for damaged components, such as broken insulators or broken conductor strands that could pose an immediate operational concern. Defects are reported and repaired in accordance with established timeframes. Unauthorized use of the transmission line right-of-way, vegetation, abnormal structure condition, avian concerns and all other notable anomalies are noted for further action if necessary (see *Attachment 9.1.2 - Aerial Visual Inspection*).
- ***Electrical Connector Inspection (Annually)*** During the electrical connector inspection, a helicopter-mounted infrared (IR) camera determines the temperature of all system components and connectors along the transmission line conductors. Sharply elevated temperatures ("hotspots") indicate a rise in electric resistance, an indicator of potential future failure. Hotspots are reported and scheduled for repair in accordance with established timeframes (see *Attachment 9.1.3 – Electrical Connector Inspection*).
- ***Ground-level Visual Inspection (Every 5 years)*** During the ground-level visual inspection a foot or vehicle assessment of all components are checked for damage and decay, such as cracked insulators or damaged structural members. Defects are noted and repaired in accordance with established timeframes (see *Attachment 9.1.4 - Ground-level Visual Inspection*).
- ***Steel Structure Foundation Inspection (Every 20 years)*** During the steel structure foundation inspection, concrete piers, caisson foundations, steel grillages, and directly embedded steel poles are partially excavated, cleaned and inspected. Repairs are made as required. Steel components are coated with a moisture-cure urethane to prevent rust, and concrete encasements are resurfaced if any cracks or spalls are present (see *Attachment 9.1.5 – Steel Structure Foundation Inspection*).

- **Steel Structure Painting (Every 20 years)** During steel structure painting, steel structures are surface prepared (if required) and then repainted in accordance with paint manufacturers' recommendations (see *Attachment 9.1.6 – Steel Structure Painting*).

Vegetation Management

NGUSA has an extensive vegetation management program and thorough plans for its implementation. It is described in a comprehensive vegetation management strategy (VMS) and detailed vegetation management procedures (VMPs). Vegetation management documents are listed in *Table 9.1-1*.

Table 9.1-1: Vegetation Management Program

Document Title	Designation
Vegetation Management Strategy (VMS)	Version 3.0
Vegetation Management Procedures (VMP), including: <ul style="list-style-type: none"> • TROW Floor Specification • TROW Sideline Specification • Right-of-Way Vegetation Mowing Specification 	Version 4.0

The VMS defines:

- Strategies for all phases of vegetation management on ROWs;
- Clearance requirements between conductors and vegetation acceptable to NGUSA for maintaining reliable electric transmission service; and
- Responsibilities of company personnel.

The VMP defines:

- The approved procedures and practices for vegetation management;
- The process for imminent threat condition due to vegetation; and
- Voltage classes applications.

The primary objective of NGUSA's VMS and VMPs is to minimize service interruptions caused by vegetation. Other objectives include providing a clear and safe workspace and access for maintenance activities.

In accordance with North American Electric Reliability Corporation requirements, vegetation patrols of all rights-of-way with lines of voltages of 345 kV and above are conducted annually, and intervals between patrols do not exceed 18 months.

Vegetation strategy personnel are responsible for work plans, permits, policies, procedures, and working with state and federal regulators. Vegetation operations personnel are responsible for all vegetation management activities, including oversight of all vegetation contractors, contractor procurement, scheduling, Q&A, and budget tracking.

For further information, see [Attachment 9.1.7](#); [Attachment 9.1.8](#); [Attachment 9.1.9](#); [Attachment 9.1.10](#) and [Attachment 9.1.11](#).

Clearance and Control

NGUSA will manage the operational clearance and control over the new line from its New England Transmission Control Center. NGUSA has numerous transmission line interconnections with other utilities and is accustomed to coordinating with substation owners/operators at remote-ends of NGUSA-owned transmission lines. NGUSA's *Clearance and Control Procedures EOP G014* ([Attachment 9.1.12](#)), *Transmission Personnel Protection Grounding Procedures EOP T011* ([Attachment 9.1.13](#)) and *Operation of Inter-Utility Transmission Facilities Operating Procedure OP-97* ([Attachment 9.1.14](#)) address all necessary procedures associated with operating a transmission line when one or both substation remote-ends is not owned/operated by NGUSA.

EOP G014 provides personnel safety, maintains integrity of service, and protects apparatuses used in the transformation, transmission, and distribution of electrical energy. EOP G014 applies when isolating overhead and underground transmission circuits, overhead and underground distribution circuits, and substation apparatuses. The NGUSA system operator directs this process through the use of disconnecting devices, tagging and documentation.

NGUSA's Local Control Center (LCC) provides system security services in support of ISO-New England (ISO-NE) and on behalf of NGUSA affiliates with operations in Vermont, New Hampshire, Massachusetts and Rhode Island, 29 municipal electric companies, and two investor-owned utilities. The LCC staff and facilities are provided, operated and managed by NGUSA USA Service Company. In addition to the services it provides in support of ISO-New England, the LCC also performs services on behalf of NGUSA's New England Power Company (NEP) that sustain NEP's compliance with NERC Reliability Standards. The LCC is operated 24/7/365. Control room staff (security/system operators and management) are NERC Reliability Coordinator certified.

The Primary Transmission Control Center (TCC) is in NGUSA's Special Purpose facility, which houses other electric and gas control centers. The building is surrounded by 7-foot fencing and there are three access control points to enter the TCC — front gate, exterior doors and interior doors. Proximity card access is required by all employees. Access into the transmission area and TCC is dual factor authentication (i.e., access card and PIN). There are cameras and alarms on each entry point that are monitored by the Security Control Center, also housed within the building.

NGUSA's New England Energy Management System (EMS) uses Inter-Control Center Communications Protocol (ICCP) to exchange real-time data between ISO-NE and other operating entities in New England. Currently, all connections are running in a fully secure mode with authentication and encryption over a redundant frame relay network. The data exchanged is primarily transmission and generation status and measurements (e.g., breakers, disconnects, megawatts, mega volt amps, kilovolts, Hertz, tap positions, and system, ties, loads, reserves, interface limits and miscellaneous). Status data is received by exception and via a periodic integrity scan. Analog data is received based on a periodic interval timeout (typically five seconds or longer), except generator limits, modes, and set-points are received by exception.

Electric power is supplied from diverse transmission and distribution lines. A backup generator supplies power in the event of a loss of the normal power supply. Additionally, an uninterruptable power supply provides for power continuity to the Backup Control Center ("BCC") workstations.

The BCC is fully enabled with back-up SCADA/EMS servers that are synchronized from the primary EMS in real-time via the subscription service that is part of the ABB Network Manager EMS. In near real-time, the BCC is kept up-to-date with all changes occurring to the online EMS.

NGUSA also has a detailed procedure *Helicopter Utilization and Notification - EOP T012* ([Attachment 9.1.15](#)) for the use of helicopters, including for post-fault patrols.

Spare Parts, Structures, and/or Equipment

NGUSA stores a complete inventory of spare parts for routine operations and emergency response at supply depots located in New England and New York. Specialized material, specific to transmission lines located in a geographical area, are located in emergency storage units located throughout New England and New York. Further, additional materials for specific projects are on hand and are diverted when needed to speed response times.

NGUSA also maintains an inventory of Lindsey Emergency Restoration System (ERS) materials and installation equipment, which can be utilized to rebuild transmission lines damaged from severe storms, wildfires or other infrequent occurrences. NGUSA's internal transmission line department conducts training drills to familiarize crews with the Lindsey ERS and improve their ability to transport and erect the towers in the event of an emergency.

Emergency Response

NGUSA has award-winning expertise in emergency response. It has established Electric Emergency Response Plans (ERPs) to manage outages due to storms and other natural disasters, civil unrest, major equipment failure and other events. These ERPs are simple, flexible and easily adapted to specific emergencies. They include procedures that are followed when an emergency occurs.

National Grid received the EEI 2016 Emergency Recovery Award for a significant snowstorm event in February 2016.

The ERPs are the framework for the orderly and timely response of resources during emergency events. These procedures provide instructions for actions to be taken during emergency events classified as Type 1, 2 and 3. The ERPs use the National Incident Management System (NIMS), a comprehensive national approach to incident management applicable at all levels of NGUSA's Emergency Response Organization (ERO) and across functional disciplines. It is focused on public safety, workforce safety and safety of outside assistance and addresses the operation of Emergency Operation Centers (EOCs).

The ERPs were developed in accordance with all applicable regulations and are designed based on the principles of Incident Command System (ICS) and the NGUSA's Group Crisis Management Framework. We conduct training, drills and exercises annually to evaluate the effectiveness of the ERPs, with the Emergency Response Functional Exercise completed by August 1 each year. The ERPs are also reviewed and revised no later than May 15 each year.

The annual review and revision includes improvements resulting from the After Action Report from the annual Emergency Response Functional Exercise. However, the ERP may be revised more frequently based on recommended changes from a storm review or After Action Report, or regulatory or legislative directives.

The new line will be incorporated into these plans (see Confidential Attachment 9.1.16).

Damage Assessment and Emergency Repairs

NGUSA's New England and New York Transmission Line Services (TLS) departments have extensive capabilities to manage and/or perform damage assessment and emergency repairs. TLS includes 21 highly experienced managers and supervisors and over 90 line workers, plus field support staff such as utility workers, equipment operators and welders. Line workers must pass a competitive assessment process even before being hired. Over the next several years they attend formal classroom training at our dedicated Millbury and Syracuse Training Centers and must pass numerous on-the-job skill assessments as they advance through a rigorous progression path. At the top end of this progression line workers are able to perform energized bare-hand work on all transmission voltages. Annual training is conducted for all skill levels. TLS also has at its disposal over 50 pieces of equipment specifically manufactured for work in rugged rights-of-way, including cranes, skidders, dozers and amphibious vehicles. They also have another 130 pieces of equipment such as bucket, tool and welding trucks for work in areas with developed access roads. The Transmission Line Maintenance department (TLM) has contracts with multiple helicopter service firms prepared to quickly transport experienced TLM patrollers in the event of a fault. Patrols are conducted for trips and recloses, as well as for lock-outs in accordance with procedures detailed in *Attachment 9.1.17 - Post Interruption Line Patrols TOP-18*. NGUSA's prospective service provider has comparable capabilities.

See Confidential Attachment 9.1.16 – Emergency Response Plan for Massachusetts for further details.

Emergency Repair and Testing

Emergency repairs or imminent vegetation hazard identified during routine maintenance inspections will be corrected similar to the response to forced outages detailed above, including assessment, management and resourcing. In addition, imminent vegetation hazards follow the P5 procedure within the *Vegetation Management Procedures (Attachments 9.1.8 – 9.1.11)*.

Safety Assurance & Risk Management Plan

As an existing owner/operator on an extensive electric transmission system, NGUSA has an all-encompassing safety program for construction, operations and maintenance of electric transmission lines. Specifically, there are detailed policies for:

- Contract safety requirements
- Employee safety
- Clearance and control
- Grounding guidelines
- Transmission personnel protection grounding
- Process hazard analysis

All of these procedures can and will be applied to the construction, operations and maintenance of the proposed line.

See Attachment 9.1.18 - Employee Safety Handbook; Attachment 9.1.19 - Contractor Safety Requirements; Attachment 9.1.20 - Arc Flash Awareness and Mitigation; and Attachment 9.1.13 – Transmission Personnel Protection Grounding for a representative sample of safety procedures.

Transmission O&M Organizational Depth

To demonstrate the strength and depth of expertise upon which GridAmerica can draw within NGUSA USA, elements of the NGUSA USA organization that will provide operations and maintenance and related support services are presented in Attachment 9.1.21.

A phase angle regulator (“**PAR**”) installed at NMPC’s Alps Substation is necessary for the project, but incidental in terms of scope. The operation and maintenance of the PAR has been developed and fully accounted for, but it is not described in detail here in order to provide a more easily understood narrative.

9.2 DESCRIBE IN DETAIL THE PROPOSED O&M FUNDING MECHANISM AND FUNDING LEVELS TO SUPPORT PLANNED AND UNPLANNED O&M REQUIREMENTS.

CLASS I FACILITIES

While payments under the PPAs will be used to fund O&M expenses for each Class I Facility, Avangrid approach O&M on a programmatic enterprise basis, rather than relying on project-specific cash flow to fund the O&M requirements of a particular facility. Accordingly, as described in Section 9.1, the operation and maintenance of the solar and wind Class I Facilities will be part of a larger plan and budget for the overall fleet of solar and wind generation facilities owned by its affiliates. The in-house operations team will manage the internal funding and allocation of funds required to operate and maintain the facility to the standards required to meet the PPAs. Avangrid owns and operates over 6 GW of power generation across US and the individual projects will be managed as part of a portfolio of power generation facilities.

FIRMING HYDRO FACILITIES

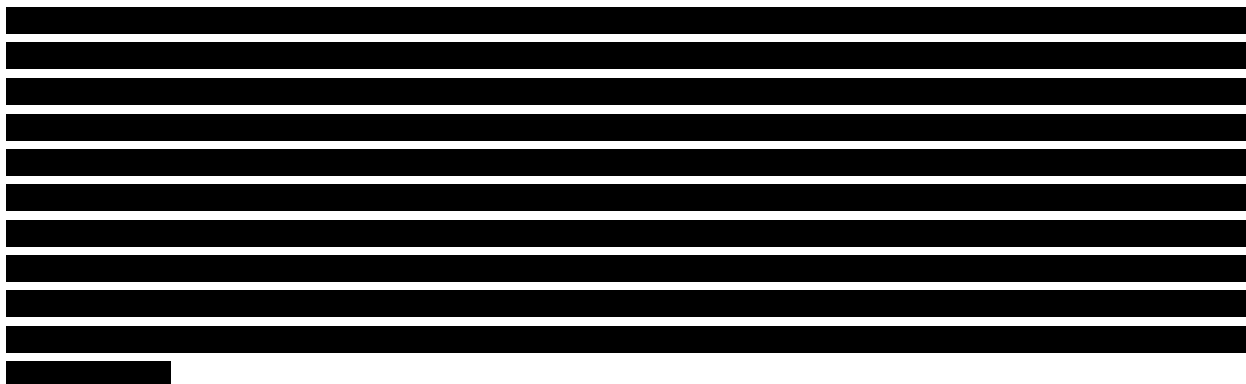
Payments under the PPAs will support and fund O&M activities for the Firming Hydro Facilities. Like the Class I Facilities, the payments under the PPAs will be considered in the financial planning of Brookfield Renewable US for the Firming Hydro Facilities. O&M activities are a function of prudent management and performed in accordance with industry standards.

NORTHEAST RENEWABLE LINK

GridAmerica’s affiliate, NGUSA, has extensive experience in owning, operating and maintaining high voltage electricity transmission assets throughout the northeastern US, and has considered planned and unplanned maintenance activities over the life of the transmission assets. GridAmerica expects the funding of both planned and unplanned O&M activities to be covered by positive cash flow from the Distribution Company or generator revenue streams. To the extent that an unplanned O&M requirement exceeds the positive cash flow, the cost will be covered by NGUSA USA credit.

9.3 DESCRIBE THE TERMS (OR EXPECTED TERMS) OF THE WARRANTIES AND/OR GUARANTEES ON MAJOR EQUIPMENT THAT THE BIDDER IS UTILIZING OR PROPOSING TO UTILIZE.

CLASS I FACILITIES



FIRMING HYDRO FACILITIES

Most of the Firming Hydro Facilities' equipment is beyond any warranty periods. Brookfield Renewable inspects and performs repairs on plant equipment on a regular basis, thus ensuring safe and reliable operation.

NORTHEAST RENEWABLE LINK

Typical warranties on steel pole structures extend from three to five years following the acceptance of the steel pole structure on site for a project. The same general timeline is applicable to conductor and shield wire. Terms and conditions associated with the length of warranty vary based on the project and installation schedule associated with each component.

9.4 DESCRIBE THE STATUS OF THE PROJECT SPONSOR IN SECURING ANY O&M AGREEMENTS OR CONTRACTS. INCLUDE A DISCUSSION OF THE SPONSOR'S PLAN FOR SECURING A MEDIUM-TERM OR LONG-TERM O&M CONTRACT, INCLUDING THE EXPECTED PROVIDER OF O&M SERVICES.

CLASS I FACILITIES

Avangrid generally self-perform comprehensive O&M of facilities within their systems, will employ O&M agreements only for special applications, such as with manufacturers that support specialized equipment and strategic vendors that provide support as needed under master or similar agreements. Avangrid will likely perform the long term O&M on the facility. Should Avangrid out-source any part of the plant O&M, it will be managed by in-house operations team.

FIRMING HYDRO FACILITIES

Brookfield Renewable generally self-perform comprehensive O&M of its facilities but will secure third-party services for special applications from specialized equipment and strategic vendors that provide support as needed under master or similar agreements.

NORTHEAST RENEWABLE LINK

As described in Section 9.1, it is expected that GridAmerica will contract with affiliates of its parent, National Grid to manage the O&M of Northeast Renewable Link, which will be seamlessly incorporated into the programs stated. This service will be paid by the developer and will be segregated from any rate payer expense.

9.5 PROVIDE EXAMPLES OF THE BIDDER'S EXPERIENCE WITH O&M SERVICES FOR OTHER SIMILAR PROJECTS.

As summarized below, each of the Bidders and GridAmerica has extensive experience with O&M services for similar projects. Additional information regarding the Bidder's O&M services experience is provided in the attachments referenced below.

AVANGRID

Avangrid currently operates and maintains over 6 GW of installed renewable capacity in the U.S. (refer to Attachment 5.3.2). Avangrid anticipates that it will operate another 6 GW of generation over the coming 5 years. Avangrid is confident in its ability to operate and manage this facility over the life of the project.

In addition to the field staff that is present at each facility, Avangrid's 24-hour National Control Center (NCC) facilitates remote operations through continuous monitoring capabilities. Through that combination of field presence and remote capabilities, staff can immediately troubleshoot any operational concerns, adjust turbine activity to comply with local grid demands, shut down individual turbines for safety concerns, and manage solar module and wind turbine output for maximum efficiencies. Inside the NCC, Avangrid staff monitors vital information such as weather patterns, bird migrations, power output levels and remote camera feeds.

The solar and wind Class I Facilities to be constructed by Avangrid will be integrated into that program and function as part of the larger fleet of Avangrid's Clean Energy Generation facilities.

BROOKFIELD RENEWABLE US

Brookfield Renewable operates and maintains its generation facilities, including the Firming Hydro Facilities, using internal resources. Brookfield Renewable's portfolio is primarily hydroelectric and totals approximately 10,600 MW of installed capacity, diversified across 82 river systems and 15 power markets in North America, Colombia, Brazil and Europe.

Brookfield Renewable also has a significant presence across the Northeast, with close to 4,000 MW in operation across 155 facilities in New York, New England, Quebec, and Ontario. As described in [Attachment 11.5.1](#), Brookfield Renewable owns and operates a total portfolio of 1,376 MW in New England (including 677 MW of hydroelectric generation, the 600 MW Jack Cockwell pumped storage hydroelectric facility in western Massachusetts, as well as a 99 MW wind farm in New Hampshire).

Brookfield Renewable's US Operations headquarters is in Boston, MA, and its US Control Center is located in Marlborough, MA.

GRIDAMERICA

As an affiliate of NGUSA, GridAmerica is able to draw on the full capabilities of its parent. National Grid is one of the world's largest investor-owned utilities focused on transmission and distribution activities in electricity and gas in both the UK and the U.S. It plays a vital role in connecting millions of people to the energy they use, safely, reliably and efficiently. It engineers, designs, permits, constructs, owns and operates transmission facilities across upstate New York, Massachusetts, New Hampshire, Rhode Island and Vermont and owns and operates electricity distribution networks in upstate New York, Massachusetts and Rhode Island. Its network includes more than 8000 miles of transmission lines and nearly 1200 transmission and distribution substations.

National Grid also and operates the electricity transmission network in England and Wales, with day-to-day responsibility for balancing supply and demand. The network there comprises of nearly 4500 miles of overhead lines, nearly 1000 miles of underground cable and over 300 substations. A summary of National Grid's transmission network is presented in *Table 9.5-1*.

Table 9.5-1: National Grid Transmission Networks

Location	Type/Voltage	Miles
US & UK	AC 115 kV to 400 kV	18,617
US	AC 115 to 345 kV	8,410
US	DC 450 +/- kV (dual pole)	133

National Grid has unrivalled experience in building and managing teams of multiple partners to design and build reliable HVDC infrastructure projects in the U.S. and UK, and in operating this infrastructure on a day-to-day basis. Our multi-partner teams are successful because we are skilled at managing the interfaces between partners to ensure fully-integrated, seamless delivery for our end customer.

National Grid's on-site U.S. staff has extensive expertise in the management, engineering, design, construction, operation and maintenance of high voltage AC and DC transmission lines. Further, it has a network of line engineering and design firms, construction contractors, vegetation management contractors, material suppliers and other external specialists with national reputations to assist it.

Table 9.5-2 presents a summary of the approximate US staffing levels and experience for some key technical specialties.

Table 9.5-2: National Grid Staffing

Function	Employees	Average Experience (yrs)
Transmission Planning & Asset Management	53	15
Substation Engineering & Design	84	16
Substation Civil & Structural	12	10
Substation O&M Services	16	16
Transmission Engineering	40	10
T&D Operation & Maintenance Services	38	25
Telecommunications Engineering	10	20
Protection Engineering, Control & Integration	48	12
Vegetation & Forestry Management	10	19

Forestry Supervisors	33	19
Project Management	51	11
Construction Supervisors	77	21
Construction Planners	12	17
Stakeholder Management	5	14
New England Control Center	30	19

SECTION 10 OF APPENDIX B TO THE RFP PROJECT SCHEDULE

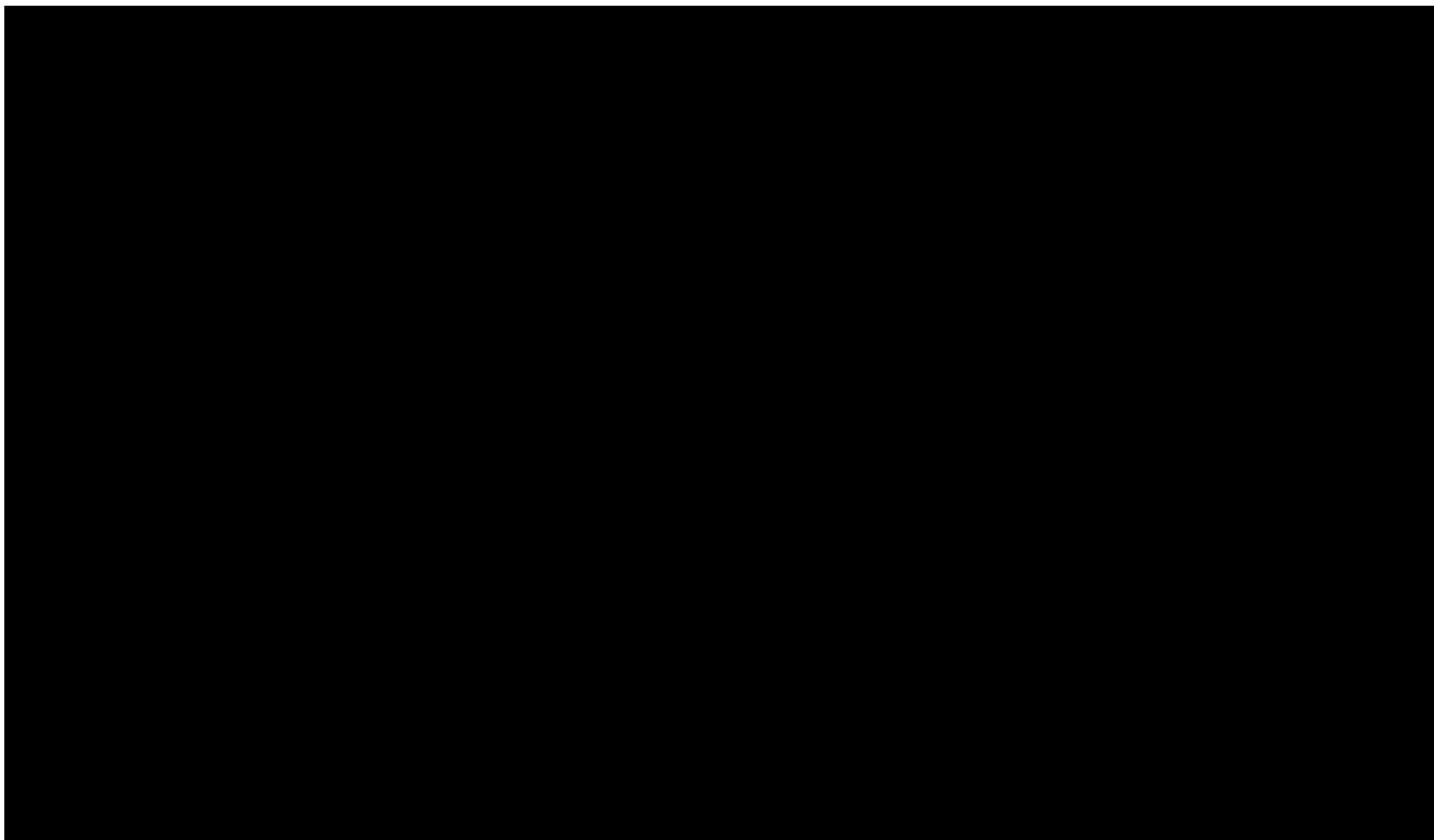
A bidder must demonstrate that its proposal can be developed, financed, and constructed and be technically viable within a commercially reasonable timeframe. The bidder is required to provide sufficient information and documentation that shows that the bidder's resources, process and schedule are adequate for the acquisition of all rights, permits and approvals for the project and for the financing of the project consistent with the proposed project milestone dates.

For Eligible Generation Facilities or Transmission Projects that are not yet in-service, bidders are required to provide a complete critical path schedule for the project from the notice of selection of the project for contract consideration to the start of commercial operations. For each project element, list the start and end date.

10.1 IDENTIFY THE ELEMENTS ON THE CRITICAL PATH. THE SCHEDULE SHOULD INCLUDE, AT A MINIMUM, PRELIMINARY ENGINEERING, FINANCING, ACQUISITION OF REAL PROPERTY RIGHTS, FEDERAL, STATE AND/OR LOCAL PERMITS, LICENSES, ENVIRONMENTAL ASSESSMENTS AND/OR ENVIRONMENTAL IMPACT STATEMENTS (INCLUDING ANTICIPATED PERMIT SUBMITTAL AND APPROVAL DATES), COMPLETION OF INTERCONNECTION STUDIES AND APPROVALS, PROCUREMENT, FACILITY CONTRACTS, START OF CONSTRUCTION, CONSTRUCTION SCHEDULE, FUEL SUPPLY, AND ANY OTHER REQUIREMENTS THAT COULD INFLUENCE THE PROJECT SCHEDULE AND THE COMMERCIAL OPERATION DATE.

The Integrated Project Schedule (*Figure 10.1*) illustrates the major project activities that will be completed in support of a [REDACTED] targeted in-service date and highlights critical path elements and timeframes for both the Class I Facilities and NERL.

Figure 10.1: Integrated Project Schedule



The Bidders and GridAmerica developed, refined and implemented best practices for the development of large scale infrastructure projects. They understand the complexities involved with planning and coordinating the integration of a new supply into the regional systems, including the system conditions that must be addressed to successfully commission such large scale undertakings. That effort requires extensive, close coordination with key stakeholders from both the ISO-NE and NYISO systems.

Scheduling is a core competency of with each Bidder's and GridAmerica's organization that has been leveraged as a management tool, including through the use of key performance indicators driven by scheduling elements. The management of each Bidder mandates comprehensive, forward-looking, accurate and realistic schedules for all construction projects to reinforce the integrity and importance of the scheduling process.

Additional information on the Project Components is provided below.

CLASS I FACILITIES

[REDACTED]

FIRMING HYDRO FACILITIES

The 70 Firming Hydro Facilities are all fully licensed, operational, and connected to the grid and do not require any capital investment or other upgrade to provide the Clean Energy Generation services for the Project.

NORTHEAST RENEWABLE LINK

For a complete project schedule, including the timing of critical path elements from development through commissioning, please refer to Confidential attachment 10.1 – NERL Project Schedule. GridAmerica anticipates commercial operation of the NERL project in Q4 2021.

10.2 DETAIL THE STATUS OF ALL CRITICAL PATH ITEMS, SUCH AS RECEIPT OF ALL NECESSARY SITING, ENVIRONMENTAL, AND ISO-NE APPROVALS.

CLASS I FACILITIES

Please refer to Confidential Attachment 10.1(A) – 10.1(H).

FIRMING HYDRO FACILITIES

The Firming Hydro Facilities are currently operating.

NORTHEAST RENEWABLE LINK

For details regarding the status of key critical path elements for the NERL project from development through commissioning, please refer to Confidential Attachment 10.2– Status of NERL Critical Path Elements.

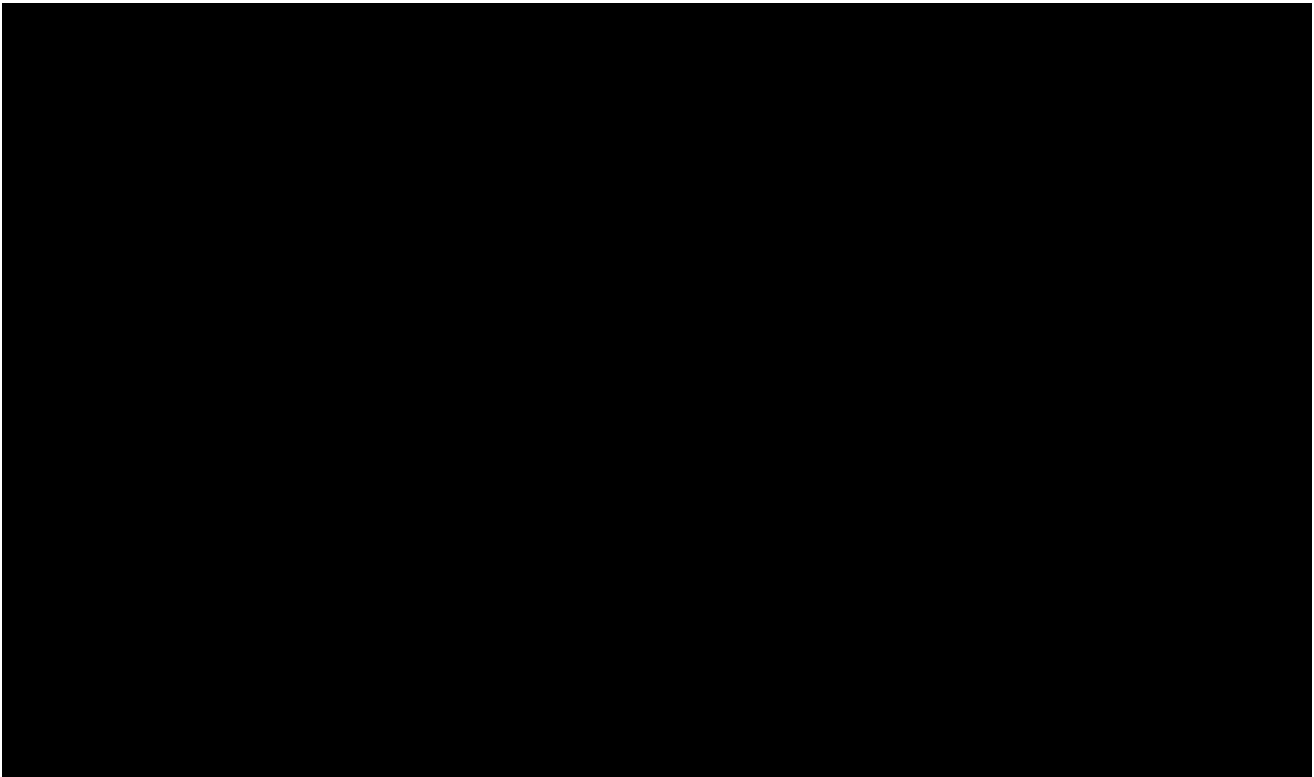
SECTION 11 OF APPENDIX B TO RFP
PROJECT MANAGEMENT/EXPERIENCE

Bidders are required to demonstrate project experience and management capability to successfully develop (for a project that includes new facilities or capital investment) and operate the project proposed. The Distribution Companies are particularly interested in project teams that have demonstrated success in projects of similar type, size and technology and, for projects that include new facilities or capital investment, can demonstrate an ability to work together effectively to bring the project to commercial operation in a timely fashion.

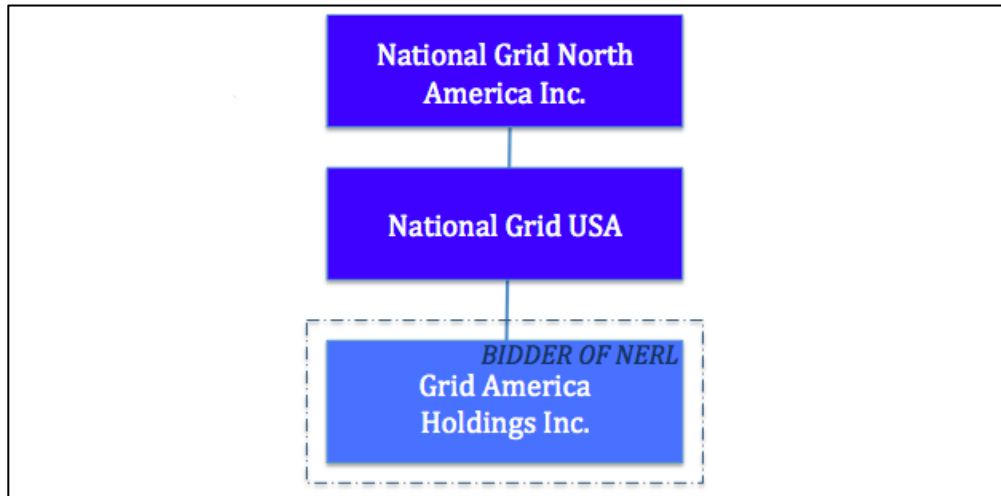
11.1 PROVIDE AN ORGANIZATIONAL CHART FOR THE PROJECT THAT LISTS THE PROJECT PARTICIPANTS AND IDENTIFIES THE CORPORATE STRUCTURE, INCLUDING GENERAL AND LIMITED PARTNERS.

Figure 5.2 (reproduced below) shows the Bidders, GridAmerica and other Project participants. Please refer to Section 5 for additional information regarding the Bidders and GridAmerica.

Figure 5.2: Proposed Commercial Structure



The NERL project will be held by a new project-specific company to be set up as a direct wholly-owned subsidiary of GridAmerica, and GridAmerica is a wholly owned subsidiary of NGUSA.



11.2 FOR A PROJECT THAT INCLUDES NEW FACILITIES OR CAPITAL INVESTMENT, PROVIDE STATEMENTS THAT LIST THE SPECIFIC EXPERIENCE OF THE BIDDER AND EACH OF THE PROJECT PARTICIPANTS (INCLUDING, WHEN APPLICABLE, THE BIDDER, PARTNERS, EPC CONTRACTOR AND PROPOSED CONTRACTORS), IN DEVELOPING, FINANCING, OWNING, AND OPERATING GENERATING OR TRANSMISSION FACILITIES (AS APPLICABLE), OTHER PROJECTS OF SIMILAR TYPE, SIZE AND TECHNOLOGY, AND ANY EVIDENCE THAT THE PROJECT PARTICIPANTS HAVE WORKED JOINTLY ON OTHER PROJECTS.

CLASS I FACILITIES

Avangrid has extensive experience in the development, financing, ownership, and O&M of utility-scale wind and solar projects and currently manages over 5,700 MW of renewable capacity. Avangrid has been in business for over 20 years and has more than 700 employees in the U.S. Avangrid is the second largest renewable developer in the United States, pursuing greenfield projects, repowering projects, and acquisitions. Avangrid currently has more than 25,000 MW of both wind and solar projects under active development.

In addition, Avangrid is the third largest holder of Bureau of Land Management rights-of-way and is actively pursuing both public and private lands for construction of photovoltaic and concentrated solar power. Please see Section 5.3 (including Attachment 5.3.1) for a comprehensive list of Avangrid's solar and wind projects. Additional information regarding Avangrid can be found at <http://iberdrolarenewables.us/>.

FIRMING HYDRO FACILITIES

The Firming Hydro Facilities are existing, operating facilities.

NORTHEAST RENEWABLE LINK

National Grid has extensive experience of developing, constructing and operating high voltage lines in its normal course of business in New England. NGUSA and its subsidiaries (collectively, National Grid) have extensive and recent examples of successful similar projects, which include the following:

New England East West Solution (NEEWS) –*Interstate Reliability Project IRP, Rhode Island Reliability Project (RIRP), and Advanced NEEWS Projects*

National Grid collaborated with Eversource Energy to construct a three-state transmission suite of projects that involved, among other things, the relocation, siting, and construction of new overhead 115 kV and 345 kV and reconductoring of existing transmission lines in Massachusetts, Rhode Island and Connecticut for a total length of 160 miles of transmission lines. The project went into service in 2015.

Merrimack Valley / North Shore Upgrade Area Project – The project was completed in 2013 and included the construction of a new 345/115 kV gas-insulated substation at Wakefield, Massachusetts, a new 345/115 kV substation in West Amesbury Massachusetts, building of a new 115 kV line (K-163), as well as reconductoring of multiple 115 kV lines and upgrades at other area substations in Northeastern Massachusetts.

Auburn Street Area Projects – These projects in Massachusetts were completed in 2012 and involved a complete rebuild of the 115 kV and 345 kV yards and addition of 345/115 kV transformers at Auburn Street substation, as well as significant 115 kV substation work at to other area substations.

Bloomdale to Vernon Hill – This project was completed in 2012 and involved a new 115kv cable in Worcester, Massachusetts

Hamden County Reliability Project (HCRP) – This project was completed in 2016 and included the design and construction of a new 10-mile 115kV R-170 transmission line from Palmer, MA to Hampden, MA, and a new substation in West Hampden.

Greater Boston and Southern New Hampshire Solution – National Grid is in the process of permitting and constructing a suite of projects that include the Merrimack Valley Reliability Project (MVRP), which is a new 345 kV line project connecting southern New Hampshire to Massachusetts. National Grid's portion of the MVRP project is estimated at \$87 million. This project is also being constructed collaboratively with Eversource Energy, where Eversource is constructing a portion of the line in New Hampshire. In addition to the MVRP project there are many other 115 kV line reconductoring and substation projects associated with this suite of work. All of the projects are expected to be in-service in 2018.

Salem Cable Rebuild - National Grid is in the process of rebuilding the two 115kV cables, each approximately 1.7 miles in length in the City of Salem, Massachusetts. The project involves engineering, siting and constructing a complex cable system in the historic downtown section of the city. The project is currently in the construction phase and is expected to be complete in 2017.

Sandy Pond Controls Rebuild - National Grid owns and operates a high voltage direct current (HVDC) transmission line rated at $\pm 450\text{kV}$ that is a key section of an interconnector between New England and Canada. National Grid operates the New England portion of the interconnection known as Phase 2 between New England and Canada. Phase 2 includes HVDC transmission lines from La Grande Station, James Bay, Québec to Des Cantons and from Monroe, NH to Sandy Pond Station in MA, and three converter terminals (Radisson, Nicolet, and Sandy Pond), which were placed in service in the early 1990s. Sandy Pond is a $\pm 2,000\text{ MW}$ $\pm 450\text{kV}$ DC bipolar converter terminal. This interconnection system from Québec to Sandy Pond station in Massachusetts is the only large-scale multi-terminal HVDC system in

the world today.

Sea2Shore - This project was completed in 2016 and involves an undersea transmission cable, approximately 20 miles in length, connecting the first off-shore wind farm in the US to Block Island, Rhode Island, and connecting into the National Grid's transmission network in Narragansett, Rhode Island.

11.3 FOR A BID THAT INCLUDES EXISTING FACILITIES, PROVIDE STATEMENTS THAT LIST THE SPECIFIC EXPERIENCE OF THE BIDDER AND EACH OF THE PROJECT PARTICIPANTS (INCLUDING, WHEN APPLICABLE, THE BIDDER, PARTNERS, EPC CONTRACTOR AND PROPOSED CONTRACTORS), IN OWNING AND OPERATING GENERATING OR TRANSMISSION FACILITIES (AS APPLICABLE), OTHER PROJECTS OF SIMILAR TYPE, SIZE AND TECHNOLOGY, AND ANY EVIDENCE THAT THE PROJECT PARTICIPANTS HAVE WORKED JOINTLY ON OTHER PROJECTS.

Brookfield Renewable Erie is an indirect wholly-owned subsidiary of Brookfield Renewable US, which is a majority-owned subsidiary of Brookfield Renewable. Brookfield Renewable:

- Operates one of the largest publicly-traded, pure-play renewable power platforms globally, with over 100 years of experience in power generation.
- Employs approximately 2,175 people involved in the day-to-day operations of the facilities and business development.
- Has a portfolio that is:
 - Primarily hydroelectric (~80%) and totals approximately 10,600 MW of installed capacity.
 - Diversified across 82 river systems and 15 power markets in North America, Colombia, Brazil and Europe. The portfolio generates enough electricity from renewable resources to power over four million homes, on average, each year.

The majority of Brookfield Renewable's capacity in the United States is located in New York and New England. Brookfield Renewable is also strategically focused on power markets in the Mid-Atlantic, Southeast and California, with additional operations in Arizona, Minnesota and Louisiana.

[REDACTED]

[REDACTED]

BEMLP, as power marketing agent for Brookfield Renewable, has extensive experience in marketing power across ISOs and balancing authorities and across controllable transmission lines. Examples include energy and/or capacity sales across Smoky Mountain Transmission (which connects the TVA and Duke Power Systems), across the Cross-Sound Cable between New York and New England, and across Phase I/II between Quebec and New England.

- 11.4 PROVIDE A MANAGEMENT CHART THAT LISTS THE KEY PERSONNEL DEDICATED TO THIS PROJECT AND PROVIDE RESUMES OF THE KEY PERSONNEL. FOR ELIGIBLE FACILITIES OR TRANSMISSION PROJECTS THAT ARE NOT YET IN-SERVICE, KEY PERSONNEL OF THE BIDDER'S DEVELOPMENT TEAM HAVING SUBSTANTIAL PROJECT MANAGEMENT RESPONSIBILITIES MUST HAVE:
- I. SUCCESSFULLY DEVELOPED AND/OR OPERATED ONE OR MORE PROJECTS OF SIMILAR SIZE OR COMPLEXITY OR REQUIRING SIMILAR SKILL SETS; **AND**
 - II. FOR A PROJECT THAT INCLUDES NEW FACILITIES OR CAPITAL INVESTMENT, EXPERIENCE IN FINANCING POWER GENERATION PROJECTS (OR HAVE THE FINANCIAL MEANS TO FINANCE THE PROJECT ON THE BIDDER'S BALANCE SHEET)

Attachment 11.4 identifies and provides management charts and resumes of the key personnel of Bidders and GridAmerica. These key personnel were carefully selected by each Bidder and GridAmerica based on comprehensive experience in successfully developing projects of similar size and complexity and in operating, maintaining, and/or financing similar projects for their respective enterprises.

Section 5 provide information regarding the ability of each Bidder and GridAmerica to finance its element of the Project, typically through its balance sheet using a combination of internally generated cash, long-term and short-term debt financings, and equity contributions. *Figure 11.4-1* shows the key personnel for the development of the NERL project.

Figure 11.4-1: NERL – Development Phase Organization Chart



- 11.5 PROVIDE A LISTING OF ALL PROJECTS THE PROJECT SPONSOR HAS SUCCESSFULLY DEVELOPED OR THAT ARE CURRENTLY UNDER CONSTRUCTION. PROVIDE THE FOLLOWING INFORMATION AS PART OF THE RESPONSE:
- I. NAME OF THE PROJECT
 - II. LOCATION OF THE PROJECT
 - III. PROJECT TYPE, SIZE AND TECHNOLOGY
 - IV. COMMERCIAL OPERATION DATE
 - V. ESTIMATED AND ACTUAL CAPACITY FACTOR OF THE PROJECT FOR THE PAST THREE YEARS
 - VI. AVAILABILITY FACTOR OF THE PROJECT FOR THE PAST THREE YEARS
 - VII. REFERENCES, INCLUDING THE NAMES AND CURRENT ADDRESSES AND TELEPHONE NUMBERS OF INDIVIDUALS TO CONTACT FOR EACH REFERENCE

AVANGRID

[REDACTED]

[REDACTED]

[REDACTED]

BROOKFIELD RENEWABLE

Brookfield Renewable owns a 6,000 MW development pipeline in North America, Colombia, Brazil and Europe, and intends to invest over \$500 million of equity over the next five years. Since 2003, Brookfield Renewable has built 30 hydro, biomass and wind projects, representing approximately 1,300 MW over approximately \$3 billion invested. Attachment 11.5.1 includes additional information on Brookfield Renewable's key development projects.

GRIDAMERICA

Some of National Grid USA's more recent experience constructing and financing transmission projects are listed below:

New England East West Solution (NEEWS) – National Grid constructed the ***Rhode Island Reliability Project (RIRP) and the Interstate Reliability Project (IRP)***. The NEEWS suite of projects for National Grid totaled \$750 million. National Grid collaborated with Eversource Energy to construct the IRP, a three-state transmission project that involved, among other things, the siting and construction of a new overhead 345 kV transmission line in Massachusetts, Rhode Island and Connecticut. National Grid financed and constructed the Massachusetts portion of the line, which was estimated to cost \$100 million with internal money pool financing. The RIRP project involved installing a new 345 kV transmission line in Rhode Island on an existing right-of-way and moving and rebuilding two 115 kV lines in order to make room for the new 345 kV line, relocating a 345 kV line in the state, and major substation additions at three Rhode Island substations. The Advanced NEEWS projects include a rebuild and reconductoring of a 115 kV line and installation of a new 345/115kV switching substation in Southeastern Massachusetts. The last sections of the project were placed into service in December 2015.

Merrimack Valley / North Shore Upgrade Area Project – The project was completed between 2010 and 2013 involving \$174 million of capital projects constructed by National Grid. The project included the construction of a new 345/115 kV gas-insulated substation at Wakefield, Massachusetts, a new 345/115 kV substation in West Amesbury Massachusetts, building of a new 115 kV line (K-163), as well as reconductoring of multiple 115 kV lines and upgrades at other area substations in Northeastern Massachusetts.

Auburn Street Area Projects – These projects in Massachusetts were completed in 2012 and involved \$98 million of capital projects constructed by National Grid. The projects included a complete rebuild of the 115 kV and 345 kV yards and addition of 345 / 115 kV transformation at Auburn Street substation, as well as significant 115 kV substation work at to other area substations.

Greater Boston and Southern New Hampshire Solution – National Grid is in the process of permitting and constructing a suite of projects at a total estimated cost \$190 million. The projects include the Merrimack Valley Reliability Project (MVRP) which is a new 345 kV line project connecting southern New Hampshire to Massachusetts. National Grid's portion of the MVRP project is estimated at \$87 million. This project is also being constructed collaboratively with Eversource Energy, where Eversource is constructing a portion of the line in New Hampshire. In addition to the MVRP project there are many other 115 kV line reconductoring and substation projects associated with this suite of work. All of the projects are expected to be in-service in 2018.

Salem Cable Rebuild – National Grid is in the process of rebuilding the two 115 kV cables in the City of Salem, Massachusetts. The project involves engineering, siting and constructing a complex cable system in the historic downtown section of the city. The project's cost is estimated at \$63 million with an expected completion in 2016.

Sandy Pond – National Grid owns and operates a high voltage direct current (HVDC) transmission line rated at ± 450 kV that is a key section of an interconnector between New England and Canada. National Grid operates the New England portion of the interconnection known as Phase 2 between New England and Canada. Phase 2 includes HVDC transmission lines from La Grande Station, James Bay, Québec to Des Cantons and from Monroe, New Hampshire to Sandy Pond Station in Massachusetts, and three converter terminals (Radisson, Nicolet, and Sandy Pond), which were placed in service in the early 1990s. Sandy Pond is a $\pm 2,000$ MW ± 450 kV DC bipolar converter terminal. This interconnection system from Québec to Sandy Pond station in Massachusetts is the only large-scale multi-terminal HVDC system in the world today. The project cost \$230 million.

Sea2Shore - This is an undersea transmission cable connecting the first off-shore wind farm in the US to Block Island, Rhode Island and connecting into the National Grid's transmission network in Narragansett Rhode Island. The project is estimated to cost \$110 million and be in service in 2016.

Please refer to Confidential Attachment 11.5 – *National Grid USA Transmission Projects*.

11.6 WITH REGARD TO THE BIDDER'S PROJECT TEAM, IDENTIFY AND DESCRIBE THE ENTITY RESPONSIBLE FOR THE FOLLOWING, AS APPLICABLE:

- I. CONSTRUCTION PERIOD LENDER, IF ANY
- II. OPERATING PERIOD LENDER AND/OR TAX EQUITY PROVIDER, AS APPLICABLE
- III. FINANCIAL ADVISOR
- IV. ENVIRONMENTAL CONSULTANT
- V. FACILITY OPERATOR AND MANAGER
- VI. OWNER'S ENGINEER
- VII. EPC CONTRACTOR (IF SELECTED)
- VIII. TRANSMISSION CONSULTANT
- IX. LEGAL COUNSEL

i. Construction Period Lender

As described in Section 5, [REDACTED]

GRIDAMERICA

National Grid USA will likely finance the project on its balance sheet, in which case there would be no outside lenders.

ii. Operating Period Lender and/or Tax Equity Provider

Similar to their collective approach to construction financing, the Bidders and GridAmerica or their corporate parents usually arrange operating debt at the corporate level. Each intends to use its proven corporate level approach to its existing infrastructure portfolio to fund the operating period.

NGUSA intends to finance the NERL project on its balance sheet, in which case there would be no outside lenders.

iii. Financial Advisor

NGUSA intends to use internal expertise and resources for the NERL project as was shown in Section 11.6.i above.

iv. Environmental Consultant

AVANGRID

[REDACTED]

BROOKFIELD RENEWABLE US

Given that the Firming Hydro Facilities are in operation and will not require any modifications in connection with this Proposal, Brookfield Renewable US does not require the services of an environmental consultant.

GRIDAMERICA

Tetra Tech is the NERL project's lead environmental consultant. Tetra Tech is one of the leading engineering and environmental consulting firms in the world with over 16,000 staff in more than 400 offices worldwide. Tetra Tech produces hundreds of environmental permitting and compliance documents annually, and offers more than 30 years of experience working with federal and state regulatory agencies and processes for the development of energy facilities, including overhead high voltage electric transmission lines. Tetra Tech staff were previously involved in the siting and permitting of the Hydro Quebec Phase I and Phase II +/- 450 kV DC Transmission Line Project. Tetra Tech staff also has experience with Section 248 proceedings and New Hampshire SEC proceedings for electric transmission lines and substations.

v. Facility Operator and Manager

AVANGRID

Avangrid will integrate the assets constructed as part of the Project into a large operations and maintenance organization devoted to similar energy-related facilities owned and operated by its affiliates.

BROOKFIELD RENEWABLE US

Brookfield Renewable US will ensure continued operation and maintenance of the Firming Hydro Facilities.

GRIDAMERICA

A subsidiary of NGUSA will be the facility operator and manager. National Grid owns and operates an electricity transmission system of approximately 8,600 miles spanning upstate New York, Massachusetts, Rhode Island, New Hampshire and Vermont to customers that include local electric companies, municipalities and large commercial enterprises. Our US electricity transmission facilities operate at voltages ranging from 69 kV to 345 kV, utilizing overhead lines, nearly 90 miles of underground cable and 524 substations. We are the largest electricity transmission service provider in New England and New York by reference to the length of these high voltage transmission lines. National Grid also owns and operates a direct current transmission line rated at 450 kV that is a key section of an interconnector between New England and Canada.

vi. Owner's Engineer

AVANGRID

Avangrid will rely primarily on internal resources, but will use an outside vendor to supplement those services as appropriate. Each has established relationships with engineering firms in the ordinary course, but neither has retained any firm for its Class I Facilities at this point in the process.

GRIDAMERICA

Pterra Consulting of Albany, New York is the NERL project owner's engineer. Pterra is an independent provider of consulting services to the electric power industry specializing in electric power transmission and distribution, electric power markets, operation and planning, integration of renewable energies - wind and solar, and power system modeling and analysis. Pterra's Principals apply over 100 years of cumulative industry experience to find creative and innovative solutions and resolutions.

vii. EPC Contractor

AVANGRID

[REDACTED]

GRIDAMERICA

An EPC contractor has not yet been selected for GridAmerica.

viii. Transmission Consultant

AVANGRID

Avangrid has in-house transmission specialists and do not hire outside transmission consultants.

GRIDAMERICA

Pterra Consulting is also NERL's transmission consultant. Pterra is an independent provider of consulting services to the electric power industry specializing in electric power transmission and distribution, electric power markets, operation and planning, integration of renewable energies - wind and solar, and power system modeling and analysis. Pterra's Principals apply over 100 years of cumulative industry experience to find creative and innovative solutions and resolutions.

ix. Legal Counsel

The corporate legal department of each Bidder and GridAmerica will have primary responsibility for the legal support of its portion of the Project. These lawyers are familiar with corporate policies and positions and have supported numerous, similar infrastructure projects in recent years.

The legal departments will access and manage outside counsel if and as necessary to obtain assistance, including for matters of local law such as siting and permitting.

Each Bidder, GridAmerica or its affiliates have used this model to develop energy projects in the past as a cost-effective approach that leverages the experience and expertise of corporate counsel.

GRIDAMERICA

For NERL project, Anderson Krieger of Boston, Massachusetts is providing legal counsel in permitting

and siting matters. Anderson Kreiger has routinely represented National Grid in environmental permitting matters in New England. They have helped National Grid obtain essential federal and state permits for major, time-sensitive energy projects, including a 32-mile transmission line in Massachusetts and Rhode Island.

For NERL project, Barclay Damon of Boston, Massachusetts is providing legal counsel regarding real estate matters. Barclay Damon's energy practice began more than three decades ago and assists energy partners in a wide variety of practices, including state and federal regulatory, environmental, project development/siting, eminent domain, real property tax, corporate/mergers and acquisitions, financing, real estate, land use, litigation, tax, and governmental affairs.

11.7 PROVIDE DETAILS OF THE BIDDER'S EXPERIENCE IN ISO-NE OTHER MARKETS AFFECTED BY THE BID. WITH REGARD TO BIDDER'S EXPERIENCE WITH ISO-NE MARKETS, PLEASE INDICATE THE ENTITY THAT WILL ASSUME THE DUTIES OF LEAD MARKET PARTICIPANT FOR YOUR PROJECT. PLEASE PROVIDE A SUMMARY OF THE PROPOSED LEAD MARKET PARTICIPANT'S EXPERIENCE WITH EACH OF THE ISO-NE MARKETS.

Lead Market Participant

On behalf of Brookfield Renewable, BEMLP is responsible for selling all energy and energy related products generated by Brookfield Renewable assets in North America. With approximately 113 employees and 24 hours/day, 365 days/year operations, BEMLP performs transaction execution, risk management, settlement, information technology, regulatory, legal and human resource functions. BEMLP also schedules, dispatches and arranges for transmission of the power produced and the power supplied to third parties in accordance with prudent industry practice.

BEMLP, as power marketing agent for Brookfield Renewable, has extensive experience in marketing power access ISOs and balancing authorities.

BEMLP is currently a member in good standing of NYISO, ISO-NE, PJM, MISO, CAISO and the IESO.

GRIDAMERICA

As was mentioned above in Section 11.6.v, National Grid is a very experienced utility and transmission owner in the Northeast. While a Lead Market Participant is typically associated with generation assets or other assets that are involved with ISO-NE's wholesale markets, to the extent that NERL is required to assign a Lead Market Participant, GridAmerica or one of its subsidiaries, will fill this role. GridAmerica is a New England Power Pool (NEPOOL) participant in the transmission sector.

SECTION 12 OF APPENDIX B TO THE RFP EMISSIONS

12.1 FOR EXISTING GENERATION FACILITIES, PROVIDE EMISSIONS ESTIMATES BASED ON AVAILABLE CONTINUOUS EMISSIONS MONITORING DATA. WHERE CONTINUOUS EMISSIONS MONITORING DATA IS NOT AVAILABLE, PROVIDE EMISSIONS ESTIMATES BASED ON THE MOST RECENT STACK EMISSIONS TEST CONDUCTED USING AN EPA REFERENCE METHOD APPROVED BY THE APPLICABLE PERMITTING AND ENFORCEMENT AUTHORITY. WHERE CONTINUOUS EMISSIONS DATA OR ACTUAL STACK EMISSIONS TEST DATA ARE NOT AVAILABLE, PROVIDE EMISSIONS ESTIMATES BASED ON EMISSIONS FACTORS FROM THE LATEST EDITION OF EPA'S AP-42, COMPILATION OF AIR POLLUTANT EMISSIONS FACTORS.

FOR NEW GENERATION FACILITIES, PROVIDE EMISSIONS ESTIMATES BASED ON AVAILABLE DATA FROM THE UNIT MANUFACTURER. ALTERNATIVELY, PROVIDE ACTUAL EMISSIONS DATA DETERMINED IN ACCORDANCE WITH THE PARAGRAPH ABOVE FOR A SIMILAR FACILITY BUILT WITHIN THE PAST 3 YEARS. INCLUDE COPIES OF SUPPORTING DOCUMENTATION FOR ALL EMISSIONS ESTIMATES.

Project Anticipated Emissions, expressed in pounds/megawatt-hour (lbs/MWh):

Source of Information	Date of Test (if applicable)	Greenhouse Gases (all except methane) Expressed as Carbon Dioxide equivalent (CO ₂ e)	Nitrogen Oxides (NO _x)	Sulfur Oxides (SO _x)	Carbon Monoxide (CO)	Particulate Matter (PM 2.5)	Methane (CH ₄)
The Class I Facilities and Firming Hydro Facilities produce zero or negligible emissions.							

The Project will have near zero or negligible emissions of carbon and greenhouse gasses because:

- the Firming Hydro Facilities are existing run-of-river facilities, the great majority of which have been in operation for over 50 years, which do not produce emissions associated with vegetative decay characteristics of pooled hydro during its early years of operation; and
- the operation of the Class I Facilities will produce no emissions.

12.2 DESCRIBE ANY PAST INVESTMENTS THAT WILL, OR HAVE BEEN MADE TO YOUR FACILITY TO IMPROVE ITS EMISSIONS PROFILE OR ANY PLANNED FUTURE INVESTMENTS MADE TO YOUR FACILITY IN ORDER TO IMPROVE ITS EMISSIONS PROFILE. POLLUTANT SPECIFIC EMISSIONS IMPROVING TECHNOLOGIES INCLUDE, BUT ARE NOT LIMITED TO:

- NOX – SELECTIVE/NON-SELECTIVE CATALYTIC REDUCTION
- SOX – WET/DRY SCRUBBERS
- PM – FABRIC FILTER/BAG HOUSE, ELECTROSTATIC PRECIPITATOR, CYCLONE SEPARATOR
- CO – OXIDATION CATALYST

INVESTMENTS THAT IMPROVE OVERALL EMISSIONS INCLUDE, BUT ARE NOT LIMITED TO:

- EQUIPMENT TUNE-UPS (IMPROVES COMBUSTION EFFICIENCY AND EMISSIONS)
- BOILER TUBE REPLACEMENTS (IMPROVES HEAT TRANSFER EFFICIENCY AND REDUCES FUEL USE)
- OTHER EFFICIENCY IMPROVEMENTS (E.G., INSTALLING A HEAT EXCHANGER TO USE WASTE HEAT TO PRE-HEAT FEED WATER TO THE BOILER)

INCLUDE CONTROL EQUIPMENT SPECIFICATIONS, DATE(S) OF INSTALLATION, EXPECTED LIFE OF EQUIPMENT, BENEFITS GAINED FROM THE ADDITION OF SUCH EQUIPMENT, ETC.

None of the technologies or investments listed applies to run-of-the-river hydroelectric, solar, or wind generation, which are non-emitting sources.

12.3 DESCRIBE HOW YOUR PROJECT WILL CONTRIBUTE TO THE MASSACHUSETTS 2008 GLOBAL WARMING SOLUTIONS ACT (GWSA) AND THE 2010 CLEAN ENERGY AND CLIMATE PLAN FOR 2020. DESCRIBE HOW YOUR PROJECT WILL CONTRIBUTE BOTH TO THE SHORT TERM 2020 GOAL, AND LONGER TERM 2050 GOAL FOUND IN THESE LAWS.

The Project will make important contributions to the Massachusetts 2008 Global Warming Solutions Act (“GWSA”) and the 2010 Clean Energy and Climate Plan for 2020 by providing a significant volume of non-emitting Clean Energy Generation, and displacing fossil fuel generation. This will advance Massachusetts public policy reflected by the recent adoption of Section 83D by providing Clean Energy Generation that will fulfill just under half of the total authorization.

[REDACTED]

[REDACTED]

[REDACTED]

As reported in the *2010 Clean Energy and Climate Plan for 2020*, emissions from the electricity sector were almost cut by half from 1990 – 2012, through closures of large fossil fuel generators, and provided a significant share of the total emission reductions from all Massachusetts economic sectors. However, the opportunities for further reductions are limited.

The “2015 Update to the Massachusetts Clean Energy and Climate Plan for 2020”³ (CECP 2020) has recognized this shift in emission reduction opportunities. Out of the 26.4% reduction from 1990 levels anticipated in the CECP 2020, almost a third is attributed to the electricity sector, and over half of that is expected to be driven by Clean Energy Imports. Given the reductions available through the Project, a large share of the GWSA goal for the electric sector can be achieved through the development of the proposed Project.⁴

[REDACTED]

Clean Energy Generation from the Project would not only displace CO₂, but will also displace nitrogen oxides (NO_x) and sulfur dioxide (SO₂), which are also significant pollutants. *Table 12.3-2* summarizes the NO_x and SO₂ reductions driven by the Project’s Expected Deliveries.

Table 12.3.2: NO_x and SO₂ reductions, cumulative over 20 Years (tons)

[REDACTED]

In summary, the Project:

- provides significant CO₂ reductions, contributing to Massachusetts 2008 Global Warming Solutions Act (GWSA), with the most significant reductions at the front of the PPA;
- provides Class I resources to assist MA Distribution Companies in meeting their RPS objectives;
- provides alignment with a potential Clean Energy Standard;
- and provides reductions of other pollutants such as NO_x and SO₂

[REDACTED]

[REDACTED] The SCC represents the damage of emitting one additional ton of carbon dioxide in that year, or alternatively the benefit of avoiding a ton of carbon dioxide emissions. The most cited

³ <http://www.mass.gov/eea/docs/eea/energy/cecp-for-2020.pdf>

⁴ See Confidential Attachment 13.1

estimates of SC-CO₂ are provided by the US Government Interagency Working Group on Social Cost of Greenhouse Gases⁵. This is further detailed in Section 13.3 below.

⁵ “Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866.” Obtained at: https://www.epa.gov/sites/production/files/2016-12/documents/scc_tsd_2010.pdf

SECTION 13 OF APPENDIX B TO THE RFP
CONTRIBUTION TO EMPLOYMENT AND ECONOMIC DEVELOPMENT AND OTHER
DIRECT AND INDIRECT BENEFITS

13.1 PLEASE PROVIDE AN ESTIMATE OF THE NUMBER OF JOBS TO BE CREATED DIRECTLY DURING PROJECT DEVELOPMENT AND CONSTRUCTION (FOR A PROJECT THAT INCLUDES NEW FACILITIES OR CAPITAL INVESTMENT), AND DURING OPERATIONS, AND A GENERAL DESCRIPTION OF THE TYPES OF JOBS CREATED, ESTIMATED ANNUAL COMPENSATION, THE EMPLOYER(S) FOR SUCH JOBS, AND THE LOCATION. PLEASE TREAT THE DEVELOPMENT, CONSTRUCTION, AND OPERATION PERIODS SEPARATELY IN YOUR RESPONSE.

The development of the Project will create substantial short and long-term employment and income benefits to New York. The Project will generate direct benefits by creating new jobs, income, and taxes, and will produce additional indirect and induced (or spin-off) jobs as Project-related income is spent on goods and services.

CLASS I FACILITIES

[REDACTED]

NORTHEAST RENEWABLE LINK

The Northeast Renewable Link Project (NERL project) project will create jobs in construction, engineering, and professional services, as well as secondary jobs in government, retail, and the local service sector as workers spend their income. Total (direct and indirect) economic impacts during NERL project development and construction are shown in *Table 13.1-1* below for both Massachusetts and New York. Development jobs occur during 2018–2020, and construction jobs are reflected in 2021–2022 data.

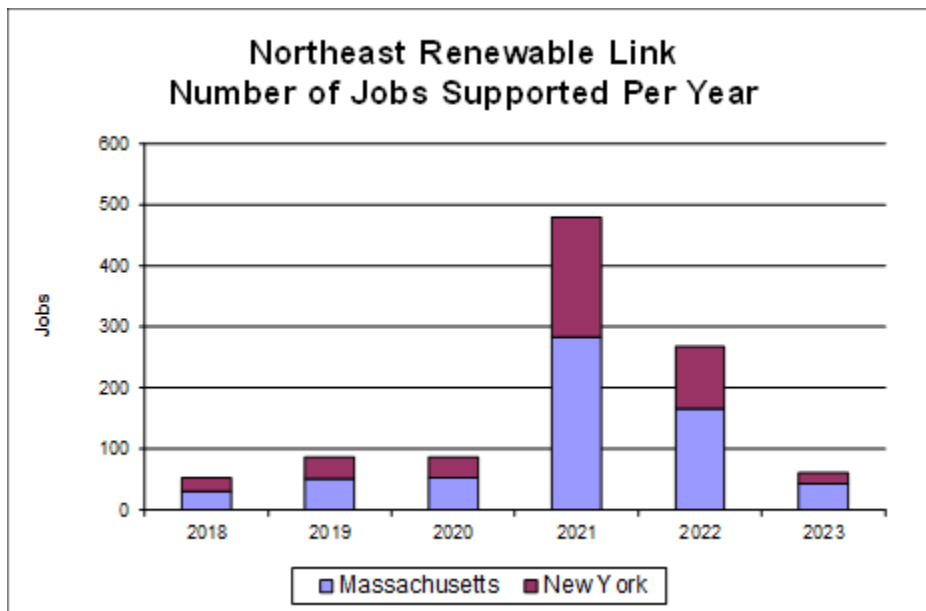
All economic impact data were developed in-house using the Regional Economic Models Incorporated (REMI) model, a dynamic equilibrium model of the Massachusetts and New York state economies. The model is based on public data and peer-reviewed methodology. Projected spending associated with the NERL project was input to produce the data shown here.

Table 13.1-1: NERL project Economic Impacts by State

Fiscal Year	2018	2019	2020	2021	2022	2023	Sum
Massachusetts							
Employment (Jobs)	31	52	53	283	167	43	629
Gross Domestic Product (\$m)	\$3.2	\$5.5	\$5.9	\$32.3	\$20.0	\$5.4	\$72.3
Personal Income (\$m)	\$2.1	\$3.7	\$4.0	\$21.6	\$13.7	\$4.7	\$49.8
State & Local Tax Revenue (\$m)	\$0.3	\$0.5	\$0.6	\$3.0	\$1.9	\$0.7	\$7.0
New York							
Employment (Jobs)	22	35	34	198	101	19	409
Gross Domestic Product (\$m)	\$2.1	\$3.5	\$3.5	\$20.9	\$11.3	\$2.5	\$43.8
Personal Income (\$m)	\$1.6	\$2.5	\$2.6	\$15.4	\$7.9	\$2.0	\$32.0
State & Local Tax Revenue (\$m)	\$0.3	\$0.5	\$0.5	\$3.1	\$1.6	\$0.4	\$6.4

In total, the NERL project is expected to create 1,038 job years⁶, including 629 in Massachusetts and 409 in New York. Job creation is greatest in 2021 when construction spending is at its highest (*Figure 13.1-2*).

Figure 13.1-2. Expected Annual Employment Requirements



Most local job creation is in the construction industry, but a wide variety of other industries are also impacted, including retail trade, professional services, local materials manufacturing and other services (*Table 13.1-3*).

⁶ One job year is equal to one full-time-equivalent employed for one year.

Table 13.1-3. Total Job Years Created by the NERL project by Sector (2018-2023)

	Massachu- setts	New York
Construction	344	239
Manufacturing	11	6
Wholesale Trade	11	7
Retail Trade	51	28
Transportation and Warehousing	7	4
Finance, Insurance and Real Estate	33	20
Professional Services	40	23
Administrative and Waste Management Services	16	9
Accommodation and Food Services	23	12
Other Services	93	60
Mining and Utilities	2	1
Total	629	409

All job year totals shown above include both direct and indirect job years. Direct jobs are tied directly to NERL project development and construction. Examples include consultants and electrical contractors hired to plan and construct the NERL. Indirect jobs are from the local supply chain, that is, industries providing goods and services for the project. Examples include equipment rental (which is part of the retail trade industry) and general construction activities such as right-of-way clearing and preparation. Indirect jobs also include “induced” jobs which result from the spending of the direct and indirect workers. These employment impacts are felt mainly in local service sectors such as retail.

Table 13.1-4 shows the breakdown of direct and indirect job years for each state, as estimated by REMI (note that industries are shown at a slightly more disaggregated level than in *Table 13.1-3*). Direct job years account for 51% of total job years (average for the two states). For construction, direct job years account for 85% of total construction job years. Professional services and finance, insurance and real estate also see a significant number of direct job years. This includes labor for project engineering and design, legal counsel, management services, public relations, real estate permitting, environmental and geophysical surveys and analysis, property rights acquisition and electrical systems studies.

Table 13.1-4 NERL project Development and Construction–Number of Direct and Indirect Job Years (2018-2023)

	Massachusetts			New York		
Job Years (2018-2023)	Direct	Indirect	Total	Direct	Indirect	Total
Construction	282	62	344	212	27	239
Manufacturing	0	11	11	0	6	6
Wholesale Trade	0	11	11	0	7	7
Retail Trade	0	51	51	0	28	28
Transportation and Warehousing	0	7	7	0	4	4
Finance, Insurance, Real Estate	9	24	33	8	12	20
Professional Services	11	29	40	6	17	23
Administrative and Waste Management Services	0	16	16	0	9	9
Accommodation and Food Services	0	23	23	0	12	12
Other Services	0	93	93	0	60	60
Mining and Utilities	0	2	2	0	1	1
Total	302	328	629	226	182	409

Estimated annual compensation per job year, by industry, are shown below in *Table 13.1.5* for each state. These compensation rates apply to both the direct and indirect job years shown above. Compensation is measured as total earnings, which includes wages and salaries, benefits, supplements to wages and salaries, and proprietor's income.

Table 13.1-5 NERL project Development and Construction–Estimated Annual Compensation of Job Years

Avg Annual Earnings Per Job Year (2017-2023)	Massachusetts	New York
Construction	\$102,909	\$92,109
Manufacturing	\$129,055	\$152,364
Wholesale Trade	\$147,397	\$154,231
Retail Trade	\$59,171	\$51,520
Transportation and Warehousing	\$97,339	\$84,639
Finance, Insurance, Real Estate	\$140,418	\$115,819
Professional Services	\$166,848	\$167,722
Administrative and Waste Management Services	\$75,451	\$69,478
Accommodation and Food Services	\$51,386	\$43,342
Other Services	\$51,183	\$59,686
Mining and Utilities	\$161,428	\$153,012
Average	\$96,897	\$114,108

All job numbers shown in the above tables are for industries located in the states shown. Also, all results shown are for development and construction of the NERL.

After the NERL project is placed into service, it is expected to bring several permanent benefits to Massachusetts and New York, including: increased property tax revenues to affected communities; new transmission line O&M; lower market electricity costs; and reduced emissions from generation. However, the economic impact of these permanent benefits has not been estimated in REMI.

13.2 PLEASE PROVIDE THE SAME INFORMATION AS PROVIDED IN RESPONSE TO QUESTION 13.1 ABOVE BUT WITH RESPECT TO JOBS THAT WOULD BE INDIRECTLY CREATED AS A RESULT OF THE PROPOSED PROJECT.

CLASS I FACILITIES

See Section 13.1.

NORTHEAST RENEWABLE LINK

Table 13.1.4 above shows the estimated number of job years that will be indirectly created as a result of NERL project development and construction. These job years will be compensated at the same rate as the direct job years. Compensation rates for both direct and indirect job years, by industry, are shown in Table 13.1.5.

13.3 PLEASE DESCRIBE ANY OTHER ECONOMIC DEVELOPMENT IMPACTS (EITHER POSITIVE OR NEGATIVE) THAT COULD RESULT FROM THE PROPOSED PROJECT, SUCH AS CREATING PROPERTY TAX REVENUES OR PURCHASING CAPITAL EQUIPMENT, MATERIALS OR SERVICES FOR NEW ENGLAND BUSINESSES. PLEASE PROVIDE THE LOCATION(S) WHERE THESE ECONOMIC DEVELOPMENT BENEFITS ARE EXPECTED TO OCCUR.

CLASS I FACILITIES

NORTHEAST RENEWABLE LINK

In addition to typical economic development created from a large transmission project (direct and indirect jobs), the NERL project is partnering with established local and regional economic development organizations along the route to implement community and economic development grant and loan programs that support local job creation and expand business opportunities. Additionally, each town along the project route will receive property tax revenue that could result in local government-stimulated economic development.

13.4 TO THE EXTENT NOT ALREADY SPECIFIED ELSEWHERE IN YOUR RESPONSE, PLEASE ADDRESS THE FACTORS LISTED IN SECTION 2.2.2.9 AND DESCRIBE ANY BENEFITS OR IMPACTS ASSOCIATED WITH THE PROPOSED PROJECT.

NORTHEAST RENEWABLE LINK

Although NERL construction phase economic benefits are temporary, the project is expected to produce a number of permanent benefits after it is placed into service, including:

- Increased property tax revenues to affected communities – Please refer to [Attachment 13.4.1 \(confidential\) – NERL Annual Property Tax Revenues](#)
- Lower market electricity costs
- Environmental benefits (reduced emissions)
- New property tax revenues, O&M spending, market electricity price reductions and environmental benefits expected to lead to permanent increases in economic activity and jobs after the project is placed into service.

13.5 DESCRIBE HOW YOUR PROJECT WILL (A) CONTRIBUTE TO REDUCING WINTER ELECTRICITY PRICE SPIKES IN MASSACHUSETTS, AND (B) GUARANTEE ENERGY DELIVERY IN WINTER MONTHS. CLASS I RPS ELIGIBLE PROJECTS MUST GUARANTEE THAT 70% OF ENERGY IN THEIR DELIVERY PROFILE OF THE WINTER PEAK PERIOD WILL BE DELIVERED OVER THE COURSE OF EVERY WINTER PEAK PERIOD (SEE SECTION 2.2.2.7). CLEAN ENERGY GENERATION FOR PROJECTS CONTAINING FIRM SERVICE HYDROELECTRIC GENERATION, AND CLEAN ENERGY FROM NEW CLASS I RPS ELIGIBLE RESOURCES PAIRED WITH FIRM SERVICE HYDROELECTRIC GENERATION, WILL BE REQUIRED TO SUBMIT A DELIVERY PROFILE WITH NO WINTER PEAK PERIOD HOUR LESS THAN 60 PERCENT (60%) OF THEIR HIGHEST ANNUAL SINGLE HOURLY DELIVERY CLAIMED IN THEIR ANNUAL DELIVERY PROFILE.

A) CONTRIBUTE TO REDUCING WINTER ELECTRICITY PRICE SPIKES IN MASSACHUSETTS

[REDACTED]

[REDACTED]

■ [REDACTED]

■ [REDACTED]

■ [REDACTED]

■ [REDACTED]

■ [REDACTED]

■ [REDACTED]

[REDACTED]

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B) GUARANTEE ENERGY DELIVERY IN THE WINTER MONTHS

Please see Sections 3.4 and 4.2.

13.6 IF APPLICABLE, PLEASE DEMONSTRATE ANY BENEFITS TO LOW-INCOME RATEPAYERS IN THE COMMONWEALTH, AND THE IMPACT, IF ANY, THOSE BENEFITS WILL HAVE ON THE COST TO THE PROJECT.

NORTHEAST RENEWABLE POWER PARTNERS

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

NORTHEAST RENEWABLE LINK

As described in Section 5.1, Citizens Energy may acquire a 10% economic interest in the NERL Project. Citizens Energy is Boston-based non-profit founded in 1979 by former Congressman Joseph P. Kennedy II, and has a long history of using revenues from successful commercial energy ventures to finance charitable programs to help the economically disadvantaged. Starting in the oil and natural gas industries, Citizens also launched innovative businesses in the health care, electricity trading, and energy

conservation fields. More recently, Citizens is actively engaged in the renewable energy sector – developing and owning electric generation projects (e.g. solar and wind) and high voltage transmission lines to move the electricity. Citizens has successfully developed over 230 megawatts of wind power, owns and operates 86 megawatts of solar projects (half located in Massachusetts), and owns a significant portion of the 500 kV \$1.9 billion Sunrise Powerlink transmission line with San Diego Gas & Electric (SDG&E). – In every case has used profits from its ventures to help low income families wherever it operates. In the case of the Northeast Renewable Link project, Citizens will invest 50 percent of any profits it earns from the NERL Project in assistance programs for low-income families in the region. These programs could be in areas such as heating assistance and residential weatherization, among others, helping low-income residents in the region cut their energy costs, reduce reliance on fossil fuels, and take part in the clean energy revolution. This will have no impact on the cost of the project and no direct impact on ratepayers as the funding for these initiatives will be taken out of project proceeds.

Citizens is working with GridAmerica on several innovative transmission projects in the Northeast to resolve transmission bottlenecks and provide access to affordable renewable energy for ratepayers in the Commonwealth. For the NERL Project, Citizens will invest its own capital to ultimately own 10% of the project, and dedicate 50% of its after-tax net profits to create a program to assist low-income ratepayers in the region. Importantly, Citizen’s involvement in the NERL Project will not impact the cost of the project or have any negative impact on ratepayers – rather, Citizens will earn the same proportionate profits that GridAmerica earns, and use 50% of those profits to assist low-income ratepayers. Because Citizens will use its own profits to fund the low-income ratepayer program, the benefits provided from that program will not have any impact on the cost of the project. Citizens and the NERL Project development team are committed to working closely with local stakeholders in the Commonwealth to design, implement, and manage a cost-effective energy assistance program that targets areas of highest need and maximizes the benefits to low-income ratepayers. Any estimate of Citizen’s project profits available for the assistance program would be extremely preliminary and speculative, as profitability ultimately depends on many variable factors such as timing, pricing, development and construction costs, and cost-of-capital.

SECTION 14 OF APPENDIX B OF THE RFP
ADDITIONAL INFORMATION REQUIRED FOR TRANSMISSION PROJECTS (AND
ALL SYSTEM UPGRADES ASSOCIATED WITH PROPOSED TRANSMISSION
PROJECTS)

Bids that include Transmission Projects (and all System Upgrades) must also provide the following information:

14.1 TRANSMISSION PROJECT INFORMATION:

I. OVERALL PROJECT DESCRIPTION

The Northeast Renewable Link Project (NERL project) is an approximately 23-mile 345kV AC (HVAC) transmission line from Rensselaer County, New York to Berkshire County, Massachusetts that will be capable of delivering up to 600 MWh. There will a Phase Angle Regulator (PAR) installed at NMPC Alps Substation.

In Massachusetts, the ISO-New England point of interconnection will be the current Eversource Berkshire 345 kV substation located in Berkshire County.

II. THE OPERATING VOLTAGE OF THE PROPOSED PROJECT: KV: 345 KV

III. THE TYPE OF STRUCTURES (SUCH AS STEEL TOWERS OR POLES) THAT WOULD BE USED FOR THE PROPOSED PROJECT

Weathering Steel H-Frame and 3-Pole Structures

IV. THE LENGTH OF THE PROPOSED TRANSMISSION LINE AND THE TYPE(S) OF TERRAIN AND LAND OWNERSHIP OF THE PROPOSED ROW

OVERHEAD MILES: 23 UNDERWATER/UNDERGROUND MILES: N/A

TERRAIN: SEE BELOW

The proposed NERL project would be located in an area of New York and Massachusetts known as the Northeast Appalachians, which can be characterized as remote and generally undeveloped. Culturally, the Berkshires region includes western Massachusetts, northwest Connecticut, and the Taconic Mountains bordering New York. The region benefits from an active tourism industry based on recreation and local points of interest. General land use along the NERL project is characterized as forested, open land, and/or agricultural land. The Project passes through the towns of Nassau and Stephentown, New York, both of which have populations under 3,000. In Massachusetts, the NERL project passes through the towns of Hancock, Lanesborough, and Dalton, each of which has a population of less than 7,000. The Project crosses approximately 30 roads, including State Routes 22, 43, 7, 8, and 9; however, the majority of roads crossed are local residential roads with few homes. More detailed information can be found in Section 6.1.

V. THE SUBSTATION FACILITIES (NUMBER OF BREAKERS, TRANSFORMERS, ETC.) REQUIRED AT EACH TERMINAL OF THE PROPOSED PROJECT AND INFORMATION AS TO HOW THE NEW FACILITIES WOULD INTERCONNECT TO ANY EXISTING FACILITIES.

The NMPC Alps Substation will be upgraded with addition of one 345kV SF6 circuit breaker and one phase displacement PAR.

The Eversource Berkshire substation upgrades will be determined once the ISO-NE SIS study is complete.

VI. THE ESTIMATED COSTS OF THE PROPOSED PROJECT BROKEN OUT INTO SEPARATE CATEGORIES AS DESCRIBED BELOW FOR TRANSMISSION FACILITIES AND SUBSTATION FACILITIES IN NOMINAL YEAR DOLLARS.

A. FOR COST OF SERVICE OR MODIFIED COST OF SERVICE PROPOSALS:

1. PROVIDE THE CAPITAL COST ESTIMATE PRESENTED AS A BUILDUP OF COSTS BY CATEGORY, SUCH AS ENVIRONMENTAL, ENGINEERING, CIVIL WORKS, MATERIALS, EQUIPMENT, CONSTRUCTION, CONSTRUCTION MANAGEMENT, PHYSICAL AND PRICE CONTINGENCIES, ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION (AFUDC), AND ALL OTHER CATEGORIES FOR WHICH RECOVERY UNDER FERC WOULD BE SOUGHT. THESE CATEGORIES ARE ILLUSTRATIVE; AGGREGATE COSTS INTO THE CATEGORIES MOST RELEVANT TO THE DEVELOPMENT OF THE PROPOSED PROJECT. ALL COSTS SHOULD BE PROVIDED IN NOMINAL DOLLARS.

Not applicable for market-rate fixed priced projects.

2. FOR PROJECTS WITH TRANSMISSION AND SUBSTATION COMPONENTS, SEPARATE THE COSTS INTO TWO ROWS (E.G. USE ONE ROW FOR SUBSTATION CONSTRUCTION AND A SECOND FOR TRANSMISSION CONSTRUCTION). DESCRIBE THE DETAILED FINANCIAL PLAN ON A MONTHLY BASIS DURING THE CONSTRUCTION PERIOD, E.G., FOR 3 YEARS OR AS LONG AS NECESSARY. THE PLAN SHOULD PRESENT THE COSTS AND FINANCIAL OUTLAYS IN EACH MONTH OF THE CONSTRUCTION PERIOD, AND THE CORRESPONDING SOURCES OF FINANCING (EQUITY CONTRIBUTION AND DEBT DRAWDOWN), AS IN THE FOLLOWING ILLUSTRATIVE TABLE. DATA SHOULD INCLUDE AN ESTIMATE OF THE COST OF BOTH PHYSICAL AND PRICE CONTINGENCIES DURING THE CONSTRUCTION PERIOD. THE FINANCING PLAN SHOULD INDICATE THE ABILITY TO FINANCE THE CONSTRUCTION OF THE PROPOSED PROJECT UNDER BASE CASE AND CONTINGENCY SCENARIOS.

Not applicable for market-rate fixed priced projects.

3. DESCRIBE THE PROPOSED FINANCING SOURCES AND INSTRUMENTS.

See Section 5.1 and 5.2.

4. SOURCES OF FUNDS FOR CONSTRUCTION AND WORKING CAPITAL - INCLUDE NAME OF ENTITY PROVIDING DEBT FINANCING, LOAN AMOUNTS, INTEREST RATES, REPAYMENT PERIOD, GRACE PERIOD DURING CONSTRUCTION; AND EQUITY PROVIDED BY PROJECT SPONSOR.

See Section 5.1 and 5.2.

5. SOURCES OF FUNDS FOR UNEXPECTED REPAIRS OR REPLACEMENT CONSTRUCTION DURING THE OPERATING PERIOD, E.G., REPLACEMENT OF TOWER. NOTE: THE OPERATING PERIOD IS THE APPLICANT'S ESTIMATE OF THE USEFUL LIFE OR ACCOUNTING LIFE OF THE TRANSMISSION PROJECT ELEMENT(S).

See Section 5.1 and 5.2.

- B. IF THE BIDDER IS PROPOSING FIXED-RATE PRICING RATHER THAN COST-OF-SERVICE OR MODIFIED COST-OF-SERVICE PRICING, PROVIDE SUFFICIENT INFORMATION AND ASSESSMENT TO SHOW THAT THE PROPOSED PROJECT, INCLUDING ANY NECESSARY TRANSMISSION NETWORK UPGRADES, IS FINANCIALLY VIABLE. IN THIS REGARD, PROVIDE CAPITAL COST ESTIMATES AND OPERATION AND MAINTENANCE COST ESTIMATES AND THE BASIS FOR YOUR ESTIMATES, INCLUDING THE EXTENT TO WHICH ESTIMATES ARE BASED ON VENDOR CONTRACTS OR VENDOR QUOTES, YOUR EXPERIENCE IN THE DEVELOPMENT, CONSTRUCTION AND/OR OPERATION OF SIMILAR PROJECTS, YOUR APPROACH REGARDING CONTINGENCY AND RISK MANAGEMENT, AND YOUR PROPOSED FINANCING PLAN. ALL COSTS SHOULD BE PROVIDED IN NOMINAL DOLLARS, ALTHOUGH INFLATION AND COST ESCALATION ESTIMATES SHOULD BE PROVIDED. PLEASE DESCRIBE IN DETAIL THE DUE DILIGENCE YOU HAVE CONDUCTED IN DEVELOPING YOUR PRICING AND TARIFF PROPOSAL.

NERL Capital Cost Estimate: Approximately \$400 million.

GridAmerica has worked extensively on the NERL project to develop the engineering sufficiently to allow for a robust cost estimate to be produced for the project. For the HVAC overhead line, GridAmerica's transmission engineers have developed the engineering plan and the cost estimate was produced by experienced in-house estimating specialists. The estimators utilize extensive data sources upon which to build their estimates, including recent tender data and final account costs across National Grid's extensive portfolio of capital works. The estimators also obtained vendor pricing for key materials and equipment.

In addition to the core elements of the scope, other capex costs have been included to cover other project costs including GridAmerica project management, site acquisition and permitting.

The NERL project will interconnect into the ISO-NE system and NYISO system, and the interconnection costs will be paid by GridAmerica.

GridAmerica has completed a feasibility study (Confidential Attachment 6.8.1 – Feasibility Study for the Northeast Renewable Link) and the upgrades indicated in these studies have been considered and priced within our offer. Expected NYISO and ISO-NE upgrades identified in the feasibility study and have been incorporated into both the NERL cost estimate and project schedule. Beyond the upgrades priced into our base case, we have included a robust contingency for other upgrades, which may or may not be required.

GridAmerica and its affiliates have extensive experience owning and operating electricity transmission assets in the North-East US. In estimating the operating costs for the NERL project, we have drawn upon this vast experience to produce robust and realistic cost estimates for AC overhead line maintenance.

The operating cost estimate includes:

- all labor, materials and equipment to complete planned and unplanned maintenance of the converter equipment
- all labor, materials and equipment to complete planned and unplanned maintenance of the overhead line
- all staffing to operate the link
- all planned and unplanned maintenance of ancillary systems
- all property taxes
- all community benefit payments
- all necessary insurances

In addition to operating costs, we have included for the replacement and refurbishment of capital assets that have a design life of less than 40 years.

Construction Experience and Approach to Contingency and Risk Management

NERL has identified two major cost areas of the project, as outlined above, which are the following: the HVAC overhead line development and capex and the interconnection in ISO-NE and NYISO, which includes substations.

- **HVAC overhead line** – GridAmerica, with National Grid USA (NGUSA) and its subsidiaries, has an extensive track record in developing and financing transmission projects in the U.S. NGUSA's experience comes from managing and developing its transmission networks in New England and will leverage its considerable expertise and organization to undertake land acquisition, permitting activities and EPC responsibilities for the HVAC line.
- **Interconnection Upgrades** – as mentioned in Section 6, NERL's interconnection into the ISO-NE Berkshire Substation will incur interconnection upgrades including Eversource- owned equipment substation upgrades and system lines. As also mentioned, the NMPC Alps substation located in the NYISO region will also trigger some system upgrades on NMPC-owned portions of the system. NERL will have heightened coordination, management and controls on all of these portions of the project's scope.

By leveraging NGUSA's extensive experience and best practices in construction implementation, GridAmerica can follow management processes that maintain assurance in accordance with NGUSA business governance and risk management as illustrated below:

Delivering operation effectiveness:

- GridAmerica will establish an oversight team and critical individuals, including resourcing contingency plans. NERL ensures senior executive awareness and buy-in so GridAmerica team members are properly resourced and focused.
- GridAmerica will confirm that support arrangements, such as project services, Project Management Office, QS/Commercial service, and design approval are in place and working effectively and continually assess their effectiveness. The GridAmerica team will also confirm that such partner arrangements are adequate.
- GridAmerica ensures each contractor has appointed a named representative in critical roles, and that they have complimentary business continuity plans and always confirms that these appointments have been properly made, and are acceptable using contractual rights.
- GridAmerica will establish engineering, mobilization, demobilization and operations arrangements, following established procedures where possible. If bespoke arrangements are needed, GridAmerica will ensure these are reviewed and authorised by suitably competent persons.
- GridAmerica will confirm all enablers are in place, such as permissions/consents and advance purchase materials.

Financial control:

- GridAmerica confirms robust financial controls are in place and agrees on payment schedules. GridAmerica also agrees on methods of reconciliation and the checking regimes.
- GridAmerica implements robust change control mechanisms for dealing with the authorization of variations, and implements control tracking and benchmark to similar projects.

Deliver regulatory reporting obligations (Niagara Mohawk Power Corporation/New England Power/Eversource upgrades):

- GridAmerica identifies reporting requirements, including those needed to meet regulatory requirements, and ensure processes exist, including appropriate Key Performance Indicators (KPIs), to report in a complete, accurate and timely manner.

To facilitate reviewing the project success:

- GridAmerica create methods to measure and benchmark the effectiveness and efficiency of project delivery. These will be, but not limited to, on the broad topic basis of Safety, Program, Financial, Environmental and Quality.

To reinforce operational effectiveness:

- GridAmerica identifies the competency requirements for each role; ensures that the people appointed to these roles have the correct competencies and are fully aware of the requirements of their respective roles.
- GridAmerica ensures that when personnel change during the life of the contract an effective handover process is in place to retain the knowledge held by the leaver and ensure that their replacement is competent to carry out their role when they leave.

To maintain performance using the contractual framework:

- GridAmerica will prepare a guidance document on operating contracts and sharing information to gain maximum value from the contractual arrangements. The team will ensure delegations meet GridAmerica requirements and that duties are appropriately segregated.
- GridAmerica will put in place methods of making sure that NERL, its partners and contractor are fulfilling all their responsibilities contained in the contract.

- GridAmerica ensures that performance measurement includes comparison of actual costs against budget and forecast on a monthly basis, followed by monitoring and investigating where discrepancies occur.
- GridAmerica uses a suite of KPIs to maintain oversight of performance, ensuring that processes include performance verification by more than one source.

To support risk-based management processes:

- GridAmerica ensures that specific individuals are responsible for identifying potential events or scenarios that could have a negative impact on NGUSA's brand and reputation and that those responsible have suitable arrangements and/or metrics in place to monitor the performance of the partner and plans in place to manage the risks, both in terms of avoiding the potential causes and mitigating the consequences of the risks.
- GridAmerica will establish an Early Warning system for material issues that threaten cost, schedule or reputation.

To ensure safe work practices:

- Any prime contractor working on NERL will be required to submit a project-specific Health & Safety Plan (HASP) to NGUSA before commencing any construction activities.
- This requirement is also found in the NGUSA Contactor Safety Requirements document (see Attachment 9.1.19). It is an all-inclusive document detailing all aspects of safety the Prime contractor on the project is required to follow while working on NGUSA projects, including
 - On-boarding responsibilities
 - Project specific safety requirements, including project safety oversight requirements
 - Project safety meeting requirements,
 - Job Brief requirements (& all other project-related safety forms)
 - Incident investigation requirements
 - PPE requirements
 - Training requirements
 - Documentation of employee credential requirements
- The Prime EPC will assume all safety responsibilities associated with a given sub-contractor they bring on to the project.
- With respect to project interfaces with other utilities (Niagara Mohawk Power Corporation, New England Power, and Eversource), safety-related matters must be analyzed and discussed as a joint effort both prior to start of construction and throughout the duration of the project as the need arises.

In all, GridAmerica has done extensive due diligence on the costs of the project, has priced them with appropriate risk contingencies in order to provide a fixed priced tariff, and has the experience and organizational depth to manage the development and construction activities so that ratepayers can receive the least cost option with the least risk.

VII. PROVIDE A PROPOSED SCHEDULE FOR PROJECT DEVELOPMENT THROUGH K FOR OPERATION THAT INCLUDES KEY CRITICAL PATH ITEMS, SUCH AS:

A. DEVELOP CONTRACTS FOR PROJECT WORK

Please refer to Sections 10.1 and 10.2 and the corresponding attachments for detailed schedule and critical path items for the development, construction, and operation of the NERL.

B. COMPLETION OF STUDIES AND RECEIPT OF APPROVALS NEEDED FOR THE INTERCONNECTION

Please refer to Sections 10.1 and 10.2 and the corresponding attachments for detailed schedule and critical path items for the development, construction, and operation of the NERL.

C. PERMITTING; R/W AND LAND ACQUISITION

Please refer to Sections 10.1 and 10.2 and the corresponding attachments for detailed schedule and critical path items for the development, construction, and operation of the NERL.

D. ENGINEERING AND DESIGN

Please refer to Sections 10.1 and 10.2 and the corresponding attachments for detailed schedule and critical path items for the development, construction, and operation of the NERL.

E. MATERIAL AND EQUIPMENT PROCUREMENT, INCLUDING IDENTIFICATION OF LONG LEAD TIME EQUIPMENT

Please refer to Sections 10.1 and 10.2 and the corresponding attachments for detailed schedule and critical path items for the development, construction, and operation of the NERL.

F. FACILITY CONSTRUCTION

Please refer to Sections 10.1 and 10.2 and the corresponding attachments for detailed schedule and critical path items for the development, construction, and operation of the NERL.

G. AGREEMENTS (INTERCONNECTION, OPERATING, SCHEDULING, ETC.) WITH OTHER ENTITIES

Please refer to Sections 10.1 and 10.2 and the corresponding attachments for detailed schedule and critical path items for the development, construction, and operation of the NERL.

H. PRE-OPERATING TESTING

Please refer to Sections 10.1 and 10.2 and the corresponding attachments for detailed schedule and critical path items for the development, construction, and operation of the NERL.

I. PROJECT IN-SERVICE DATE

Please refer to Sections 10.1 and 10.2 and the corresponding attachments for detailed schedule and critical path items for the development, construction, and operation of the NERL.

J. OTHER ITEMS IDENTIFIED BY THE BIDDER

Please refer to Sections 10.1 and 10.2 and the corresponding attachments for detailed schedule and critical path items for the development, construction, and operation of the NERL.

VIII. BIDDER MUST INDICATE WHETHER IT PROPOSES TO RECOVER ABANDONMENT COSTS FOR ITS TRANSMISSION PROJECT FROM THE DISTRIBUTION COMPANIES, AS DESCRIBED IN SECTION 2.2.2.6.2 OF THIS RFP. IF SO, BIDDER MUST ACKNOWLEDGE THAT RECOVERY OF ANY SUCH ABANDONMENT COSTS SHALL BE IN ACCORDANCE WITH FERC RULES AND POLICIES, AND ALSO ACKNOWLEDGE THAT IN NO EVENT WILL A BIDDER SEEK TO RECOVER ABANDONMENT COSTS IF THE ABANDONMENT WAS CAUSED DIRECTLY OR INDIRECTLY BY SOME ACT OR FAILURE TO ACT OF THE BIDDER. BIDDER MUST FURTHER AFFIRMATIVELY COMMIT NOT TO SEEK FROM FERC OR ANY OTHER AGENCY OR AUTHORITY ANY TREATMENT OF ABANDONMENT COSTS INCONSISTENT WITH THE PROVISIONS OF SECTION 2.2.2.6.2 OF THE RFP. TO THE EXTENT THE BIDDER PROPOSES TO RECOVER ABANDONMENT COSTS, SUCH PROPOSAL SHOULD BE FURTHER DESCRIBED AS SET FORTH IN APPENDIX C-2 OF THIS RFP.

To eliminate ratepayer exposure to abandonment cost risk, GridAmerica is not seeking abandonment cost recovery or any cost recovery prior to the issuance of the RFP or selection of the winning bidder. GridAmerica has proposed a fixed Rate Schedule, as shown in Section 14.3. This aspect of the NERL project is a clear advantage and benefit compared to other cost of service transmission project proposals that entertain abandonment costs, even when those abandonment costs have cost caps.

14.2 THE PROPOSED PAYMENT REQUIRED FOR THE TRANSMISSION PROJECT AND ALL SYSTEM UPGRADES.

I. ALL PROPOSALS MUST INCLUDE SIGNIFICANT COST CONTAINMENT AS STATED IN THE RFP.

The NERL fixed-rate proposal ensures the EDCs that any transmission cost overruns will not be borne by ratepayers. As outlined in Section 14.1(vi)b, GridAmerica has shown sufficient information and assessment of the project's costs and risks to demonstrate the financial viability of the project and the experience of GridAmerica on large complex electric transmission projects. As explained in Section 14.1(viii), GridAmerica has eliminated ratepayer exposure to abandonment cost risk by agreeing not to seek recovery of abandonment cost or any cost recovery prior to issuance of the RFP or selection of the winning bidder.

II. LIST ALL SITUATIONS WHICH MAY CHANGE THE PROPOSED PAYMENTS BY CONSUMERS DURING THE CONTRACT TERM.

GridAmerica has proposed a fixed Rate Schedule for the NERL project, as shown in Section 14.3, which is not at risk to consumers of any increased payments. The fixed Rate Schedule will cover all capital costs and operating costs of the project, including EPC price, interest rates, currency risk, and all other costs, including but not limited to development costs, system upgrade costs and host community benefits. Again, the fixed Rate Schedule is fixed throughout the contract term. Therefore, consumers and EDCs will not be exposed to adjustments of the contracted rate schedule.

III. IDENTIFY ANY LIMITS PLACED UPON THE BIDDER'S POST-CONTRACT TERM RATES ACCORDING TO CURRENT FERC RULES.

GridAmerica will file for Negotiated Rates under Section 205 of the Federal Power Act upon selection of the NERL Project. This filing will include the rates, terms and conditions for the interstate electricity transmission. As proposed within the Schedule in Sections 10.1 and 10.2, this filing will occur shortly after the selection of the winning bidder and is expected to be approved within a three-month timeframe.

IV. IDENTIFY ALL OTHER PROJECT REVENUES WHICH MAY BE RECEIVED BY THE BIDDER DURING THE CONTRACT TERM WHICH WOULD NOT REDUCE RATES PAID BY CONSUMERS.

GridAmerica does not project it will receive other revenues due to the NERL project capacity being under contract.

V. IF THE PROPOSED PAYMENTS MAY CHANGE DURING THE CONTRACT TERM OR THE PROPOSAL IS BASED ON COST OF SERVICE, THE BIDDER MUST PROVIDE THE METHOD THAT TRANSMISSION OWNER SHALL USE TO DETERMINE THE PAYMENT FOR THE TRANSMISSION PROJECT UNDER THE TRANSMISSION RATE SCHEDULE OR TARIFF AND SERVICE AGREEMENT TO BE FILED WITH FERC. IF THE PROPOSED PAYMENT IS A FORMULA RATE, THE ELIGIBLE BIDDER MUST ALSO PROVIDE THE FORMULA AND ITS PROPOSED INPUTS THAT THE TRANSMISSION OWNER WILL FILE WITH FERC.

As stated in Section 14.2(ii), and differently than other cost of service projects, GridAmerica does not propose to change the proposed payments during the contract term. As stated, NERL is a fixed price offer and not cost of service offer or a formula rate offer.

VI. IF THE PROPOSED PAYMENT IS BASED ON THE TRANSMISSION PROJECT'S COST OF SERVICE AND MAY CHANGE DURING THE CONTRACT TERM BASED ON CHANGES IN THE COST OF SERVICE, A FULL REVENUE REQUIREMENTS MODEL MUST BE INCLUDED AND SUBMITTED AS A WORKING EXCEL SPREADSHEET WITH THE FORMULAS INTACT.

- A. PROVIDE THE ANNUAL REVENUE REQUIREMENT FORECASTS FOR THE PROJECT – INCLUDING ASSUMPTIONS. PROVIDE A DRAFT VERSION OF THE REVENUE REQUIREMENT CALCULATION IN A FORMAT THAT IS SIMILAR TO WHAT WOULD BE INCLUDED IN THE RATE SCHEDULE OR TARIFF AND SERVICE AGREEMENT APPLICATION TO FERC, INDICATING THE FORECAST REVENUE REQUIREMENT AMOUNTS AND ALL ASSUMPTIONS USED IN THE CALCULATIONS. THIS SHOULD INCLUDE BUT NOT BE LIMITED TO THE ASSUMPTIONS REGARDING RATE OF RETURN, DEPRECIATION LIFE, SPLIT BETWEEN DEBT AND CAPITAL, AFUDC AND WEIGHTED COST OF CAPITAL, AND A DETAILED ESTIMATE OF THE ANTICIPATED AVERAGE ANNUAL OPERATING AND MAINTENANCE COST. PROVIDE THE INFORMATION REQUESTED IN SECTION 14.1.A OF THE BIDDER RESPONSE PACKAGE.

Not applicable.

- VII. IF THE PRICING PROPOSED IS BASED ON COST OF SERVICE, DETAIL ALL COST CONTAINMENT COMMITMENTS. EXAMPLES OF SUCH COMMITMENTS INCLUDE FIXED PRICE COMPONENTS, COST OVERRUN RESTRICTIONS, OR OTHER COST BANDWIDTH PROVISIONS THAT ARE PROPOSED TO LIMIT RATEPAYER RISK MUST BE CLEARLY DEFINED.

Not applicable.

- VIII. PLEASE INCLUDE FULL AND COMPLETE DESCRIPTIONS OF ALL COST CONTAINMENT MEASURES THAT YOU PROPOSE TO BE INCLUDED IN YOUR PRICING. ADDITIONALLY PROVIDE ANY SUPPORTING DOCUMENTATION FOR ANY SAVINGS OR METHODS OF SAVINGS INCLUDING COST CAPS ON ANY PORTION OF YOUR PROJECT. PLEASE INCLUDE WORKING EXCEL SPREADSHEETS TO MORE FULLY EXPLAIN HOW YOUR COST CONTAINMENT MEASURES SHOULD WORK. PLEASE PROVIDE DETAILS AND NOTES THAT DESCRIBE THE NEXUS BETWEEN THE COST CONTAINMENT PROVISIONS IN YOUR PROPOSAL AND THOSE SUPPORTING DOCUMENTS AND SPREADSHEETS. PLEASE PROVIDE EXAMPLES ABOUT HOW ANY COST CONTAINMENT MEASURES YOU ARE PROPOSING WOULD WORK.

GridAmerica has proposed a fixed Rate Schedule for the NERL project, as shown in Section 14.3 As mentioned, in Section 14.2.i., the NERL fixed Rate Schedule and proposal assure the EDCs that any transmission cost overruns will not be borne by ratepayers. In accordance with Section 14.1.iv.(b), therefore, GridAmerica is confident in its cost estimates and the risk analysis associated with those costs and schedules.

- IX. TO THE EXTENT THAT YOU ARE PROPOSING DIFFERENT INTERCONNECTION SCENARIOS THAT AFFECT COST PLEASE INCLUDE FULL AND COMPLETE COST INFORMATION ON EACH SCENARIO. PLEASE DESCRIBE ALL INTERCONNECTION AND TRANSMISSION UPGRADE COSTS REQUIRED TO INTERCONNECT AT THE CAPACITY CAPABILITY INTERCONNECTION STANDARD AND TO ENSURE FULL

DISPATCH, INCLUDING TRANSMISSION UPGRADES THAT MAY NEED TO OCCUR
BEYOND THE POINT OF INTERCONNECTION.

A feasibility study of the proposed NERL project was conducted on currently available ISO-NE models.

Steady-state analysis was performed on the Peak Load, Shoulder Load, Light Load, and Minimum Load cases on New England System. Normal and stressed system conditions (in accordance with ISO-NE procedures) were analyzed. High-level stability analysis was conducted on the Light and Peak Load cases on ISO-NE system.

Please refer to Confidential Attachment 6.8.1 – Feasibility Study for the Northeast Renewable Link for the conclusions and potential upgrades needed for NERL. As mentioned in Section 14.1.6.b, GridAmerica has considered and priced the interconnection upgrade facilities within our offer.

- X. PLEASE DESCRIBE THE COORDINATION OF THE AVAILABILITY OF THE CLEAN ENERGY GENERATION AND ANY ASSOCIATED TRANSMISSION OR DISTRIBUTION FACILITIES. ALL PROPOSALS MUST INCLUDE A PROJECT SCHEDULE, AND PROPOSALS INCLUDING A COMBINATION OF TRANSMISSION AND CLEAN ENERGY GENERATION SHOULD PROPOSE COMPLETE CRITICAL PATH SCHEDULES, FOR BOTH ELEMENTS OF THE PROJECT, FROM THE NOTICE OF SELECTION FOR CONTRACT CONSIDERATION TO THE START OF COMMERCIAL OPERATIONS (THE “BASELINE SCHEDULE”). PLEASE DESCRIBE ALL ASPECTS OF YOUR PROPOSAL THAT PROTECT RATEPAYERS FROM RISKS ASSOCIATED WITH PAYMENTS FOR TRANSMISSION COSTS WHEN ANY ASSOCIATED EXPECTED CLEAN ENERGY GENERATION, AS PROPOSED BY THE BIDDER, IS ABSENT, REDUCED, OR CURTAILED AS COMPARED TO THE BASELINE SCHEDULE.

CLASS I FACILITIES

The solar Class I Facilities are scheduled for completion no later than December 31, 2021, coincident with scheduled completion date of NERL.

FIRMING HYDRO FACILITIES

NORTHEAST RENEWABLE LINK

Integrated Project Schedule

Importantly, critical milestones for the Class I Facilities related to major procurement occur after the expected receipt of key permit approvals for NERL. A consolidated development schedule for the Class I Facilities and NERL project is provided in Section 10.1

XI. PLEASE DESCRIBE YOUR APPROACH TO AVOID LINE LOSSES.

Due to the short distance of the line, line losses will be minimal between the NMPC Alps substation and Eversource Berkshire substation.

14.3 THE SCHEDULE OF THE PAYMENTS DEFINED IN 14.2 ABOVE INCLUDING WHEN THE PAYMENTS WILL COMMENCE, HOW OFTEN PAYMENTS WILL BE REQUIRED AND THE LENGTH OF TIME OVER WHICH PAYMENTS WILL BE REQUIRED. IN NO EVENT MAY PAYMENTS COMMENCE BEFORE THE TRANSMISSION PROJECT IS PLACED IN SERVICE.

Payments will begin in January 2022 and will be required on a monthly basis for 20 years. Please refer to Confidential Attachment 14.3.1 – NERL Payment Schedule.

14.4 THE DESIGN LIFE OF THE PROJECT

The entire NERL project has a design life of at least 40 years. Overhead transmission lines have an expected lifetime of approximately 60-80 years, with mid-life refurbishment of overhead lines needed after 40 years.

14.5 A DESCRIPTION OF THE RELIABILITY BENEFITS OF THE PROPOSED TRANSMISSION PROJECT AND ITS IMPACT ON EXISTING TRANSMISSION CONSTRAINTS

The NERL project increases the AC Interface capability between ISO-NE and NYISO. This increases the reliability of the RTOs by adding operators' flexibility to control flows between the two RTOs in both base case and under fault outage conditions. The Project provides the operators' further flexibility for the capacity and energy markets between the two RTOs, allowing system operators to optimize the utilization of generating resources and reducing the overall cost of operation for ISO-NE and NYISO markets. The Interconnection Studies being conducted by ISO-NE will determine whether the NERL project satisfies the minimum characteristics required to interconnect in a manner that avoids any significant adverse effect on the reliability, stability, and operability of the New England Transmission System, including protecting against the degradation of transfer capability for interfaces affected by the facility. A subsequent Group Study will determine whether the proposed Project can be interconnected in a manner that ensures intra-zonal deliverability by avoidance of the re-dispatch of other Capacity Network Resources and Elective Transmission Upgrades with similar Interconnection Service, as detailed in the ISO New England Planning Procedures.

Where transmission constraints are identified, ISO-NE will propose system upgrades that will resolve the constraints. There is thus an assurance of no negative impact on any existing or future transmission constraints.

SECTION 15 OF APPENDIX B TO THE RFP
EXCEPTIONS TO FORM PPA AND OR VARIATIONS FROM THE PROPOSED TARIFF
REQUIREMENTS

Please attach an explanation of any exceptions to the Form PPAs set forth in Appendix C-1 or Appendix C-2 to this Notice, including any specific alternative provisions in a redline format to the Form PPA.

Transmission bids must contain a proposed tariff, rate schedule or transmission service agreement ("Transmission Agreement") that the Bidder proposes as the vehicle for recovery of its transmission costs from the Distribution Companies. In addition, all transmission bids must separately contain a detailed summary of the material provisions of the proposed Transmission Agreement. Such a summary should include, but not be limited to, a discussion of the key provisions set forth in Appendix C-3, as well as a cross-reference to the corresponding sections of the proposed Transmission Agreement where such provisions may be found.

Bidders are discouraged from proposing changes to the Form PPA and or variations from the Proposed Tariff requirements.

Please refer to Confidential Attachment 15.1 – NRPP Proposed PPA and Confidential Attachment 15.2 – NRPP Proposed PPA Detailed Summary.

Please refer to Confidential Attachment 15.3 – NERL Proposed FTCPA and Confidential Attachment 15.4 – FTCPA Detailed Summary.

Please refer to Confidential Attachment 15.5 – NRPP Proposed TRTA.

SECTION 16 OF APPENDIX B THE RFP FREQUENTLY USED TERMS

In addition to terms defined in the RFP, this Proposal frequently uses the following defined terms:

“**Avangrid**” as defined in Section 2.
“**BEMLP**” as defined in Section 2.
“**Bid A**” as defined in Section 2.
“**Bidders**” as defined in Section 2.
“**BMPs**” as defined in Section 6.15.
“**Brookfield Renewable**” as defined in Section 5.2.
“**Brookfield Renewable US**” as defined in Section 2.
“**Class I Facilities**” as defined in Section 2.
“**COD**” as defined in Section 3.5.
“**Distribution Companies**” as defined in Section 2.
“**EAs**” as defined in Section 2.
“**ETU**” as defined in Section 6.6.
“**Eversource**” as defined in Section 2.
“**Expected Class I Deliveries**” as defined in Section 3.4.
“**Expected Deliveries**” as defined in Section 2.
“**Expected Firming Hydro Deliveries**” as defined in Section 3.4.
“**Firming Hydro Facilities**” as defined in Section 2.
“**FTCPA**” as defined in Section 2.
“**Generator JV**” as defined in Section 2.
“**GridAmerica**” as defined in Section 1
“**Guaranteed Qualified Clean Energy**” as defined in Section 3.4.
“**ISO-NE**” as defined in Section 6.6.
“**MassDOT**” as defined in Section 6.15.
“**MEPA**” as defined in Section 3.5.
“**National Grid**” as defined in Section 2.
“**NGUSA**” as defined in section 5.1.
“**Northeast Renewable Link**” or “**NERL**” as defined in Section 2.
“**Northeast Renewable Power Partners**” as defined in Section 2.
“**NWI**” as defined in Section 6.15.
“**NYS DOT**” as defined in Section 6.15.
“**PAA**” as defined in Section 2.
“**PAR**” as defined in Section 6.6.
“**PPAs**” as defined in Section 2.
“**Project**” as defined in Section 2.
“**Proposal**” as defined in Section 2.
“**RECs**” as defined in Section 2.
“**Section 83D**” as defined in Section 2.
“**SIS**” as defined in Section 3.3.
“**SRIS**” as defined in Section 3.5.
“**RFP**” as defined in Section 2.
“**ROW**” as defined in Section 3.5.

“TRTA” as defined in Section 2.
“Until” as defined in Section 2.