
SECTION 83D

REQUEST FOR PROPOSAL APPLICATION FORM

APPLICANT INFORMATION

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Frequently Used Terms

Term	Definition
NECEC Clean Energy Generation	Clean Energy Generation included in joint bids Hydro + Wind Solution and 100% Hydro Solution .
NECEC Projects	Collective term for the NECEC Transmission Project and the NECEC Clean Energy Generation.
NECEC Transmission Project, the Project, or NECEC	Transmission included in joint bids Hydro + Wind Solution and 100% Hydro Solution.
NECEC Wind Developer	Gaz Metro Limited Partnership and Boralex, Inc.

Glossary of Acronyms

Acronym	Full Name
AC	Alternating Current
ACEEE	American Council For An Energy Efficient Economy
ACOE	Army Corps of Engineers
ADSS	All Dielectric Self Supporting
AFUDC	Allowance For Funds Used During Construction
AFUDC	Allowance For Funds Used During Construction
ANSI	American National Standards Institute
APE	Area of Potential Effect
ASCE	American Society of Civil Engineers
AT	Appalachian Trail
B/C Ratio	Benefit/Cost Ratio
BIA	Bureau of Indian Affairs
CCIS	Capacity Capability Interconnection Standard
CCIS	Capacity Capability Interconnection Standard
CCVT	Capacitor Voltage Transformers
CEA	Corporate Environmental

	Advisors
CEC	Clean Energy Credit
CES ACP	Clean Energy Standard Alternative Compliance Payment
Acronym	Full Name
CETU	Cluster Enabling Transmission Upgrades
CH₄	Methane
CMP	Central Maine Power Co.
CO	Carbon Monoxide
CO₂	Carbon Dioxide
CO₂e	Carbon Dioxide Equivalent
CPCN	Certificate of Public Convenience and Necessity
CWA	Clean Water Act
DC	Direct Current
DFR	Digital Fault Recording
DG	Distributed Generation
DOER	Massachusetts Department of Energy Resources
DOT	Maine Department of Transportation
DPU	Massachusetts Department of Public Utilities

EDF	EDF Renewable Energy
EPA	U.S. Environmental Protection Agency
ETU	Elective Transmission Upgrade
FCAQ	Forward Capacity Auction Qualification
FERC	Federal Energy Regulatory Commission
FLIR	Forward-Looking Infrared
FPA	Federal Power Act
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GWSA	Global Warming Solutions Act
HQP	Hydro-Québec Production
HVDC	High Voltage Direct Current
HQT	Hydro-Québec TransEnergie
HRE	Hydro Renewable Energy Inc.
IEEE	Institute of Electronics and Electronics Engineers
ISO-NE	ISO-New England, Inc.
KOP	Key Observation Point
kV	Kilovolt
kW	Kilowatt
LEAN	Low-Income Energy Affordable Network
LIHEAP	Low-Income Home Energy Assistance Program
LMP	Locational Marginal Price
LUPC	Maine Land Use Planning Commission
MASSCAP	Massachusetts Association for Community Action
MCBER	Maine Center for Business and Economic research
MDEP	Maine Department of Environmental Protection

MIS	Minimum Interconnection Standard
MOD	Model on Demand
MPRP	Maine Power Reliability Program
MPUC	Maine Public Utilities Commission
MRIS	Maine Resource Interconnection Study
MTA	Maine Turnpike Authority
MW	Megawatt
MWh	Megawatt Hour
NESC	National Electric Safety Code
NETA	InterNational Electrical Testing Association
NO_x	Nitrous Oxide
NEPA	National Environmental Policy Act of 1969
NPV	Net Present Value
NRPA	Natural Resources Protection Act
O&M	Operations and Maintenance
OATT	Open Access Transmission Tariff
OPA	Maine Office of the Public Advocate
OPGW	Optical Ground Wires
P&C	Protection and Control
PEV	Partial Emissions Vehicle
PM	Particulate Matter
Pnode	Pricing Node
PP-10	ISO-NE Planning Procedure No. 10
PPA	Power Purchase Agreement
PTF	Pool Transmission Facility
PV	Present Value
REC	Renewable Energy Certificate
REMI	Regional Economic Models

	Inc.
RFP	Request For Proposals
ROE	Return Of Equity
RPS	Renewable Portfolio Standards
RTO	Regional Transmission Organization
RTU	Remote Terminal Unit
SCADA	Supervisory Control and Data Acquisition
SF₆	Sulfur Hexafluoride
SIS	System Impact Study
SLODA	Site Location of Development
SO_x	Sulfur Oxide
STATCOM	Static Compensators
TSA	Transmission Service Agreement
VIA	Visual Impact Assessment
ZEV	Zero Emission Vehicle

SECTION 1 OF APPENDIX B TO THE RFP
CERTIFICATION, PROJECT AND PRICING DATA

Exhibit 1 contains the information requested in the CPPD form for the NECEC Clean Energy Generation from Incremental Hydropower Generation submitted by Hydro Renewable Energy Inc. (“HRE”). The CPPD applicable to the Transmission Project components is provided in the separate envelop submitted by Central Maine Power “CMP”.

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

Central Maine Power Company (CMP or the Company) is pleased to propose the New England Clean Energy Connect (NECEC Transmission Project, the NECEC, or the Project), as part of two joint bids submitted with Hydro Renewable Energy Inc. (HRE), an affiliate of Hydro Québec, and SBx, a joint venture of Gaz Metro Limited Partnership (Gaz Metro) and Boralex Inc. (Gaz Metro and Boralex are collectively referred to as the NECEC Wind Developer).¹ The NECEC is a High Voltage Direct Current (HVDC) transmission solution capable of delivering 1,200 MW of Clean Energy Generation from Québec to the New England Control Area in response to the Request for Proposals for Long-Term Contracts for Clean Energy Projects dated March 31, 2017 (RFP).² As discussed below and in detail in their separate submissions, HRE and the NECEC Wind Developer propose to use the NECEC Transmission Project annually make firm deliveries of a minimum of 8.5 TWh and up to 9.4 TWh of Clean Energy Generation composed of the two following elements:

- 790 MW of Incremental Hydropower Generation provided by Hydro-Québec's Hydropower Resources; and
- 300 MW of new Class I RPS eligible wind generation resources to be constructed by the NECEC Wind Developer firmed up with Incremental Hydropower Generation provided by Hydro-Québec

In combination, the NECEC Clean Energy Generation and the NECEC Transmission Project meet or exceed all of the requirements in the RFP and provide a low-cost, technically viable, financeable solution for the clean energy needs of Massachusetts.

Under this Proposal, firm deliveries will be made every hour of 790 MWh Clean Energy Generation at fixed prices, in the amounts specified above, HRE's deliveries (790 MW), under 20-year Power Purchase Agreements ("HQ PPA") between Hydro-Québec's subsidiary, Hydro Renewable Energy, Inc. ("HRE") and the Distribution Companies. HRE is an indirect wholly-owned subsidiary of Hydro-Québec. Deliveries of 300 MW by the NECEC Wind Developer will be made according to the term of the PPA to be signed between the Wind Developer and the Distribution Companies (see NECEC Wind Developer bid documents).

Enabling the delivery of this Clean Energy Generation will require the construction of a new cross-border intertie ("NECEC" or "Project"). This Proposal also includes transmission

¹ The NECEC joint bids are submitted under RFP Section 2.2.1.3(iv) for Clean Energy Generation from Incremental Hydropower Generation and New Class I RPS Eligible Resources with Class I RECs and Environmental Attributes via Long Term Contract with a Transmission Project under a FERC Tariff.

² Unless specifically defined in this proposal, all capitalized terms are defined in the RFP.

service agreements between the Distribution Companies and CMP to pay for the costs of the U.S.-side of the Project on a fixed, cost-of-service basis, for the first 20 years of the intertie's operation. HRE and the NECEC Wind Developer will receive firm transmission rights on the NECEC Line in Québec from Hydro-Québec Production and on the U.S. side of the border through an assignment of rights under the PPA and then deliver that power transmitted on the NECEC Line to the Distribution Companies at a delivery point within ISO-NE in fulfillment of the HQ PPA.

The Project

The Project requires building a new tie line interconnecting the Hydro-Québec and ISO-NE transmission systems. Hydro-Québec's existing hydropower resources have a vast amount of clean energy generation capacity that could be made available to Massachusetts today, but the transfer capability of the direct interties between the two control areas is the limiting factor. A new 1200 MW interconnection will enable Hydro-Québec and the NECEC Wind Developer to deliver a minimum of 8.5 TWh and up to 9.4 TWh, at the discretion of the Distribution Companies, of Clean Energy Generation produced by existing HQ Hydropower Resources, and by the new wind resource to be developed, generation that cannot be delivered without new transmission. The Québec portion of the interconnection ("Québec Line") will be built and operated by Hydro-Québec TransÉnergie, a division of Hydro-Québec, and will be integrated as part of the Hydro-Québec transmission system. The U.S. portion of the interconnection, the New England Clean Energy Connect, will be built by CMP.

Hydro-Québec owns and operates a fleet of 61 hydropower generating stations that are connected to the Hydro-Québec transmission system³ (the "HQ Hydropower Resources"). The installed capacity totals more than 36,000 MW of capacity. In a manner similar to its current energy deliveries into the ISO New England ("ISO-NE") market, Hydro-Québec will supply the incremental deliveries over the new interconnection backed by the reliability of its entire system of hydropower resources located in the Province of Québec. By relying on its entire hydroelectric fleet to fulfill its obligations inside and outside of the Province of Québec, Hydro-Québec is capable of guaranteeing an unsurpassed degree of firmness and reliability for its deliveries, as well as the creation and transfer to the Distribution Companies of certificates for environmental attributes.

Why Hydro-Québec?

Hydro-Québec is the ideal regional partner to ensure that Massachusetts can achieve its energy diversity goals by providing a source of clean, reliable, firm, baseload power. The HQ Hydropower Resources solution offered by Hydro-Québec is unique:

- An extensive hydropower generation fleet offering large volumes of clean, renewable energy.
- The inherent reliability and scale of Hydro-Québec's hydroelectric generation capacity and the robustness of its transmission system are unequalled in the

³ Hydro-Québec owns 62 hydropower generating stations, but only 61 are connected to the transmission system and will be supporting the "HQ Hydropower Resources".

Northeast. Deliveries to Massachusetts will be supported by all of Hydro-Québec's hydropower resources.

This Proposal offers a viable, low cost Clean Energy Generation delivery project with limited risk, because (i) there is no construction risk related to the generation resources, which are already in service; and (ii) the Distribution Companies are not bearing any of the construction costs or risks of the Québec portion of the transmission project.

Contracting for firm deliveries to secure this resource at fixed prices and construction of a new transmission intertie under this Proposal will provide the greatest impact and value in enhancing electricity reliability and energy security, mitigating price volatility, and achieving tremendous economic and environmental benefits for ratepayers by unlocking a large scale source of clean energy.

Clean, Renewable Energy

While all electricity generation creates greenhouse gas ("GHG") emissions, either directly or indirectly, hydropower ranks as one of the lowest-emission generating options per kilowatt-hour. Based on a full life-cycle analysis, GHG emissions from hydropower generated in Québec are:

- Similar to wind energy
- 5 times less than solar photovoltaic
- 50 times less than natural gas
- 70 times less than coal

Among renewable and low-emission energy sources, hydropower is the only resource offering continuous generation; all the others are intermittent.

Firm Energy from a Proven Partner

Hydro-Québec is a state-owned corporation with a mandate from the Government of Québec to harness the vast potential of the Province's water resources. Hydro-Québec generates more than 99% of its electricity from hydropower, a source of clean, renewable energy⁴. With over 500,000 lakes and some 4500 rivers, about 12% of Québec's territory is covered with water. On 75 of these rivers, Hydro-Québec has developed and operates a system of power stations, dams, reservoirs, and control structures.

Since 1944, Hydro-Québec has overseen the development of Québec's hydropower potential into a high-performance fleet of hydroelectric generating stations with installed capacity totaling over 36,000 MW. Hydropower development requires high up-front capital investment, but has low operating costs over a long lifespan – in the case of Hydro-Québec's installations, well over 100 years. This means that operating costs are predictable over the long term, which enables Hydro-Québec to enter into long-term contractual arrangements and offer competitive pricing far into the future. Hydro-Québec

⁴ Note: all hydroelectric energy in this Proposal comes from HQ Hydropower Resources.

has been a market participant in NEPOOL and the ISO New England markets, and has long provided New England with a significant source of clean energy over the existing interties. This proposal represents an opportunity for Massachusetts to take the next step forward in securing firm, large scale and clean Incremental Hydroelectric Generation from Hydro-Québec imported over additional interconnection capacity.

Reliable, Flexible, and Controllable System Power

Hydropower is a constant, permanently available energy source that guarantees reliable supply. Thanks to its storage capacities, a reservoir generating station can provide an instant response to changes in demand, including during peak periods.

The HQ Hydropower Resources will provide the reliability of system power. “System power” is a supply coming from the entire Hydro-Québec hydropower system, not from just one hydropower generating station. Because the HQ Hydropower Resources are combined and managed flexibly as a system portfolio, the reliability of the system is greater than any smaller portfolio or single hydroelectric generation project. The electricity that will be delivered under the HQ PPA is supported by a large generating fleet, and the availability of that supply is not affected by maintenance schedules or equipment failure at any particular facility, local transmission congestion, or seasonal variations in water flows. Finally, because this system power will be delivered over a dedicated High Voltage Direct Current (“HVDC”) line, this supply will be fully dispatchable by ISO-NE.

Baseload energy that can firm up and unlock intermittent energy sources

Dispatchable, continuous, and predictable, hydropower is the only renewable generation resource that can support the development of intermittent resources such as solar and wind power. The capability of a generation resource to respond instantly to dispatch instructions is vital in a region that has a growing amount of intermittent resources in the generation mix. Beyond the term of the PPA, the HQ Hydropower Resources and the new intertie facility will be able to assist New England in integrating higher levels of intermittent energy sources.

Proven Ability to Deliver Even During Québec’s Winter Peak Period

Hydro-Québec is fully capable of delivering a firm 790 MW every hour of the year, including during Québec’s peak period in winter, over the Project for the full 20 years of the PPA.

Even during the winter peak periods in Québec, Hydro-Québec has consistently maintained non-firm delivery volumes into New England that are well above its contractual obligations. During its winter peak in 2014/2015 and 2015/2016, Hydro-Québec delivered, on average, over 1,600 MW/hour during peak hours into New England. As for the 2016/2017 winter peak, average deliveries into New England were even higher: on average over 1,900 MW/hour. For all years in question, volumes were well above supply obligations.

Energy Security

Energy security is a top priority for Hydro-Québec. To fulfill its regulatory obligation to the domestic market, as well as commitments to its long-term supply contracts outside of the province, Hydro-Québec manages its 27 reservoirs on a multiannual basis and maintains a sufficient energy reserve to offset a natural inflow deficit equivalent to 64 TWh over two consecutive years and 98 TWh over four consecutive years. Hydro-Québec also maintains a system reserve margin in accordance with the [North American Electric Reliability Corporation \(NERC\)](#) resource adequacy planning criteria. Hydro-Québec's ability to fulfil its commitment to make its contractual firm deliveries is assured, because it has an obligation under NERC's rules to maintain resource adequacy. Thus, Hydro-Québec will have sufficient water resources to meet its contractual obligations through the entire term of the HQ PPA and beyond.

Looking to the future, studies conducted by Ouranos, the Consortium on Regional Climatology and Adaptation to Climate Change, indicate that changing climate patterns will actually bring more precipitation to northern Québec – an average annual flow increase of about 12% in the Baie-James region, where half of Hydro-Québec's generating capacity is located – and 5% in the south (Outaouais region) by 2050.

Robust Transmission System

Redundancy is built into the system, and central system planning by Hydro-Québec TransÉnergie ensures that the needs of both domestic and export demands can be met now and in coming years. Hydro-Québec operates its system to the most stringent reliability standards, in accordance with the criteria of [NERC](#) and the [Northeast Power Coordinating Council \(NPCC\)](#).

Solid Financial Backing

As a state-owned corporation, Hydro-Québec has the financial ability to finance the construction of the Québec portion of the new interconnection through the strength of its balance sheet and the issuance of debentures and notes guaranteed by the Québec government. This financial strength assures Hydro-Québec's ability to bring its part of the transmission project to completion and also assures its ability to maintain its facilities throughout the entire term of the HQ PPA.

The engineering and construction quality of Hydro-Québec's generating fleet has been a model for the industry for 50 years. Hydro-Québec makes substantial investments to maintain and upgrade its facilities. In 2016, CA\$ 344 million was invested in the retrofitting and refurbishment of generating stations and associated structures. Similarly, Hydro-Québec is recognized worldwide for the reliability and robustness of its transmission system. Hydro-Québec takes every possible measure to maintain high reliability benchmarks in this regard. In 2016, Hydro-Québec TransÉnergie, invested CA\$ 1.8 billion in its transmission facilities. The HQ Hydropower Resources are secure and

reliable, because of the flexibility and quality of Hydro-Québec's generation and transmission facilities. In addition, sustained innovation efforts will ensure that the Québec power system is continually improved.

Highlights of the Proposal

Because Hydro-Québec can guarantee firm service delivery of Clean Energy Generation by managing its system portfolio of hydroelectric generation units, the Clean Energy Generation offered by this Proposal is extremely favorable compared to other clean energy resources for the following reasons:

- **Section 3: Enhanced Reliability with Minimal Outages.** Hydro-Québec has structured the HQ PPA for delivery of a firm 790 MW every hour of the year, supporting this proposal in a manner that leverages the strengths of its existing hydroelectric generation fleet as a system. Thus, the HQ Hydropower Resources effectively have no operating constraints. Similarly, the Project's transmission facilities will be constructed according to industry standards and will be maintained in compliance with NERC, NPCC, and ISO-NE system protocols to maximize the Project's ability to deliver clean energy at the full 1200 MW transfer capability.
- **Section 4: A Secure Energy Resource and Delivery Plan.** Hydro-Québec's system is a diverse portfolio of run-of-river and reservoir generation units located in geographically diverse areas. Hydro-Québec's reservoir system can withstand several years of dry conditions.
- **Section 5: Strong Financial Ability.** Hydro-Québec can generate financing through the strength of its balance sheets and issuance of debt that is guaranteed by the Government of Québec. Hydro-Québec has among the highest credit ratings of regulated public utilities and has a track record of completing hundreds of large capital projects over the past decade.
- **Sections 6 and 7: Advanced Siting and Permitting.** The HQ Hydropower Resources are fully sited, permitted, and in service.
- **Section 8: Advanced Engineering and Procurement.** The HQ Hydropower Resources are already in service and require no further procurement. The HVDC converter terminal and DC cable technologies used in the transmission projects are widely used in the industry and perform reliably.
- **Section 9: Extensive Operations and Maintenance Experience.** Hydro-Québec has a strong record of operating and maintaining generation and transmission systems with capital assets in the billions of dollars. Its maintenance organizations are committed to maintaining the generation and transmission assets that are necessary to this proposal in accordance with industry standards.

- **Section 10: Critical Path Schedule.** As mentioned before, the HQ Hydropower Resources are in service.
- **Section 11: Organizational Experience in Large Scale Development.** Hydro-Québec's development team has built over 4,500 MW of new installed capacity and CA\$ 16.7 billion in transmission upgrades since 2003.
- **Section 12: A Giant Leap Forward in Greenhouse Gas Emission Reductions.** The HQ Hydropower Resources and the NECEC Wind Developer will deliver a minimum of 8.5 TWh and up to 9.4 TWh of Clean Energy Generation and displace 3.63 MMTCO₂eq annually. This resource is the best and most cost effective solution at the large scale necessary to help Massachusetts achieve the greatest progress in reaching the Global Warming Solutions Act's emissions reduction targets with enhanced system reliability and firm deliveries to mitigate price volatility to customers.

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).

3.1.1 Hydro-Québec

3.1.1.1 Hydro-Québec – Hydropower resources

N/A. The request for information about the planned outage requirements and maintenance cycles of the HQ Hydropower Resources supporting this Proposal is not applicable, because the Clean Energy Generation to be delivered will be supported by Hydro-Québec's system as whole. The maintenance of any particular generation unit will not affect the availability of the Clean Energy Generation.

The HQ Hydropower Resources consist of 61 hydroelectric generation stations with an installed capacity of over 36,000 MW, which will be managed as a portfolio to provide Clean Energy Generation. The size of the portfolio available to support this Proposal greatly exceeds the 790 MW of Clean Energy Generation offered in this Proposal. [REDACTED]

[REDACTED] Because of the number and variety of units in the portfolio, Hydro-Québec has a large degree of flexibility in managing their output. The available resources will be more than sufficient to provide the contracted amount of Clean Energy Generation at all times and will not be subject to the planned outage of any specific unit within the system. The availability of the HQ Hydropower Resources depends only upon the availability of the transmission facilities as discussed below.

3.1.1.2 Hydro-Québec – Québec line

Once they have been constructed and placed in service, the Québec Line and the NECEC Line will have the same operational characteristics as any other transmission facility. Thus, the maintenance schedule of the Québec Line will be conducted in accordance with Hydro-Québec TransÉnergie's internal maintenance practices, which have been developed based on decades of experience in managing its entire transmission system. The maintenance schedule of the Québec Line will also be coordinated with CMP.

Ordinary line maintenance activities will not require the Québec Line to be taken offline. In the rare case that a planned outage is necessary, as described in Section 9.1, all planned outages will be scheduled in compliance with all applicable requirements of ISO-NE. Planned outages will also be scheduled to coincide with the annual maintenance schedule of the converters, as prescribed by the converter vendors. Maintenance of the converters will require no more than 6 days during which the HVDC system will be unavailable.

The Québec converter station will require routine, preventative maintenance to ensure efficient operation and to minimize the chance for an unplanned outage. A single planned annual outage is required to perform this maintenance. This annual service outage is approximately 6 consecutive days (6x 24 hours) annually to service the converter station. The service at the HQT Converter Station and NECEC Converter Station will be coordinated between CMP and HQT and will be performed concurrently. The schedule for system maintenance will be coordinated with ISO-NE several months in advance and will be planned to occur in the shoulder months (i.e. September – November and April – May) when ISO-NE and HQT loads are lightest.

Therefore, the monthly adjustment factors as a percentage of expected production reflecting planned maintenance outages for both the U.S. Line and the Québec Line are estimated as follows:

	October	May	Other Months
Year 1	0.81	0.77	1.00
Subsequent Years	0.81	1.00	1.00

The transmission line and associated facilities will use standard and highly reliable equipment that has a long and proven track record in the industry. Based on industry data, we estimate an equivalent forced outage rate for the 20-year term of the HQ PPA to be of 0.42 %. This rate includes forced outages for the Québec Line and for the Converter station at Appalaches.

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.

3.2.1 Hydro-Québec

3.2.1.1 Hydro-Québec – Hydropower resources

N/A. The request for information about expected operating constraints and operational restrictions of the hydroelectric generation resources supporting this Proposal is not applicable, because the Clean Energy Generation to be delivered will be supported by Hydro-Québec's system as whole. Any constraint or restriction on the operation of any particular generation unit will not affect the availability of the Clean Energy Generation.

The size of the portfolio available to support this Proposal greatly exceeds the 790 MW of Clean Energy Generation offered in this proposal. [REDACTED]

[REDACTED] Because of the number and variety of units in the portfolio, Hydro-Québec has a large degree of flexibility in managing their output. The available resources will be more than sufficient to provide the contracted amount of Clean Energy Generation at all times and will not be subject to operating constraints of any specific unit within the system.

Given the seasonal patterns of demand and water supply, management of the upstream and downstream water levels of power stations for the annual and multi-year management of reservoirs is the main factor for modulating production at the various sites. The typical operating parameters of individual power stations are subject to a number of operational rules or constraints that relate to matters such as the water levels to be met or to the requirements of fish upstream and downstream of the plants. Nevertheless, as discussed above, the performance of individual units is not relevant to the availability of the Clean Energy Generation from the HQ Hydropower Resources as a whole.

3.2.1.2 Hydro-Québec – Québec line

The expected operating constraints and restrictions of the Project are no different than that of any other transmission line. The only anticipated interruptions will be those for routine and periodic maintenance on schedules that are similar to those of other transmission facilities, including the converters, which will result in the equivalent forced outage rates as discussed in Section 3.1.

Based on exigent operational conditions in the ISO-NE bulk power system unrelated to the HVDC Line, ISO-NE may determine that deliveries at the 790 MW level cannot

be scheduled. Such an operational constraint, although highly unlikely and unanticipated, could happen on an occasion and, therefore, could lower the amount of energy delivered during the period of the constraint to an amount less than 790 MW. No other event or circumstance other than a Force Majeure event can reduce or eliminate delivery obligations.

Transfer capability reductions in the Québec Line and the NECEC transmission line are not cumulative or additive. For example, if the Québec Line had a 50 MW reduction and the US Line had a 100 MW reduction, the result would be a 100 MW reduction, resulting in a 990 MW delivery.

3.3 Reliability – Describe how the proposal would provide enhanced electricity reliability to Massachusetts, including its impact on transmission constraints.

3.3.1 Hydro-Québec

3.3.1.1 Hydro-Québec – Hydropower resources

The portfolio of supply that supports the HQ Hydropower Resources will provide an inherently reliable source of electricity that is not subject to the performance of any specific hydroelectric generation unit. The Hydro-Québec system is robust due to its size and geographic diversity. The hydroelectric generation resources are located across the entire province. Moreover, unlike wind or solar resources, hydroelectric generation resources can operate even in extreme weather conditions, making the generation from the HQ Hydropower Resources and its delivery particularly reliable.



3.3.1.2 Hydro-Québec – Québec line

The Québec portion of the transmission line will connect with the NECEC project at the border and will meet all reliability criteria required by the NPCC and NERC. With respect to providing enhanced electricity reliability to Massachusetts, see Section 3.3 of CMP's NECEC submission.

3.4 Moderation of System Peak Load – Describe how the proposal would contribute to moderating system peak load requirements and provide the following information:

3.4.1 Hydro-Québec

3.4.1.1 Hydro-Québec – Hydropower resources

This Proposal moderates system peak load requirements, because it commits a substantial delivery of energy (790 MW) during all hours of the year and maintains those deliveries during the peak hours. The HQ Hydropower Resources will reliably deliver electricity during the peak hours, as deliveries will remain constant and will not be subject to variations of any specific generating unit. Further, these firm delivery quantities will be guaranteed by contract, including during the Hydro Québec system winter peaks.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

3.4.1.2 Hydro-Québec – Québec line

[REDACTED]

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.

⁵ An annual maintenance outage of 6 days is planned in October of each year.

3.5.1 Hydro-Québec

3.5.1.1.1 Hydro-Québec – Hydropower resources

The HQ Hydropower Resources are a portfolio of hydroelectric generation units that comprise the current Hydro-Québec system resources in commercial operation.

[REDACTED]

3.5.1.1.2 Hydro-Québec – Québec line

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

List of Attachments: None

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.**

[REDACTED]

[REDACTED]

[REDACTED]

Wind Energy Projects

Provide a summary of all collected wind data for the proposed site. Identify when the data was collected and by whom.

Please see the NECEC Wind Developer submission.

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.

Please see the NECEC Wind Developer submission.

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.

Please see the NECEC Wind Developer submission.

Provide a site-adjusted power curve. Each curve should list the elevation, temperature and air density used.

Please see the NECEC Wind Developer submission.

Identify the assumptions for losses in the calculation of projected annual energy production, including each element in the calculation of losses.

Please see the NECEC Wind Developer submission.

If your bid includes a delivery forecast which is substantially different than NREL data would suggest, please reconcile the differences.

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 production characteristics of the HQ Hydropower Resources are managed as a highly reliable system portfolio of generation resources that are diverse in number, water resource type, and geographic location. The HQ Hydropower Resources currently consist of a combination of 61 reservoir and run-of-river stations. Energy security of the entire system is ensured through a 27-reservoir system with a multi-annual combined storage capacity. The reservoirs are spread across Québec, thus mitigating regional fluctuations in precipitation in the aggregate.

[REDACTED]

Because this Proposal offers the generation output of a portfolio of resources, and because HQ maintains its reservoir storage to sustain inflow deficits on a multi-year basis, seasonal variation in the monthly water flows available to any specific generation unit will not affect the generation output of the system as a whole. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

The following link <http://www.hydroquebec.com/generation/centrale-hydroelectrique.html> identifies the type of hydro resource associated with each station as well as the head and watersheds.

Provide monthly flow duration curves based upon daily stream flow records.

N/A. As discussed in this Section 4.1, this Proposal offers the generation output of a portfolio of system resources, and because Hydro-Québec maintains its reservoir storage to sustain inflow deficits on a multi-year basis, monthly flow duration curves for any specific generation unit will not affect the generation output of the system as a whole. [REDACTED]

[REDACTED]

Identify if the project is run-of-river or has storage capability.

The HQ Hydropower Resources will be managed as a portfolio of run-of-river and reservoir-fed hydroelectric generation resources. The following link provides summary information on Hydro-Québec's generating stations: <http://www.hydroquebec.com/generation/centrale-hydroelectrique.html>. In the aggregate, as discussed in Section 4.1.1.1, the HQ Hydropower Resources have a 27-reservoir system.

Specify if the project is new, or if the project is an expansion of an existing facility.

Although the HQ Hydropower Resources are existing hydroelectric generating stations, the Project is a new transmission intertie, which will enable the output of the HQ Hydropower Resources to be offered as Incremental Hydropower Generation that could not otherwise have been delivered as Clean Energy Generation to New England.

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.

The proposed Project increases the transfer capability between Québec and New England by constructing a new 1200 MW interconnection which will allow Hydro-Québec to provide Incremental Hydroelectric Generation to Massachusetts.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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

[REDACTED]

[REDACTED]

[REDACTED]

[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.

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.

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]

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.

[REDACTED]

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]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

List of Attachments:

Attachment	Description
[REDACTED]	[REDACTED]

⁸ For further information, please refer to: <http://www.nepoolgis.com/how-to/importing-unit-specific-certificates/>

⁹ <http://www.narecs.com/>

SECTION 5 OF APPENDIX B TO 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.**

The financial strength and experience of both Hydro-Québec and CMP have been, and will continue to be, critical in attracting capital at favorable terms from investors, and the Bidders' financial strength is described in greater detail in this Section 5.

Notwithstanding the sponsors' financial strength, predictable and stable revenue associated with a long-term agreement as would result from the HQ PPA and the Distribution Company TSA is fundamental to providing greater certainty to credit markets and capital markets for a project of this magnitude. Such a long-term contract plays an important role in order to obtain favorable financing terms and conditions, since the cash flows generated by it would contribute to reduce the risks and/or uncertainties that can be perceived or unwanted by the creditors. Indeed, if NECEC were to seek project financing in the capital markets directly, a long-term contract would be mandatory.

5.1.1 Hydro-Québec





- 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.**

Attachment 5.2.1 provides an organization chart showing the relationship between the equity and debt participants of the Project sponsors.

Hydro-Québec is a long-standing participant in the New England energy market and operates one of the major systems in Canada for the generation, transmission and distribution of electric power.

Hydro-Québec supplies virtually all electric power distributed in Québec, the largest province in Canada in land area and the second largest in population. Hydro-Québec was created in 1944 by the Hydro-Québec Act of the Parliament of Québec and is an agent of Québec. Accordingly, Hydro-Québec is a government-owned corporation; all of its capital stock is held by the Minister of Finance on behalf of the Government of the Province of Québec.

Hydro-Québec is one of the largest power generators in North America. Its system power is almost exclusively generated by hydroelectric facilities. Hydro-Québec also transmits and distributes electricity. Hydro-Québec has been selling power to the New England energy markets since the 1980s over the existing transmission lines interconnecting the two regions.



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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**

[REDACTED]

[REDACTED]

ii. The project's existing initial financial structure and projected financial structure

iii. Expected sources of debt and equity financing

iv. Estimated construction costs

¹⁰ Equity divided by the sum of equity, long-term debt, current portion of long-term debt, perpetual debt, borrowings and derivative instrument liabilities, less derivative instrument assets and sinking fund.

[REDACTED]

v. The projected capital structure

[REDACTED]

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.

[REDACTED]

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.

Sections 5.3 and 5.4 provide additional information regarding past financings and the financial strength of Hydro-Québec. Section 5.12 also discusses financing options available to Hydro-Québec. [REDACTED]

[REDACTED]

5.3 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:

- i. Project name and location**
- ii. Project type and size**
- iii. Date of construction and permanent financing**
- iv. Form of debt and equity financing**

v. Current status of the Project

Hydro-Québec has financed hundreds of capital projects over the course of its operating history as a state-owned and regulated public utility since 1944. Attachment 5.3.1 provides additional details regarding the recent financing experience of Hydro-Québec with respect to projects of similar size, technology and/or profile.

5.4 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.

Hydro-Québec finances its own projects using various corporate sources of financing to meet its financial needs. Hydro-Québec's borrowings consist mainly of debentures and medium-term notes, nearly all of which are guaranteed by the Québec government, which is Hydro-Québec's sole shareholder. Hydro-Québec TransÉnergie, which will construct and own the Canadian transmission facilities constructed for the Project, had fixed transmission assets totaling CA\$21.3 billion on December 31, 2016. Hydro-Québec Production, which owns the HQ Hydropower Resources, is one of the largest power generators in North America, with close to CA\$30.9 billion in property, plant and equipment for generation assets. In 2016, Hydro-Québec's net income was CA\$2.86 billion.

Attachment 5.4.1 includes additional information regarding the financial strength of Hydro-Québec as of December 31, 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.

The current senior unsecured (long term) debt ratings of Hydro-Québec are:

Sponsor	S&P	Moody's	Fitch
Hydro-Québec	AA-	Aa2	AA-

The Annual Reports of Hydro-Québec for the fiscal years ended December 31, 2016, December 31, 2015, and December 31, 2014 can be found at:

December 31, 2016	http://www.hydroquebec.com/publications/en/docs/annual-report/annual-report-2016.pdf
December 31, 2015	http://www.hydroquebec.com/publications/en/docs/annual-report/annual-report-2015.pdf
December 31, 2014	http://www.hydroquebec.com/publications/en/docs/annual-report/annual-report-2014.pdf

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.

The following tables include the board of directors and officers of HRE for the past three years.

**HYDRO RENEWABLE ENERGY INC.
DIRECTORS
2014-2017**

TERM		NAME
BEGINNING	END	
2010-09-14		CACCHIONE, Richard
2015-05-05		MARCASSA, Florence
2017-05-03		LENEY, Stella
2010-09-14	2015-05-04	NADEAU, Marie-José
2010-09-14	2015-05-05	ST-ARNAUD, Sonia
2011-03-11	2014-10-09	LANCTÔT, Maxime
2015-05-05	2017-01-23	DESGAGNÉ, Pierre-Luc
2017-01-25	2017-04-20	LENEY, Stella

HYDRO RENEWABLE ENERGY INC.
OFFICERS
2014-2017

TERM		NAME	TITLE
BEGINNING	END		
2014-12-12		CACCHIONE, Richard	President and Chairman
2015-05-05		ST-ARNAUD, Sonia	Vice President Project Development and Strategies
2012-10-26		CELLUCCI, Sandro	Vice President Legal Affairs and Compliance
2016-06-08		BERGEVIN, Simon	General Manager
2015-05-05		MARCASSA, Florence	Treasurer
2010-09-14		DESNOYERS, Michèle	Assistant Treasurer
2017-05-03		BROUILLETTE, Louise	Assistant Treasurer
2017-05-03		LENEY, Stella	Secretary
2017-05-03		DAIGNEAULT, Patrice	Assistant Secretary
2010-09-14	2015-05-04	NADEAU, Marie-José	Secretary
2010-09-14	2016-12-23	CORMIER, Ginette	Assistant Secretary
2010-09-14	2015-05-05	ST-ARNAUD, Sonia	Treasurer
2011-08-08	2014-12-12	CACCHIONE, Richard	Chairman
2011-08-08	2014-10-09	LANCTÔT, Maxime	President
2011-09-27	2016-06-08	DEMERS, Steve	General Manager
2012-10-26	2014-10-09	RACINE, Sylvie	Director Regulatory Affairs and Marketing

2013-02-04	2016-06-08	BERGEVIN, Simon	Assistant General Manager
2015-05-05	2017-01-23	DESGAGNÉ, Pierre-Luc	Secretary
2017-01-05	2017-04-20	BROUILLETTE, Louise	Assistant Treasurer
2017-01-25	2017-04-20	LENEY, Stella	Secretary

Currently, Hydro-Québec is not aware of any other individuals who will become officers or board members of HRE.

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.

[REDACTED]

[REDACTED]

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.

Hydro-Québec does not have any current or recent credit issues or rating downgrade events. Hydro-Québec's S&P credit ratings were recently raised to "AA-" from "A+", and they globally have remained stable for the past 5 years. Credit rating agencies, banks, and accounting firms have not raised any issues regarding the company during that period. Hydro-Québec's credit ratings are available in Section 5.5 and on Hydro-Québec's Investor Relations website:

<http://www.hydroquebec.com/investor-relations/about-the-issuer/credit-ratings.html>

Attachment 5.4.1 includes additional information regarding the quality of Hydro-Québec as an issuer as of December 31, 2016.

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]

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 pending (currently or in the past three years) or threatened litigation or disputes related to projects developed, owned, or managed by Hydro Renewable Energy Inc. or any of its affiliates in the United States.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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?

All of the assets involved in this Proposal have a useful life that significantly exceeds the duration of the proposed HQ PPA and Distribution Company TSA.

As for the HQ Hydropower Resources, the assets are already built and given their exceptionally long service life, they can be considered as virtually permanent assets. A hydroelectric generating station that is properly maintained and refurbished can have a service life of more than 100 years. (Hydro-Québec has generating stations in its fleet that have been in operation for over 100 years.) [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- 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.**

Neither Hydro-Québec nor its affiliates have executed agreements with respect to energy, Renewable Energy Credits ("RECs"), or capacity.

- 5.14 List all of the Bidder's affiliated entities and joint ventures transacting business in the energy sector.**

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- 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?**

In the last five years, neither Hydro-Québec nor any affiliate of Hydro-Québec has:

- 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; or
 - 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.
- 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.**

Hydro-Québec and its affiliates are not aware of any conflict of interest with any of

the Distribution Companies or any affiliate of the Distribution Companies.

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 Hydro-Québec, nor any affiliate of Hydro-Québec, is involved in any litigation or dispute with the Distribution Companies or any affiliate of the Distribution Companies.

Furthermore, there is no claim or complaint involving Hydro-Québec or its affiliates against the Distribution Companies or any affiliate of the Distribution Companies.

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.

In relation to the purchase or sale of energy, capacity, or renewable energy certificates or products, there is no litigation, dispute, claim or complaint, or event of default or other failure to satisfy contract obligations, or failure to deliver products, involving Hydro Renewable Energy Inc.

[REDACTED]

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).

[REDACTED] Hydro-Québec and its affiliates, and the directors, employees and agents of Hydro-Québec and any affiliate of Hydro-Québec are not currently under investigation by any governmental agency. Hydro-Québec and its affiliates 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.

5.20 Identify all regulatory and other approvals needed by Bidder to execute a binding sale agreement.

[REDACTED]

[REDACTED]

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.

[REDACTED]

[REDACTED]

5.21 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:

- 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.

There are no direct and indirect affiliations and affiliate relationships, financial or otherwise in the past three years between Hydro-Québec or its affiliates and any of the Distribution Companies or any affiliate of the Distribution Companies.

List of Attachments:

<i>Attachment</i>	<i>Description</i>
5.2.2	HRE Authorization
5.3.1	Financing experience
5.4.1	Financial strength

**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.**

See Attachment 6.1.1.1 for a Map of major Hydro-Québec hydroelectric generation facilities.

All of the hydroelectric generation stations and units that comprise the HQ Hydropower Resources are in commercial operation. Therefore, they have already been sited and constructed, and are already fully interconnected to the Hydro-Québec TransÉnergie transmission system within the Québec Control Area.

Site plan included? [REDACTED] **If not, please explain:**

[REDACTED]

[REDACTED]

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.

All of the hydroelectric generation stations and units that comprise the HQ Hydropower Resources are in commercial operation and, therefore, they have already been sited and constructed, and are already fully interconnected to the Hydro-Québec TransÉnergie transmission system within the Québec Control Area. Hydro-Québec owns or controls all of the real property rights necessary for full site use and operation of the existing HQ Hydropower Resources during the term of the proposed HQ PPA, and will not need to acquire any additional real property rights as a result of this Proposal.

- 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:

Hydro-Québec has the ability to acquire, in the normal course of the siting and permitting process, site control over the property needed for the Québec Line.

- ii. **If so, please detail the Bidder's rights to control the Eligible Facility site and/or Transmission Project route control.**

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- 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.**

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- iv. Identify any joint use of existing or proposed real property rights**

- 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.**

All the hydroelectric generation stations and units that comprise the HQ Hydropower Resources are in operation and, therefore, have already been sited and

constructed, and are already fully interconnected to the Hydro-Québec TransÉnergie transmission system within the Québec Control Area. No further zoning or permitting is required as a result of this Proposal.

Detail the zoning and permitting issues:

Since Hydro-Quebec acts as an agent for the Province of Québec, no local zoning approvals are required for the construction and operation of its facilities.

Permitting plan and timeline:

[REDACTED]

[REDACTED]

- 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).**

HVDC line and 345 kV AC Interconnection Facilities - Québec – Maine border, Beattie Township to Larrabee Road Substation, Lewiston, Maine

6.4.1.1 Hydro-Québec – Hydropower resources

All the hydroelectric generation stations and units that comprise the HQ Hydropower Resources are in operation and, therefore, have already been sited and constructed, and are already fully interconnected to the Hydro-Québec TransÉnergie transmission system within the Québec Control Area. There will be no environmental impacts from siting hydroelectric generation as a result of this Proposal.

6.4.1.2 Hydro-Québec – Québec line

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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.

6.5.1.1 Hydro-Québec – Hydropower resources

N/A. All the hydroelectric generation stations and units that comprise the HQ Hydropower Resources are in operation and, therefore, have already been sited and constructed, and are already fully interconnected to the Hydro-Québec TransÉnergie transmission system within the Québec Control Area. Hydro-Québec has full site control over the interconnection paths during and beyond the term of the proposed HQ PPA.

Interconnection map included? [REDACTED] if not, please explain:

[REDACTED]

Interconnection site control plan:

- 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.**

6.6.1.1 Hydro-Québec – Hydropower resources

All of the hydroelectric generation stations and units that comprise the HQ Hydropower Resources are in operation and, therefore, have already been sited and constructed, and are already fully interconnected to the Hydro-Québec TransÉnergie transmission system within the Québec Control Area.

6.6.1.2 Hydro-Québec – Québec line

[REDACTED]

- 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.**

6.7.1.1 Hydro-Québec – Hydropower resources

N/A. All of the hydroelectric generation stations and units that comprise the HQ Hydropower Resources are in operation and, therefore, are already fully interconnected to the Hydro-Québec TransÉnergie transmission system within the Québec Control Area.

The HQ Hydropower Resources will be managed as a portfolio to provide Firm Service Hydroelectric Generation. The size of the portfolio available to support this Proposal greatly exceeds the Firm Service Hydroelectric Generation offered in this Proposal. [REDACTED]

[REDACTED]

6.7.1.2 Hydro-Québec – Québec line

[REDACTED]

[REDACTED]

Attachments:

Copy of completed studies attached: ☐ If none, please explain:

Copy of Interconnection Agreement attached: ☐ If none, please explain:

- 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.**

6.8.1.1 Hydro-Québec – Hydropower resources

N/A. All of the hydroelectric generation units that comprise the HQ Hydropower Resources are in operation and, therefore, are already fully interconnected to the Hydro-Québec TransÉnergie transmission system within the Québec Control Area.

6.8.1.2 Hydro-Québec – Québec line

[REDACTED]

- 6.9 To the extent that you provide an alternative interconnection scenario based on ISO-NE 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.

N/A. Please see CMP's NECEC submission.

- 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:

N/A.

- 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:

[REDACTED]

- 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.**

6.12.1.1 Hydro-Québec – Hydropower resources

All of the hydroelectric generation stations and units that comprise the HQ Hydropower Resources are in operation and, therefore, have already been sited and constructed, and are already fully interconnected to the Hydro-Québec TransÉnergie transmission system within the Québec Control Area. No new interconnection facilities are required as a result of this Proposal.

6.12.1.2 Hydro-Québec – Québec line

[REDACTED]



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:**
- 2. 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 to and from bus numbers and names**
 - Transformer data: (including Phase shifting transformers if applicable): Terminal Voltages/Thermal Ratings/Impedance To and from bus numbers and names**
 - Reactive compensation models as necessary**
 - Other changes to the model that would occur due to a Project such as terminal changes for lines/transformer/generator leads/loads etc.**

Given that the Québec Line is located outside of the United States and has been planned as part of the integrated Hydro-Québec TransÉnergie transmission system, system impacts within the ISO-NE area are not modeled as part of the Hydro-Québec transmission planning process.

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.

6.14.1.1 Hydro-Québec – Hydropower resources

The HQ Hydropower Resources will be managed as a portfolio to provide Clean Energy Generation. The size of the portfolio available to support this bid greatly exceeds the Clean Energy Generation offered in this proposal. [REDACTED]

[REDACTED]

[REDACTED]

6.14.1.2 Hydro-Quebec – Québec line

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- 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.**

6.15.1.1 Hydro-Québec – Hydropower resources

N/A. The HQ Hydropower Resources will be managed as a portfolio to provide

Clean Energy Generation. The size of the portfolio available to support this bid greatly exceeds the Clean Energy Generation offered in this proposal. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

6.15.1.2 Hydro-Québec – Québec line

[REDACTED]

List of Attachments:

<i>Attachment</i>	<i>Description</i>
6.1.1.1	Map of major HQ hydroelectric generation facilities
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

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.**
 - ii. Identify the governmental agencies that will issue or approve the required permits, licenses, and environmental assessments and/or environmental impact statements.**

7.1.1.1 Hydro-Québec – Hydropower resources

All of the hydroelectric generation units that comprise the HQ Hydropower Resources are in operation and, therefore, have already been sited, constructed, interconnected to the Hydro-Québec TransÉnergie transmission system within the Québec Control Area, and are fully permitted in accordance with applicable law.

7.1.1.2 Hydro-Québec – Québec line

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

PROVINCIAL AND REGIONAL PERMITS			
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

		<p>████████████████████</p> <p>████████████████████</p> <p>████████████████████</p> <p>████████████████████</p>	<p>██████████</p> <p>████████████████</p> <p>██████</p>
<p>████████████████</p> <p>██████████</p>	<p>██████</p>	<p>████████████████████</p> <p>████████████████████</p>	<p>████████████████</p> <p>████████████████</p> <p>██████████</p>

- 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.**

7.2.1.1 Hydro-Quebec – Hydropower resources

N/A. All of the hydroelectric generation units that comprise the HQ Hydropower Resources are in operation and, therefore, have already been sited, constructed, and are already fully interconnected to the Hydro-Québec TransÉnergie transmission system within the Québec Control Area. Hydro-Québec has obtained all necessary permits, licenses, and environmental assessments necessary to construct and operate the HQ Hydropower Resources.

7.2.1.2 Hydro-Quebec – Québec line

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- 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.**

7.4.1.1 Hydro-Québec – Hydropower resources

N/A. All of the hydroelectric generation units that comprise the HQ Hydropower Resources are in operation and, therefore, have already been sited, constructed, and fully permitted, and are already fully interconnected to the Hydro-Québec TransÉnergie transmission system within the Québec Control Area.

7.4.1.2 Hydro-Québec – Québec line

[REDACTED]

- 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.**

N/A. The HQ Hydropower Resources are not 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.**

7.7.1.1 Hydro-Québec – Hydropower resources

[REDACTED]

7.7.1.2 Hydro-Québec – Québec line

[REDACTED]

List of Attachments:

<i>Attachment</i>	<i>Description</i>
7.4.3	Hydro-Québec Public Participation Program

**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:

8.1.1.1 Hydro-Quebec – Hydropower resources

N/A. All of the hydroelectric generation units that comprise the HQ Hydropower Resources are in operation and, therefore, have already been constructed. Although new hydroelectric generation units may be added to the HQ Hydropower Resources portfolio in the future, no new facilities or capital investments for hydroelectric generation units are required as part of this Proposal. Thus, there are no applicable engineering, procurement, or construction steps remaining with respect to the HQ Hydropower Resources portion of this Proposal.

8.1.1.2 Hydro-Quebec – Québec line

[REDACTED]

- 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.**

8.2.1.1 Hydro-Québec – Hydropower resources

N/A. Hydro-Québec already has constructed HQ Hydropower Resources that are sufficient to satisfy the commitments under the HQ PPA; therefore, this question is inapplicable to the HQ Hydropower Resources.

8.2.1.2 Hydro-Québec – Québec line

[REDACTED]

[REDACTED]

- 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.**

8.3.1.1 Hydro-Québec – Hydropower resources

N/A. All of the hydroelectric generation units that comprise the HQ Hydropower Resources are in operation and, therefore, have already been constructed. Although new hydroelectric generation units may be added to the HQ Hydropower Resources portfolio in the future, no new facilities or capital investments for hydroelectric generation units are required as part of this Proposal. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

8.3.1.2 Hydro-Quebec – Québec line

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- 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.**

8.4.1.1 Hydro-Québec – Hydropower resources

N/A. All of the hydroelectric generation units that comprise the HQ Hydropower Resources are in operation and, therefore, have already been constructed. Although

new hydroelectric generation units may be added to the HQ Hydropower Resources portfolio in the future, no new facilities or capital investments for hydroelectric generation units are required as part of this Proposal. Thus, technology deployment is not required with respect to the HQ Hydropower Resources portion of this Proposal. Hydroelectric generation is a mature technology, and the basic design and performance of turbines have been understood for over a century.

8.4.1.2 Hydro-Québec – Québec line

[REDACTED]

- 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.**

8.5.1.1 Hydro-Quebec – Hydropower resources

N/A. All of the hydroelectric generation units that comprise the HQ Hydropower Resources are in operation and, therefore, have already been constructed. Although new hydroelectric generation units may be added to the HQ Hydropower Resources portfolio in the future, no new facilities or capital investments for hydroelectric generation units are required as part of this Proposal. Thus, there is no list of equipment with respect to the HQ Hydropower Resources portion of this Proposal.

8.5.1.2 Hydro-Quebec – Québec line

[REDACTED]

[REDACTED]

- 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.**

8.6.1.1 Hydro-Quebec – Hydropower resources

N/A. All of the hydroelectric generation units that comprise the HQ Hydropower Resources are in operation and, therefore, have already been constructed. Although new hydroelectric generation units may be added to the HQ Hydropower Resources portfolio in the future, no long-lead generation equipment is required as part of this Proposal. Thus, there are no applicable engineering, procurement, or construction steps remaining with respect to the HQ Hydropower Resources portion of this Proposal.

8.6.1.2 Hydro-Quebec – Québec line

[REDACTED]

List of Attachments: None

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.

9.1.1.1 Hydro-Québec – Hydropower resources

The HQ Hydropower Resources are already built, and they are being managed as a portfolio. Hydro-Québec Production will maintain staffing levels to maintain the current high level of reliability of the system as a whole. [REDACTED]

[REDACTED] A hydroelectric generating station that is properly maintained and refurbished can have a service life of more than 100 years. Hydro-Quebec has generating stations in its fleet that have been in operation for over 100 years. To maintain its ability to meet the Québec load and other long term firm commitments to surrounding markets, Hydro-Quebec routinely makes substantial investments to maintain and upgrade its facilities. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

9.1.1.2 Hydro-Quebec – Québec line

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

9.2 Describe in detail the proposed O&M funding mechanism and funding levels to support planned and unplanned O&M requirements.

9.2.1.1 Hydro-Quebec – Hydropower resources

[REDACTED]

[REDACTED]

9.2.1.2 Hydro-Quebec – Québec line

[REDACTED]

[REDACTED]

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.

9.3.1.1 Hydro-Québec – Hydropower resources

[REDACTED]

The HQ Hydropower Resources include hydroelectric generation units that have been in commercial operation beyond the applicable equipment warranty periods. In the event of failure of major equipment of any specific hydroelectric generation unit, the HQ Hydropower Resources are sufficient as a managed portfolio to cover the HQ PPA obligations while the unit is offline and under maintenance. Further, as discussed in Sections 5 and 9.2, Hydro-Québec has sufficient financial strength to support its operation and maintenance or refurbishment costs of equipment that is not under warranty.

9.3.1.2 Hydro-Québec – Québec line

[REDACTED]

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

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

[REDACTED]

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

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

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.

9.4.1.1 Hydro-Québec – Hydropower resources

N/A. Hydro-Québec will self-perform all O&M services required to support the HQ Hydropower Resources. Operations are done internally with Hydro-Québec staff that are highly trained to perform all operating tasks under a 24 hours/7 days schedule. All strategic hydro units are remotely controlled and monitored on a real time basis. Hydro unit overhauls are done through an engineering business unit (Hydro-Québec Équipement) with outside contractors.

9.4.1.2 Hydro-Québec – Québec line

[REDACTED]

9.5 Provide examples of the bidder's experience with O&M services for other similar projects.

9.5.1.1 Hydro-Québec – Hydropower resources

Hydro-Québec has developed and operated hydroelectric generation projects since the state-owned corporation was created in 1944. Regarding the generation that will support the HQ PPA, Hydro-Québec has been operating and maintaining the HQ Hydropower Resources since the creation of Hydro-Québec or since the stations were commissioned. One of the largest hydroelectric companies in the world, Hydro-Québec operates 61 hydroelectric generating stations located across Québec totaling more than 36,000 MW of generation capacity. [REDACTED]

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

9.5.1.2 Hydro-Québec – Québec line

[REDACTED]
[REDACTED]
[REDACTED]

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

[REDACTED]
[REDACTED]
[REDACTED]

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

List of Attachments:

<i>Attachment</i>	<i>Description</i>

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.

10.1.1.1 Hydro-Quebec – Hydropower resources

Hydro-Québec has already constructed and commissioned the existing HQ Hydropower Resources. Therefore, the Clean Energy Generation requested by the Distribution Companies is operating and available today.

10.1.1.2 Hydro-Quebec – Québec line

[REDACTED]

[REDACTED]

[REDACTED]

10.2 Detail the status of all critical path items, such as receipt of all necessary siting, environmental, and ISO-NE approvals.

10.2.1.1 Hydro-Québec – Hydropower resources

There are no pending critical path items for the HQ Hydropower Resources, because they already are in commercial operation.

10.2.1.2 Hydro-Québec – Québec line

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

List of Attachments:

Attachment	Description
[REDACTED]	[REDACTED]

SECTION 11 OF APPENDIX B TO THE 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.

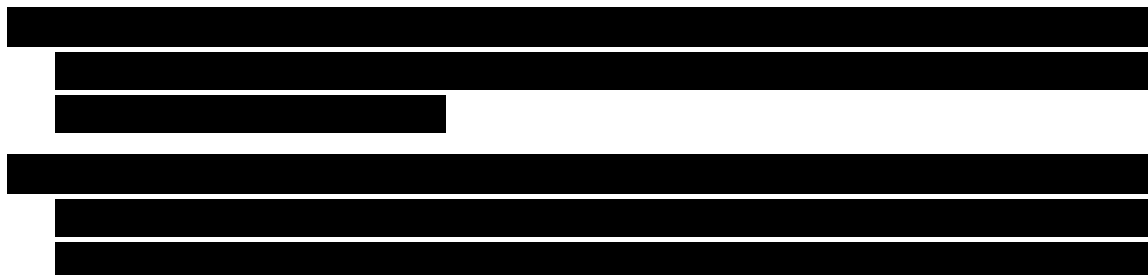
11.1 Provide an organizational chart for the project that lists the project participants and identifies the corporate structure, including general and limited partners.



Figure 11.1: Organizational Chart, NECEC Transmission Project and NECEC Clean Energy Generation Projects

This Project is a collaboration between Hydro-Québec, CMP, and their respective affiliates to develop a new intertie between the Hydro-Québec and ISO-NE transmission systems as part of a packaged Proposal for the delivery of a minimum of 8.5 TWh and up to 9.4 TWh, at the discretion of the Distribution Companies, of Clean Energy Generation produced by existing HQ Hydropower Resources. The Project to develop the new intertie involves construction of new Canadian and U.S. transmission facilities. Figure 11.1 depicts the project participants.

The Canadian component of the Proposal involves divisions or subsidiaries of Hydro-Québec, which is a state-owned corporation of the Province of Québec:



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

11.2.1.1 Hydro-Québec – Hydropower resources

N/A. All of the hydroelectric generation units that comprise the HQ Hydropower Resources are in operation and, therefore, have already been constructed. Although new hydroelectric generation units may be added to the Hydro Québec system portfolio in the future, no new facilities or capital investments for hydroelectric generation units are required as part of this Proposal. Thus, the HQ Hydropower Resources portion of this Proposal is complete.

11.2.1.2 Hydro-Québec – Québec line

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[illegible]

- 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.**

11.3.1.1 Hydro-Québec – Hydropower resources

Since its creation in 1944, Hydro-Québec has designed, developed, owned and managed a vast fleet of hydropower generating stations.

Development of generating assets

During the period from 1944-1959, Hydro-Québec undertook construction of a series of hydropower generating stations: the second and third sections of

Beauharnois, Carillon, Bersimis-1 and Bersimis-2 and the Manic-Outardes Complex.

In 1971, Hydro-Québec commenced development of the La Grande Complex in the Baie-James region. Project management was assigned to Société d'énergie de la Baie James, which subsequently became a wholly owned subsidiary of Hydro-Québec. In 1996, when the final generating station, Laforge-2, was commissioned, La Grande became the largest hydropower complex in the world, a title it retained for a number of years.

Another major build-out period began in 2003 and is still undergoing today with continuing works on the Romaine Complex. To date, the following generation stations have been added to the fleet since 2003:

Generating Station	Commissioning Year	Installed Capacity (MW)
Sainte-Marguerite	2003	882
Rocher-de-Grand-Mère	2004	230
Toulnoustouc	2005	526
Eastmain-1	2006	480
Mercier	2007	55
Péribonka	2007-8	385
Rapide-des-cœurs	2008-9	76
Chute-Allard	2008-9	62
Eastmain-1-A	2011-12	768
Sarcelle	2013	150
Romaine-2	2014	640
Romaine-1	2015	270
Total installed capacity added since 2003		4,524

[REDACTED]

[REDACTED]

Generating Station Operations

Hydro-Québec owns and operates a fleet consisting of 62 hydropower generating stations with a total installed capacity of over 36,000 MW. The hydropower fleet also includes 27 large reservoirs, as well as 668 dams and 99 control structures (as of December 31, 2016).



The generating fleet is managed with two major goals in mind: the security of Québec's electricity supply and the profitability of operations. Because reservoir generating stations have large storage capacities and can be started up in a matter of minutes, Hydro-Québec can adjust output based on domestic demand and conditions on markets outside Québec. Several large reservoirs are managed on a multiannual basis to ensure water level management across the system.

11.3.1.2 Hydro-Québec – Québec line

Hydro-Québec TransÉnergie operates one of the most extensive transmission systems in North America, markets system capacity, and manages power flows across Québec. The Régie de l'énergie has designated the Direction – Contrôle des mouvements d'énergie (CME) of Hydro-Québec TransÉnergie as Reliability Coordinator for transmission systems in Québec.

Hydro-Québec has collaborated in many instances to advance the energy market in New England. As discussed in Section 9.1, Hydro-Québec has 15 interconnections with transmission systems in New England, New York, Ontario, and New Brunswick. One of these is the Phase II transmission line, which has been a prime example of the regional benefits of collaboration for over a quarter century. As described in Attachment 11.3.1.2, Phase II not only was a major advancement in HVDC technology, but also addressed an over-reliance on fossil fuel through the introduction of economically supplied clean hydro power.

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)**

11.4.1.1 Hydro-Québec – Hydropower resources

Hydro-Québec has a world class team of experienced professionals managing its hydroelectric generation fleet totalling more than 36,000 MW of installed capacity and one of the most extensive transmission systems in North America. [REDACTED]

Hydroelectric generation is a core competency of the Hydro-Québec organization. Hydro-Québec's management personnel have been involved in the hydroelectric generation industry for decades and are recognized leaders in their fields. [REDACTED]

11.4.1.2 Hydro-Québec – Québec line

Hydro-Québec has developed many large scale projects over recent years, supported by the executive management and expert staff of various divisions within Hydro-Québec. [REDACTED]

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**

11.5.1.1 Hydro-Québec – Hydropower resources

Hydro-Québec is continually expanding and renewing its generation and transmission systems. [REDACTED]

Also, Hydro-Québec has commissioned several major hydroelectric generation stations during the past decade. Information regarding those and other existing HQ Hydropower Stations can be found at <http://www.hydroquebec.com/generation/centrale-hydroelectrique.html>.

11.5.1.2 Hydro-Québec – Québec line

Hydro-Québec TransÉnergie similarly makes significant investments in transmission infrastructure in the ordinary course. [REDACTED]



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**

11.6.1.1 Hydro-Québec – Hydropower resources

N/A. All of the hydroelectric generation units that comprise the HQ Hydropower Resources are in operation and, therefore, have already been constructed. Although new hydroelectric generation units may be added to the Hydro Québec system portfolio in the future, no new facilities or capital investments for hydroelectric

generation units are required as part of this Proposal. Thus, the HQ Hydropower Resources portion of this Proposal is complete.

11.6.1.2 Hydro-Québec – Québec line

[REDACTED]

[REDACTED]

- 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.**

11.7.1.1 Hydro-Quebec – Hydropower resources

Hydro Québec Production, directly or through its marketing subsidiaries, has been an important energy and capacity provider to New England since the early 1980s.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

11.7.1.2 Hydro-Quebec – Québec line

[REDACTED]

List of Attachments:

<i>Attachment</i>	<i>Description</i>
11.3.1.2	Specific experience of the bidder for existing facilities - Phase II
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

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)

12.1.1.1 Hydro-Québec – Hydropower resources

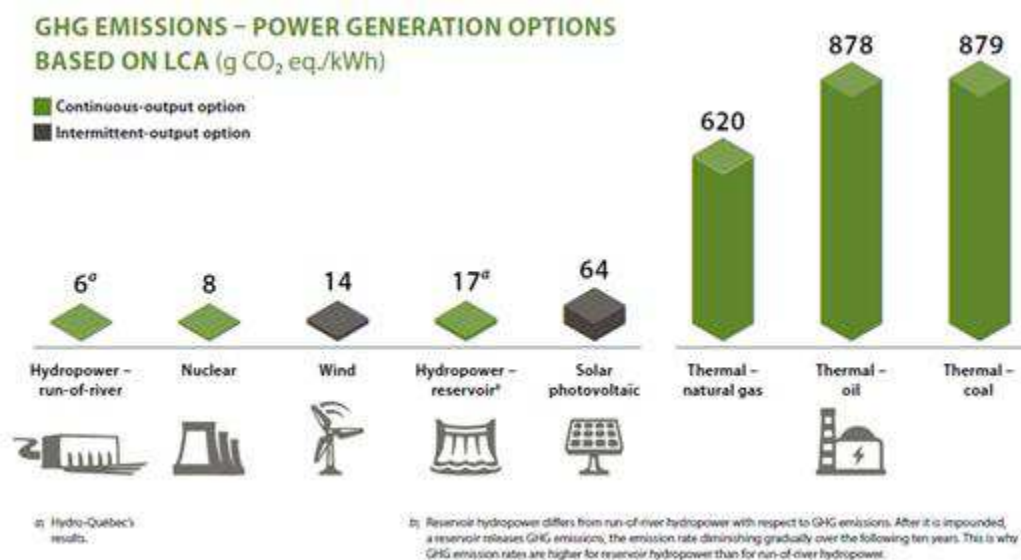
N/A. The HQ Hydropower Resources are not thermal generation facilities, and thus do not have emissions monitoring or stack testing. Moreover, hydroelectric generation is not listed as a pollution source category in EPA's AP-42, Compilation of Air Pollutant Emissions Factors (Fifth Edition, January 1995, supplements A (February 1996) through F (September 2000)), or in the 2001-2011 updates published on the U.S. EPA's website.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Figure 12.1: GHG Emissions – Power Generating Options based on Life-Cycle Analysis¹⁴

[REDACTED]

[REDACTED]

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:

- **NO_x – Selective/Non-Selective Catalytic Reduction**
- **SO_x – 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.

N/A. The HQ Hydropower Resources are not thermal generation facilities. None of the technologies or investments listed applies to hydroelectric generation.

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.

12.3.1.1 Hydro-Québec – Hydropower resources

Massachusetts's Global Warming Solutions Act (Chapter 28 of the Acts of 2008, as codified at M.G.L. c. 21N) provides that reductions from all sectors of the Massachusetts economy should achieve a 25% reduction in greenhouse gas emissions by 2020 and an 80% reduction by 2050 as compared to 1990 levels, as illustrated below. [REDACTED]

[illegible]

[REDACTED]

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

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

List of Attachments:

<i>Attachment</i>	<i>Description</i>
[REDACTED]	[REDACTED]

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.**

Please see CMP's NECEC submission.

- 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.**

Please see CMP's NECEC submission.

- 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.**

Please see CMP's NECEC submission.

- 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.**

Please see CMP's NECEC submission.

- 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 % (60%) of their highest annual single hourly delivery claimed in their annual delivery profile.

- a) **contribute to reducing winter electricity price spikes in Massachusetts**
- b) **guarantee energy delivery in the winter months**

13.5.1.1 Hydro-Quebec – Hydropower resources

Hydro-Québec is proposing guaranteed deliveries of 790 MWs every hour [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

13.5.1.2 Hydro-Quebec – Québec line

The Project to build a new intertie between the Hydro-Québec and New England transmission systems is needed to enable the import of the Incremental Clean Energy Generation under the HQ PPA. [REDACTED]

[REDACTED]

[REDACTED]

- 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.**

Please see CMP's NECEC submission.

List of Attachments: None

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

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

14.1 Transmission Project Information:

- i. Overall project description**
- ii. The operating voltage of the proposed project: kV:**
- iii. The type of structures (such as steel towers or poles) that would be used for the proposed project**
- iv. The length of the proposed transmission line and the type(s) of terrain and land ownership of the proposed ROW**
Overhead miles: Underwater/underground miles: Terrain:
- 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.**
- 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.

- 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.**
 - 3. Describe the proposed financing sources and instruments.**
 - 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.**
 - 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).**
- 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.

- vii. Provide a proposed schedule for project development through release for operation that includes key critical path items, such as:**
- a. Develop contracts for project work**
 - b. Completion of studies and receipt of approvals needed for the interconnection**
 - c. Permitting; R/W and land acquisition**
 - d. Engineering and design**
 - e. Material and equipment procurement, including identification of long lead time equipment**
 - f. Facility construction**
 - g. Agreements (interconnection, operating, scheduling, etc.) with other entities**
 - h. Pre-operations testing**
 - i. Project in-service date**

j. Other items identified by the bidder

- 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.**

14.1.1 Hydro-Québec

[REDACTED]

[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]

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

[REDACTED]
[REDACTED]

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.**
- ii. List all situations which may change the proposed payments by consumers during the contract term.**
- iii. Identify any limits placed upon the bidder's post-contract term rates according to current FERC rules.**
- 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.**
- 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.**
- 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.

- 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.**

- 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.**

- 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.**

- x. **Please describe your approach to avoid line losses.**

14.2.1 Hydro-Québec

[Redacted content]

- 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.**

14.3.1 Hydro-Québec

[Redacted content]

- 14.4 The design life of the project**

14.4.1 Hydro-Québec

[Redacted content]

- 14.7 A description of the reliability benefits of the proposed Transmission Project and its impact on existing transmission constraints.**

14.7.1 Hydro-Québec

[REDACTED]

List of Attachments: None

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.

Depiction of the commercial arrangement of the HQ PPA contemplated in this Proposal.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

List of Attachments:

Attachment	Description
[REDACTED]	[REDACTED]