Commonwealth of Massachusetts

Executive Office of Energy and Environmental Affairs
Massachusetts Environmental Policy Act (MEPA) Office

Environmental Notification Form

For Office Use Only
EEA#: 15764
MEPA Analyst: Alex Strysky

The information requested on this form must be completed in order to submit a document electronically for review under the Massachusetts Environmental Policy Act, 301 CMR 11.00.

Project Name: Atlantic Link Project	
Street Address: Atlantic Ocean—Coleson Cove, New Brunswick (Canada) to Plymouth, MA	
Municipality: Plymouth	**Watershed:** Cape Cod Bay-Rocky Point to Cape Cod Canal
Universal Transverse Mercator Coordinates: *Converter Station:* Easting: 369561.22 / Northing: 4643310.61	**Latitude/Longitude:** *Converter Station:* 41.930986, -70.573292
Estimated commencement date: 2020	**Estimated completion date:** 2022
Project Type: Utility - Transmission Line	**Status of project design:** 10 %complete
Proponent: Clean Power Northeast Development (a subsidiary of Emera, Inc.)	
Street Address: 1223 Lower Water Street	

Municipality: Halifax	**State:** Nova Scotia, Canada	**Zip Code:** B3J 3S8
Name of Contact Person: Gil A. Paquette		
Firm/Agency: VHB	**Street Address:** 500 Southborough Dr., Suite 105B	
Municipality: South Portland	**State:** ME	**Zip Code:** 04106
Phone: 207-889-3102	**Fax:**	**E-mail:** GPaquette@vhb.com

Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?
☒ **Yes** ☐ **No**

301 CMR 11.03(7)(a)4. Construction of electric transmission lines with a Capacity of 230 or more kV, provided the transmission lines are five or more miles in length along new, unused or abandoned right of way.

If this is an Expanded Environmental Notification Form (ENF) (see 301 CMR 11.05(7)) or a Notice of Project Change (NPC), are you requesting:

a Single EIR? (see 301 CMR 11.06(8)) ☐ **Yes** ☒ **No**
a Special Review Procedure? (see 301CMR 11.09) ☐ **Yes** ☒ **No**
a Waiver of mandatory EIR? (see 301 CMR 11.11) ☐ **Yes** ☒ **No**
a Phase I Waiver? (see 301 CMR 11.11) ☐ **Yes** ☒ **No**
(Note: Greenhouse Gas Emissions analysis must be included in the Expanded ENF.)

Which MEPA review threshold(s) does the project meet or exceed (see 301 CMR 11.03)?
- 301 CMR 11.03(7)(a)4. Construction of electric transmission lines with a Capacity of 230 or more kV, provided the transmission lines are five or more miles in length along new, unused or abandoned right of way.

Which State Agency Permits will the project require?
EFSB/DPU:
- Approval to construct, G.L. c. 164, § 69J and 72
- Request for zoning exemptions, G.L. c. 40A, §3

MassDEP:
- Chapter 91 Waterways License
- Massachusetts Wetlands Protection Act
- 401 Water Quality Certification

MHC/BUAR:
- Project Notification Form / Section 106 National Historic Preservation Act Consultation

NHESP:
- Massachusetts Endangered Species Act - potential Conservation and Management Permit

CZM:
- Coastal Zone Management Program Consistency Review (including Massachusetts Ocean Management Plan)

DMF:
- Consultation with Division of Marine Fisheries

DCR:
- Massachusetts Ocean Sanctuaries Act Review

Identify any financial assistance or land transfer from an Agency of the Commonwealth, including the Agency name and the amount of funding or land area in acres:
None

Summary of Project Size & Environmental Impacts	Existing	Change	Total
LAND			
Total site acreage *(ROW and converter site easements)*	52.1		
New acres of land altered *(ROW, HDD pad, and converter site)*		18.1	
Acres of impervious area *(Footprint of converter site elements)*	0	3.2	3.2
Square feet of new bordering vegetated wetlands alteration *(HDD pad)*		3,771	
Square feet of new other wetland alteration *(HDD/trench in Land Under the Ocean)*		148,462 (temporary)	
Acres of new non-water dependent use of tidelands or waterways		—	
STRUCTURES			
Gross square footage *(Footprint of converter site elements)*	0	139,408	139,408
Number of housing units	—	—	—
Maximum height (feet) *(Typical station with lightning protection)*	0	approx. 80	approx. 80
TRANSPORTATION			
Vehicle trips per day	—	—	—
Parking spaces	—	—	—
WASTEWATER			
Water Use (Gallons per day)	—	—	—
Water withdrawal (GPD)	—	—	—
Wastewater generation/treatment (GPD)	—	—	—
Length of water mains (miles)	—	—	—
Length of sewer mains (miles)	—	—	—

Has this project been filed with MEPA before?
☐ Yes (EEA #______) ☒ No

Has any project on this site been filed with MEPA before?
☐ Yes (EEA #______) ☒ No

GENERAL PROJECT INFORMATION – all proponents must fill out this section

PROJECT DESCRIPTION

NOTE: The project description should summarize both the project's direct and indirect impacts (including construction period impacts) in terms of their magnitude, geographic extent, duration and frequency, and reversibility, as applicable. It should also discuss the infrastructure requirements of the project and the capacity of the municipal and/or regional infrastructure to sustain these requirements into the future.

Describe the existing conditions and land us es on the project site:

Clean Power Northeast Development ("CPNE," or "the Company") plans to install and operate a subsea high-voltage direct-current ("HVdc") transmission line to deliver clean energy from Atlantic Canada to Massachusetts. The proposed HVdc cable landing point would be located on an undeveloped segment of the shore of Plymouth, Massachusetts, in the vicinity of the Pilgrim nuclear generating plant scheduled to be taken out of service in 2019. An HVdc underground cable, DC converter station, and 345 kilovolt ("kV") transmission interconnection substation would also be constructed at this location. Existing conditions in this area are identified in Attachment A2. Plymouth is located within the Seaboard Lowlands section of the New England physiographic province, which has elevation and relief that is typically limited to a range of a few hundred feet. The site is characterized by irregular, undulating terrain with short slopes and is underlain by loose glacial till, ice-contact deposits, and glaciofluvial material with predominantly sandy textures and some cobbles and stones. The soils are generally well-drained, with a few wetlands in topographic depressions. Major streams and watercourses are absent within the proposed project area.

The proposed HVdc cable landing point, buried cable, DC converter station, and transmission interconnection substation would be located on currently undeveloped forested land that is under the ownership of Entergy, the owner of Pilgrim station. Species of oak, white pine, and pitch pine are predominant tree species at the site. The shore of Cape Cod Bay is located north of the project area. Residential development is located approximately 600 to 1,000 feet east and southeast of the project area. The existing Pilgrim nuclear facility is located approximately 500 feet to the northwest, and electric transmission rights-of-way with two existing 345 kV transmission lines and other conserved forest land are located southwest and west of the site.

As shown in Attachments B and C, the subsea cable portion of the route passes through mapped rare species habitat, the Cape Cod Bay Ocean Sanctuary, and the Stellwagen National Marine Sanctuary. There are also shellfish harvesting areas in Cape Cod Bay.

Describe the proposed project and its programmatic and physical elements:

The preferred transmission line route will be located within a ROW connecting Coleson Cove, New Brunswick, Canada, to Plymouth, Massachusetts, for a total length of approximately 337 miles, over 99 percent of which will be subsea to simplify construction, provide greater reliability, and reduce cost. The majority of the transmission line route occurs in United States federal waters; however, short sections of the transmission line route will traverse Massachusetts state waters for a total of approximately 19 miles. The total length of the submarine transmission line route in US federal waters (i.e., exclusive of MA State waters) will be approximately 190 miles. The route is shown in Attachment A.

Atlantic Link would provide Massachusetts and the New England electricity system with long-term access to clean energy at stable prices from land-based wind farms and hydro facilities in Atlantic Canada. The project is being developed in response to an upcoming procurement for clean energy mandated by the Commonwealth of Massachusetts under "An Act to Promote Energy Diversity", which was signed into law by Governor Charlie Baker in August, 2016 (Ch. 188 of the Acts of 2016); specifically, in response to a Request for Proposals issued March 31, 2017 by electric distribution companies in Massachusetts for Long-Term Contracts for Clean Energy Projects (https://macleanenergy.com/). As required in the Act, the Project will also contribute to Massachusetts' legally-required efforts to reduce greenhouse gas emissions under its Global Warming Solutions Act

(Chapter 298 of the Acts of 2008). The Project will also optimize infrastructure that would otherwise be unused (or underutilized) following closure in 2019 of the Pilgrim nuclear station.[1]

Atlantic Link comprises two 320 kV direct-current, cross-linked polyethylene ("XLPE") cables with a delivered capacity of 1000 MW, possibly bundled together along with one fiber optic cable, and buried in the ocean floor with subsea protection consisting of a combination of trenching, rock placement, and/or concrete mattressing. Each cable is approximately 5 inches in diameter. The cables will be bundled together for installation. For most of the route, the Company plans to bury the cables at a depth of 3 to 6 feet. Where the cables cannot be buried, they will be covered by rock placement or with protective mattressing.

In Plymouth, an HVdc converter station, substation, and transmission line tap will be constructed. The cables will be buried between landfall and the converter station, and may be protected by a concrete barrier or buried in a concrete duct bank, as necessary.

The proposed submerged transmission cable system will most likely be primarily installed via a burial device such as a jet plow, which uses high-pressure water jets to create a trench (the specific burial strategy will be determined by the selected installer). The burial device may be towed along the seafloor by a ship, or the device may be self-propelled, and will simultaneously create a trench, lay cable fed to the device from the ship, and infill the trench with native material. The burial device will allow the cable system installation to proceed rapidly, generally in a single pass of the device, with a very limited disturbance footprint. The installation will be supplemented with cable protection measures in discrete locations where target burial depths cannot be achieved, such as areas with hard-bottom sea floors.

At the origin and landfall of the transmission line route, upland installation techniques will be utilized over short distances (2,375 feet in Massachusetts). Any on-land portion of the cables would be buried.

In the transition area between upland and subsea, the cables will be installed using standard horizontal directional drill ("HDD") techniques to avoid impacts to the intertidal zone.

Describe the on-site project alternatives (and alternative off-site locations, if applicable), considered by the proponent, including at least one feasible alternative that is allowed under current zoning, and the reasons(s) that they were not selected as the preferred alternative:

NOTE: The purpose of the alternatives analysis is to consider what effect changing the parameters and/or siting of a project, or components thereof, will have on the environment, keeping in mind that the objective of the MEPA review process is to avoid or minimize damage to the environment to the greatest extent feasible. Examples of alternative projects include alternative site locations, alternative site uses, and alternative site configurations.

The Company considered several different landing and interconnection points, as well as two routes (including the proposed route) landing in Plymouth. These alternatives are described below, and the route and landing/interconnection points are shown in Attachment D.

<u>Proposed Route</u>
As described under the Project Description section, the proposed route would be located within a ROW connecting Coleson Cove, New Brunswick, Canada, to Plymouth, Massachusetts, for a total length of approximately 337 miles. The majority of the route will be subsea and occurs within US federal waters; however, approximately 19 miles of the route will traverse Massachusetts state waters.

<u>Alternative Route</u>
Like the proposed project, the routing alternative would connect Coleson Cove, New Brunswick, Canada, to Plymouth, Massachusetts. However, rather than approaching Plymouth from the northeast, this route would stay closer to the coast and approach Plymouth from the north via Massachusetts Bay. This route would pass through a Gulf of Maine ground fish habitat closure area as well as three Massachusetts Ocean Sanctuaries (North Shore,

[1] If the RFP is not procured, the proponent may develop the Atlantic Link project subject to its assessment of market conditions at that time.

South Essex, and Cape Cod Bay). It would also pass through a North Atlantic Right Whale Precautionary Area. This route would cross the Neptune LNG Pipeline and the Northeast Gateway Pipeline, and other infrastructure located within Massachusetts Bay. However, this route would avoid Stellwagen National Marine Sanctuary and the proposed Stellwagen Designated Habitat Research Area, North Atlantic Right Whale Critical Habitat, Fin Whale Core Habitat, and Humpback Whale Core Habitat.

Landing/Interconnection Alternative #1 (Seabrook)
Alternative #1 was potentially the least constrained offshore HVdc transmission line corridor. The major protected areas and constraints located offshore from Massachusetts could be avoided by landing the cables further north in New Hampshire, if geotechnical and other subsea site conditions allowed. However, the subsea cables would still need to cross the proposed Stellwagen Designated Habitat and Research Area ("DHRA") and reference area. Nearshore constraints included the presence of extensive salt marshes, potential for eelgrass habitat, and a rivermouth at Hampton Harbor. These constraints could potentially be avoided by employing HDD techniques to land at Seabrook Station with sufficient depth to avoid being disturbed or damaged by periodic dredging operations at the Hampton Harbor rivermouth. Terrestrial constraints for this alternative would be based around the need to establish a new HVdc ROW, which would require landing at Salisbury Beach, Massachusetts. Potential constraints associated with the new ROW include dense residential and commercial development along part of the route, potential for seasonal construction constraints in an area that is heavily used for coastal summer tourism, potential for impacts to wetlands, streams, vernal pools, and rare species, and potential for having to manage disturbance of contaminated soil along a railroad ROW. From an electrical system stability perspective, it was determined that landing at Seabrook would result in the need for system upgrades in the form of additional high voltage line needing to be constructed, thereby increasing terrestrial environmental impacts and burdening landowners.

Landing/Interconnection Alternative #2 (Gloucester)
Alternative #2 was eliminated on the basis of being the worst landing point for interconnecting with existing 345 kV system. It would potentially need to cross the northern part of the Stellwagen National Marine Sanctuary ("NMS") and/or the Stellwagen DHRA and reference area. Nearer to shore, this alternative would also cross the North Shore Ocean Sanctuary. The potential for geotechnical constraints is also high in the Cape Ann vicinity, with a very rocky shoreline, numerous offshore islands formed on bedrock, and a very shallow depth to bedrock in many areas. This alternative would also require siting the HVdc cables through Gloucester Harbor, which is a very active and busy commercial and recreational harbor. Upon landfall, this alternative lacks suitable existing electric transmission infrastructure and a ROW suitable for collocation, and has dense residential and commercial development, and again, a shallow depth to bedrock throughout much of Cape Ann. From an electrical system stability perspective, it was determined that landing at Gloucester would result in the need for system upgrades in the form of additional high voltage line needing to be constructed, thereby increasing terrestrial environmental impacts and burdening landowners.

Landing/Interconnection Alternative #3 (Salem Harbor)
Alternative #3 presented constraints related to the potential need to cross the Stellwagen NMS and the proposed Stellwagen DHRA and reference area, as well as the North Shore Ocean Sanctuary. Other nearshore constraints would also be encountered to reach the Salem Harbor Station site and included dredged channels, anchorage areas/berths, and the potential for shallow bedrock. A significant terrestrial constraint associated with the Salem Harbor landing point is the need for new electric transmission capacity. The site is situated next to a densely populated area in the northeastern section of Salem, with residences abutting the site to the west and north, and historic districts in the vicinity. The addition of a new 345 kV line would be challenging to site given the density of the existing development and limited available ROW.

Landing/Interconnection Alternative #4 (Mystic Substation)
Located in Lynn, just south of Salem Harbor, Alternative #4 presented constraints similar to Alternative #3 related to the potential need to cross the Stellwagen NMS and the proposed Stellwagen DHRA and reference area. However, unlike Alternative #3, a suitable location to site an HVdc converter station could not be identified. Additionally, urban construction and additional system upgrades would be required at this site to transmit the electricity provided by Atlantic Link.

Landing/Interconnection Alternative #5 (Weymouth to Holbrook)
Alternative #5 was the most challenging site from a nearshore siting perspective due to the presence of extensive subsea infrastructure within inner Massachusetts Bay, sewer lines and outfalls, and an historic/abandoned industrial dumping site. Against this backdrop of a complicated nearshore construction environment were

substantial terrestrial and offshore siting constraints, including crossing the middle of the Stellwagen NMS and potentially the proposed Stellwagen DHRA, as well as the North Shore Ocean Sanctuary and the South Essex Ocean Sanctuary; crossing very active shipping and boating areas; and limited available land for construction of an HVdc converter station at the existing Holbrook Substation.

Landing/Interconnection Alternative #6 (Scituate Harbor)
Alternative #6 was eliminated due to a combination of terrestrial, nearshore, and offshore siting constraints. While Alternative #6 would likely require a similar offshore route to that of the preferred alternative Plymouth due to their proximity, Alternative #6 would offer none of the added benefits of an ideal 345 kV interconnection site that is provided by the Preferred Project. It would require crossing the Stellwagen NMS and near or potentially through designated North Atlantic right whale critical habitat, as well as crossing the commercial shipping lane to Boston Harbor. Within Scituate harbor, there is extensive recreational and commercial marina activity and a maintained and periodically dredged channel, and the sheltered embayment has the potential to support valued coastal resources including tidal marshes, intertidal flats, and eelgrass beds. Terrestrial siting challenges include constrained space at the Auburn Street Substation for construction of an HVdc converter station, and the need to establish new ROW along municipal roads and the existing 115 kV ROW to the Auburn Street Substation.

Landing/Interconnection Alternative #7 (Brayton)
As with Alternative #1, Alternative #7 would avoid designated right whale critical habitat, the Stellwagen NMS, all Massachusetts waters including Ocean Sanctuaries and Ocean Management Plan areas, and offshore infrastructure in the vicinity of Massachusetts Bay. However, approaching nearshore waters, this alternative would encounter designated "areas of particular concern" and exclusion zones specified in the Rhode Island Ocean Special Area Management Plan, and state water use designations under the jurisdiction of the Rhode Island Coastal Resources Management Council. This alternative would also cross natural resources including two aquaculture sites, a shellfish management and spawning area, and a productive commercial quahog fishery; and existing infrastructure including cables and a natural gas pipeline. Furthermore, this route would require a much longer cable length and complex installation within a river system, resulting in a significantly higher expense than the proposed route.

Summarize the mitigation measures proposed to offset the impacts of the preferred alternative:

Most of the Project's potential environmental impacts would occur during construction and site development. Potential environmental impacts from project construction would be related to the subsea cable installation, the terrestrial cables, the DC converter station and substation construction, and transmission line tap construction.

Subsea Cable Construction

The proposed submerged transmission cable system will most likely be installed principally in soft bottom sediments using a burial device such as a jet plow. The jet plow could be towed along the seafloor by a ship, or the device may be self-propelled, and would simultaneously create a trench, lay cables fed to the plow from the ship, and infill the trench with native material. The trench would be less than two feet wide and approximately 6 feet deep and would infill immediately as the plow installs the cables. The cables would be buried to a depth of approximately 3 to 6 feet. Suspended sediment would be limited to the immediate installation area. The only direct impacts of the jet plow installation to the marine environment are in the footprint of the trench and jet plow, and these would be very short-term. Typically, use of a jet plow allows for 2 to 4 miles of cable to be installed per day. The subsea cables would have no significant environmental impacts during operation because it would be buried beneath the seafloor for most of its length.

Where hard-bottom seafloor is encountered and the cables are not able to be buried in marine sediments, the cables would be covered with rocks or a protective mattress to armor the cables and hold them in-place. Where the cables are armored, potential environmental impacts would be limited to the footprint of the protective covering. The locations where the cables must be laid on the seafloor surface and armored will be minimized by pre-construction siting analysis. To date CPNE has completed desktop analysis and preliminary surveys to identify a transmission line corridor with the highest probability of encountering soft bottom sediments. CPNE will also complete detailed pre-construction field surveys and field data collection to maximize cable installation in soft bottom sediments that can be trenched rather than installed on hard seafloor bottom.

A short segment of the cables would be installed using the HDD installation technique where it approaches the landfall location in Plymouth. HDD installation involves a GPS-guided drilling device that bores and reams a hole through the subsurface between a subsurface entry and exit location. The HDD construction would be a 'land to water' installation, where the drilling device would penetrate the ground surface from a terrestrial starting point and exit the seafloor near the cable trench. The cables would be attached to the drilling device and pulled back through the subsurface HDD path to the terrestrial starting point to complete the cable landfall. The advantage of HDD installation is that the cables can be installed with no disturbance to the seafloor, the terrestrial surface, and nearshore resources (e.g., beaches, dunes, eelgrass beds, and marshes), except where the HDD enters and exits the ground or seafloor at the start and end points. This minimizes impacts to valued and protected shoreland, water, and wetland resources.

A potential risk of HDD installation is the inadvertent return of lubricating drilling mud (water and bentonite clay), pressurized within the bore hole, to the seafloor surface. This can create temporary turbidity in the water from suspended sediment. This risk would be mitigated by monitoring the pressure of the drilling mud in the HDD bore hole, and through implementing an approved contingency plan to minimize and contain turbidity and sedimentation.

The principal potential for environmental impact risks related to subsea cable construction are related to spawning and Essential Fish Habitat disturbance, harassment or injury to threatened, endangered, or protected marine species (i.e. marine mammals), and offshore sanctuary and cultural resources (i.e., Stellwagen NMS, Massachusetts Ocean Sanctuaries, or shipwrecks). The proposed subsea transmission line corridor has been sited to avoid and minimize crossings and impacts to protected areas and species associated with them. Furthermore, the subsea cables are expected to have no significant environmental impacts during operation because it would be buried beneath the seafloor for most of its length. The potential for impacts to these resources will be fully evaluated, minimized, and mitigated through completion of the various permit authorizations and agency consultations. Key among these will be consultations with the National Marine Fisheries Service ("NMFS"), the Massachusetts Division of Marine Fisheries ("DMF"), the Massachusetts Bureaus of Underwater Archaeological Resources ("MBUAR"), and the Massachusetts Historical Commission ("MHC"), under laws and regulations including the Marine Mammal Protection Act, the Endangered Species Act, Magnuson Stevens Fishery Conservation and Management Act, National Marine Sanctuaries Act, and the Massachusetts Ocean Sanctuaries Act.

Terrestrial Cables, DC Converter Station Construction, and Transmission Line Tap

Terrestrial components of the Project include buried HVdc cables, a DC converter station, substation, and electric transmission line tap. Construction of these elements of the project have the potential for short-term environmental impacts. The sequence of project construction would generally follow:

- Clearing and vegetation removal;
- Grading and site preparation;
- Construction, and
- Site restoration.

The work would generally move from one end of the line to the other over the duration of the construction period. The transmission line corridor easement is 200 feet wide and 2,375 feet long; however, the disturbed area would be 50 feet wide and occupy approximately 2.7 acres, with the remaining 8.2 acres serving as a buffer to surrounding land uses. This area would require limited associated grading to facilitate equipment access during construction. The cables would be buried in an open trench less than two feet wide between landfall and the converter station. As design progresses, the cables may be protected by a concrete barrier or buried in a concrete duct bank, as necessary. The DC converter station and substation would be developed on an approximately 41-acre site and would require substantial site grading and preparation, although only 10 to 15 acres of the site would be developed to construct the facilities. Following construction, the HVdc cables and transmission line tap ROWs would be maintained in a shrub-meadow cover type. The DC converter station and substation would be permanently developed with electric transmission infrastructure.

Potential construction-phase environmental impacts would be minimized by adhering to construction Best Management Practices ("BMPs") and permit conditions, and implementation of an Environmental Inspection ("EI") Program. Key elements of the BMPs and EI program would include implementation of erosion and sedimentation controls, a spill prevention and countermeasures plan, regular environmental inspections and coordination between environmental compliance and construction personnel.

If the project is proposed to be constructed in phases, please describe each phase:

The Project will not be phased.