



NEW ENGLAND CLEAN POWER LINK



OVERVIEW PRESENTATION

New England Restructuring Roundtable
Large Transmission-Based (MA 83D) RFP Project Proposals
Foley Hoag, 155 Seaport Boulevard, Boston
October 6, 2017



TDI New England

A **Blackstone** Portfolio Company

THE PROJECT

1,000 MW buried HVDC transmission project developed by TDI-NE, a Blackstone portfolio company

- 154-mile route from Canadian border to Ludlow, VT
- 2/3 in Lake Champlain
- 1/3 buried along road right of ways

Full and uncontested site control

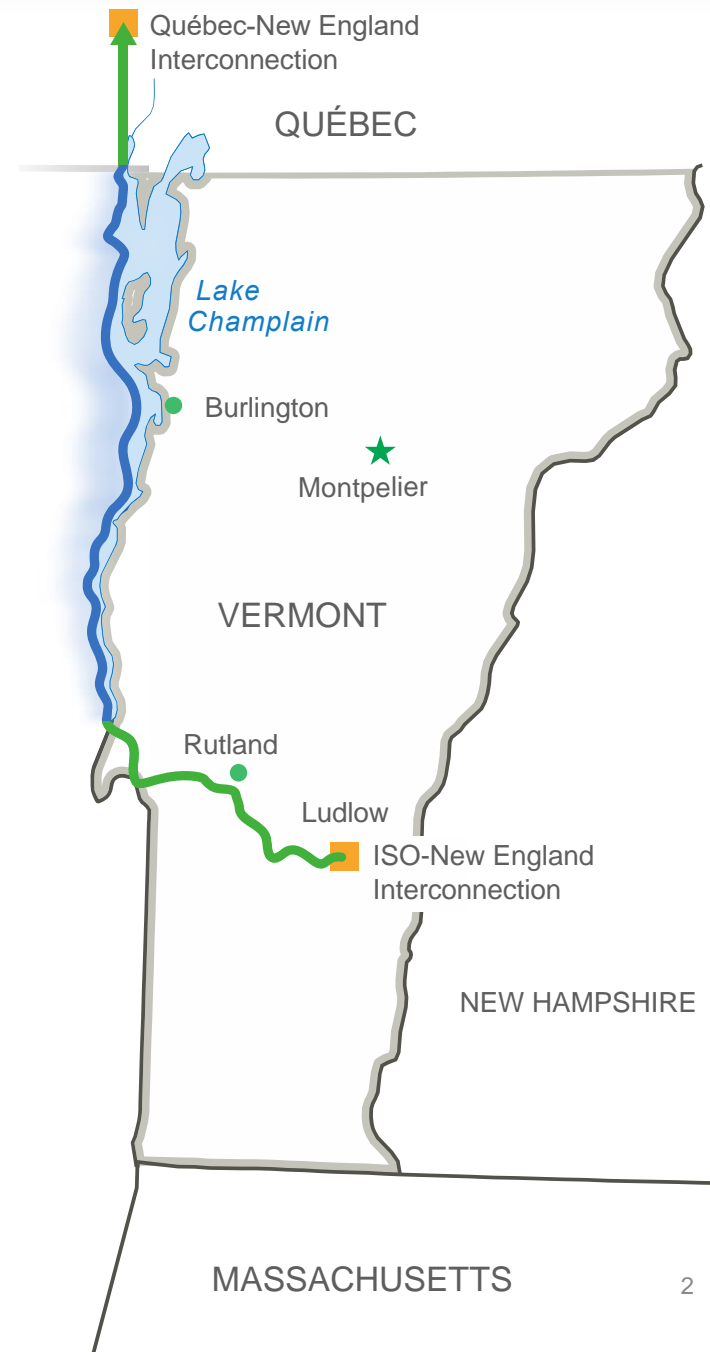
- Connects to HQ system in Québec via new 30-mile, buried HVDC line
- Connects to ISO-NE system at Coolidge substation in Ludlow, VT

Fully permitted and supported

- Enjoys widespread support in VT and region
- All permits received
- I.39 process completed with ISO-New England

Operations

- 40+ year asset provides clean energy benefits long after the initial contracts are over



BID #1

100% Hydro

TRANSMISSION



- 1,000 MW transmission line
- 96.5% minimum availability
- Fixed price bid

Transmission service agreement

TSA with MA utilities

- 20-year contract
- Firm transmission rights
- Approved by FERC

ENERGY



- 1,000 MW interconnection in Québec
- Guaranteed year-round energy deliveries
- Energy sourced from HQ's fleet of hydro facilities

Power purchase agreement

PPA with MA utilities

- 20-year contract
- Firm delivery of a minimum of 8.3 TWh hydropower annually
- Approved by MA DPU
- Environmental attributes

BID #2

Hydro and Wind

TRANSMISSION



- 1,000 MW transmission line
- 96.5% minimum availability
- Fixed price bid

Transmission service agreement

TSA with MA utilities

- 20-year contract
- Firm transmission rights
- Approved by FERC



ENERGY



- 1,000 MW interconnection in Québec
- Guaranteed year-round energy deliveries
- 700 MW hydro + 300 MW wind firm by HQ's fleet of hydro facilities

Power purchase agreement

PPA with MA utilities

- 20-year contract
- Firm delivery of a minimum of 8.3 TWh hydropower and wind annually
- Approved by MA DPU
- Environmental attributes
- Expansion of existing Seigneurie de Beupre project located north of Québec City

FULLY SUPPORTED



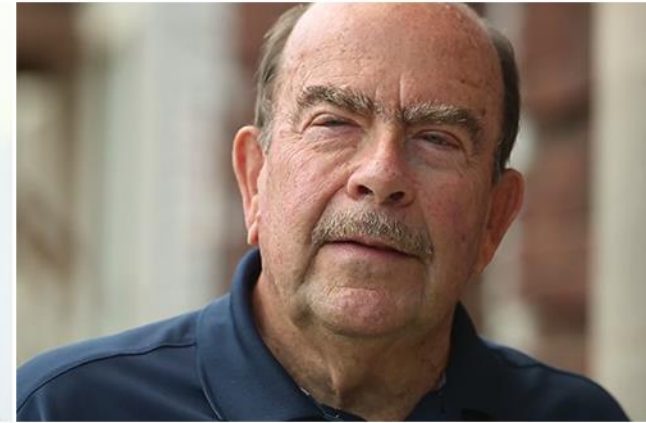
“As the host state for this project, Vermont is proud of the role it will play delivering new, clean energy to Massachusetts and other neighbors throughout New England.”

Governor Phil Scott, Vermont



“They really asked us to think about what would be beneficial to people who are struggling to pay their utility bills.”

Clare Higgins, Executive Director of Community Action of the Franklin, Hampshire and North Quabbin Regions, Massachusetts



“Everything TDI-NE has done in terms of getting the project prepared for construction has been absolutely by the book. Everything has been done, in my mind, as well as you could possibly do it.”

Frank Heald, Municipal Manager, Town of Ludlow, Vermont

FULLY SUPPORTED



For a thriving New England

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June 2017

Comments on TDI-NE New England Clean Power Link Proposal in response to the March 31, 2017 Massachusetts request for proposals for long-term contracts for clean energy projects.

To whom it may concern:

Conservation Law Foundation (CLF) offers the following comments regarding the TDI-NE New England Clean Power Link project, for consideration in evaluating the TDI-NE proposal for a long-term contract.

Conservation Law Foundation is a New England-based environmental advocacy organization. CLF has offices in five of the six New England states. Our work includes a strong focus on fostering responsible energy solutions, and for more than a decade CLF has been involved in regulatory and permitting proceedings regarding the siting, need for, and environmental impacts of electric transmission projects.

Conservation Law Foundation specifically comments on the proposed project's environmental impacts from siting, which is an element of the qualitative evaluation pursuant to Section 2.3.2 of the RFP. TDI-NE has not yet made public its power supply partners, therefore CLF cannot comment on other aspects of the proposal at this time.

The proposed New England Clean Power Link project will be underwater or underground, and its land portion will be beneath existing roadway rights of way. As a result, the proposed project adequately

TDI-NE has demonstrated care in addressing siting impacts of the New England Clean Power Link project. TDI-NE's buried transmission line in Vermont shows that the facilities needed to transport electricity can meet high environmental standards for siting and be developed in a responsible, cooperative manner.

Sincerely,

Sandra Levine
Senior Attorney



A SHOVEL-READY PROJECT

Fully permitted

Full site control

- Uncontested land control via numerous state and local property agreements



VT State Siting Permit
January 6, 2016



**US Army Corps
of Engineers®**

Army Corps Permits
January 29, 2016

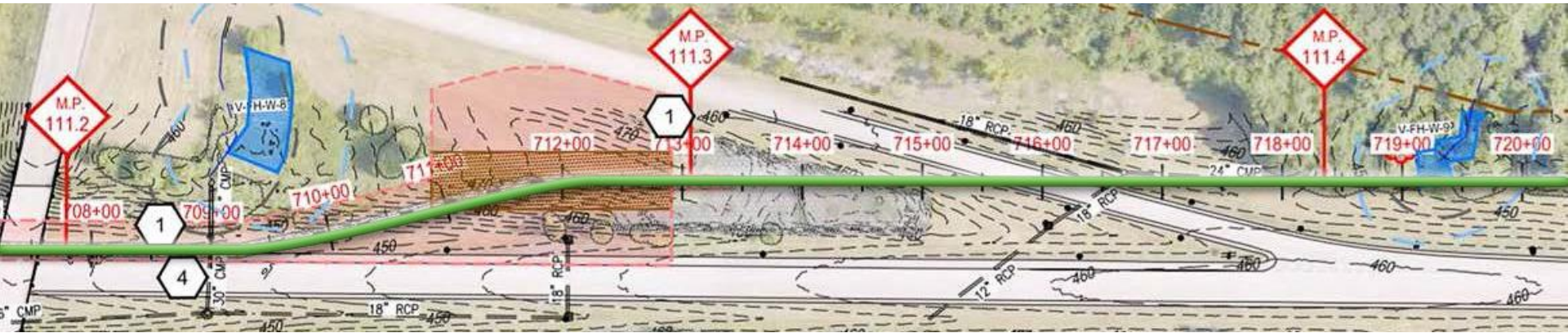


Presidential Permit
December 5, 2016

Other key permits and approvals received by TDI-NE

- I.39 Authorization
- FERC Negotiated Rate Authority
- NEPA FEIS
- VTRANS Permit Enabling ROW Installation
- 401 Water Quality Certification
- Lake Encroachment Permit (Lake Champlain)
- Lake Encroachment Permit (Lake Bomoseen)
- Stream Alteration Permit
- VT Wetland Permit
- Construction Storm-water Permit
- Operational-Phase Storm-water Permit
- Floodplain Permit
- Host Community Agreements (3 Towns)
- MOUs with 3 VT Agencies, 3 VT Utilities and CLF

FIRM DESIGN, FIXED PRICE BIDS AND A REALISTIC SCHEDULE



Example of 0.2 mile permitted project design

Schedule

- Realistic schedule created by TDI-NE contractors ABB/NKT and Quanta
- Cable manufacturing slots guaranteed
- Five months to install 2/3 of project in lake
- AC upgrades concurrent with full project installation

Fixed price bid

- Fixed-priced bid insulates Commonwealth ratepayers from potential cost overruns
- Bid guaranteed by ABB/NKT and Quanta
- Financing arranged by Blackstone which has developed over \$30 billion of energy infrastructure assets in past decade

Operational date

- Detailed designs, agreements with strong partners and full permitting ensures the NECPL will meet its operational date
- VELCO and ABB to provide long-term maintenance services
- 40+ year resilient, buried asset

World Class Construction Team



HVDC Technology

- Over 60 years of HVDC experience
- More than 120 HVDC projects worldwide
- 20 years of experience within HVDC Light (VSC) technology
- 70 % of all the VSC HVDC links in the world
- Dedicated customer service and comprehensive project management

Cables

- Leading global player in the high-voltage DC market
- Has two of the most technologically advanced and efficient HV production facilities in the world
- Own harbour with direct sea access
- Delivers highest quality and reliable timely project execution

Installation

- Industry leader for infrastructure solutions
- Extensive knowledge, expansive resources and complete scope of services are unmatched
- Proven its value, even in the face of time constraints, inclement weather, challenging terrain and uncharted territory

Finance

- Blackstone is a world-class energy infrastructure developer
- Over the past decade, the organization has financed and developed over \$30 billion of energy infrastructure assets
- Currently has \$368 billion under management

READY TO GO: Project fully satisfies Mass RFP criteria

QUANTITATIVE		
Benefit/Cost Ratio	✓	>1.0
GWSA Contribution	✓	Helps satisfy roughly 20% of 2020 GWSA goal
Indirect Impacts	✓	11% reduction in natural gas for power sector, increases ISO-NE operational flexibility, improves guaranteed energy delivery in winter
QUALITATIVE		
Project Viability	✓	Shovel-ready, wide-spread support
Operational Viability	✓	Manufactured and operated by ABB/NKT; O&M services by VELCO
Siting and Permitting	✓	Fully permitted, uncontested site control
Reliability Benefits	✓	Firm, reliable power from HQ's operating fleet
Fixed Price/Contract Risk:	✓	Fixed price bid, backed by ABB/NKT and Quanta. Equity provided by TDI-NE parent Blackstone
Environmental Impacts from Siting	✓	Co-located in existing disturbed ROWs
Economic Benefits to MA	✓	Creation of 1,100 jobs in MA and a \$20 million partnership with Community Action



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