

Lake Encroachment Individual Permit

Under 29 V.S.A. § 401 *et seq.*



VERMONT DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
WATERSHED
MANAGEMENT DIVISION
LAKES & PONDS PROGRAM

Permittee(s): Champlain VT LLC, d/b/a TDI-New England

Waterbody: Lake Bomoseen

Permit Number: 2015-011

**Project Description: New England Clean Power
Link (NECPL); Horizontal Directional Drilling
(HDD) under Lake Bomoseen**

**Project Location: U.S. Route 4 Rights-of-way,
Castleton, Vermont**

Based upon the findings contained in this permit, it is the decision of the Department of Environmental Conservation (the Department) that the Project described herein, as set forth in the following findings and in the application on file with the Department, complies with the criteria of 29 V.S.A. § 405 and is consistent with the public trust doctrine, and is hereby approved under the following conditions and specifications.

a. Specific Conditions

1. The Project shall be carried out in accordance with the final application received by the Department on March 27, 2015 (the Approved Application); and the conditions and specifications of this permit.
 - A. Final Design Plans. At least 90 days prior to the commencement of construction, the Permittee shall submit draft final design plans to the Department for review and approval, and shall identify and assess all potential adverse impacts to natural resources and public trust uses that may be associated with the final design route changes. The Permittee shall submit as-built construction plans to the Department following construction.
 - B. Aquatic Invasive Species. Prior to placing any equipment (e.g., boat, trailer, vehicle, or gear) that has been in or on any other waterbody other than Lake Champlain into public waters for Project construction or related to Project operation, the Permittee shall inspect and decontaminate the equipment in accordance with the "Aquatic Invasive Species Management and Control Plan, for the New England Clean Power Link HVDC Transmission Project," as included in the Approved Application.
 - C. HDD Turbidity Control. Any HDD inadvertent returns that occur during Project construction shall be addressed in accordance with the "New England Clean Power Link Project, Horizontal Directional Drilling Inadvertent Return Contingency Plan," as included in the Approved Application, and as supplemented with an "Area Specific Plan" and "Safety Data Sheets and product information for drilling fluids to be used in the Lake HDDs" as required by "Stipulation between Champlain VT, LLC, the Vermont Public Service Department, the Vermont Agency of Natural Resources, and the Vermont Division for Historic Preservation," dated July 17, 2015 (PSB Stipulation), Attachment II – Environmental Conditions, paragraph 33.
 - D. Intake and Utility Avoidance. The Permittee shall avoid all known water intake pipes, dry hydrants, and utilities.
 - E. Lake Champlain Pollution Abatement and Restoration Fund. As specified in the Approved Application and the PSB Stipulation, the Permittee shall establish a "Lake Champlain Pollution Abatement and Restoration Fund," which will commit \$2 million in annual funding for Lake Champlain phosphorus cleanup for 40 years, in addition to \$1 million that will be paid at financial close and \$1 million that will be paid at the start of operations. The funds established are limited to use in the Lake Champlain watershed. As stated in the PSB Stipulation, if the Permittee

operates the Project beyond the 40 year period, the Permittee shall negotiate in good faith regarding whether any additional payments are appropriate, and if so in what amount, which may also be considered in reauthorization of the encroachment permitted herein.

- F. Lake Champlain Enhancement and Restoration Trust Fund. As specified in the Approved Application and the PSB Stipulation, the Permittee shall establish a "Lake Champlain Enhancement and Restoration Trust Fund," one purpose of which is to promote research and development and habitat restoration programs and projects related to the Lake Champlain watershed. The fund will commit \$1.5 million in annual funding for 39 years, in addition to \$1 million that will be paid at financial close. As stated in the PSB Stipulation, if the Permittee operates the Project beyond the 40 year period, the Permittee shall negotiate in good faith regarding whether any additional payments are appropriate, and if so in what amount, which may also be considered in reauthorization of the encroachment permitted herein.

b. Standard Conditions

1. Completion of construction. The Project authorized by this permit must complete construction within 10 years of the effective date of this permit, or this permit shall expire.
2. Permit modification. All permit modifications, shall be treated as a new permit application.
3. Spill prevention. Fuel and lubricants from equipment shall not be discharged into the water. Any spills shall be managed in accordance with all applicable local, state, and federal regulations.
4. Waste management. Any pieces of construction debris, or other waste materials deposited into the lake during Project implementation/construction shall be removed from the lake and disposed of properly, in accordance with all applicable local, state, and federal regulations.
5. Compliance with other regulations. This permit does not relieve the Permittee from obtaining all other approvals and permits prior to commencement of activity or from the responsibility to comply with any other applicable federal, state, and local laws or regulations.
6. Transfer of permit. Prior to transferring ownership over the encroachment authorized by this permit or the portion of property associated with the encroachment authorized by this permit, the Permittee shall give the Department notice of the transfer. The notice shall include the name and contact information for the current Permittee and prospective Permittee, the proposed date of permit transfer, and a statement signed by the prospective Permittee stating that he/she has read and is familiar with this permit and agrees to comply with and be bound by its terms and conditions.
7. Access to property. The Permittee shall allow the Commissioner of the Department, or a duly authorized representative, at reasonable times and upon presentation of credentials, to enter upon Permittee's property, or to otherwise access the authorized encroachment, if necessary, to inspect the Project to determine compliance with this permit.
8. Legal responsibilities for damages. The Department, by issuing this individual permit, accepts no legal responsibility for any damage direct or indirect of whatever nature and by whoever suffered arising out of the approved Project.
9. Rights and Privileges. This permit does not authorize any damage to private property or invasion of private rights or the violation of federal, state, or local laws or regulations. In addition, this permit does not convey any title or interest to the lands lying under public waters or waters affected.
10. Duty to comply and enforcement. The Permittee shall comply with all terms and conditions of this permit. Any permit noncompliance shall constitute a violation of 29 V.S.A. Chapter 11 and may be cause for an enforcement action and revocation, modification, or suspension of this permit. It shall not be a

defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit.

11. Reopener. If, after granting this permit, the Department determines that there is evidence indicating that an authorized activity does not comply with the requirements of 29 V.S.A. Chapter 11, the Department may reopen and modify this permit to include different limitations and requirements.
12. Revocation. This permit is subject to the conditions and specifications herein and may be suspended or revoked at any time for cause including: failure by the Permittee to disclose all relevant facts during the application process which were known at that time; misrepresentation of any relevant fact at any time; non-compliance with the conditions and specifications of the permit; or a change in the factors associated with the encroachment's effect on the public trust or public good so that on balance the Department finds that the encroachment adversely affects the public trust or public good.
13. Severance. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
14. Appeals.
 - A. Renewable Energy Projects – Right to Appeal to Public Service Board. If this decision relates to a renewable energy plant for which a certificate of public good is required under 30 V.S.A. § 248, any appeal of this decision must be filed with the Vermont Public Service Board pursuant to 10 V.S.A. § 8506. This section does not apply to a facility that is subject to 10 V.S.A. § 1004 (dams before the Federal Energy Regulatory Commission), 10 V.S.A. § 1006 (certification of hydroelectric projects), or 10 V.S.A. Chapter 43 (dams). Any appeal under this section must be filed with the Clerk of the Public Service Board within 30 days of the date of this decision; the appellant must file with the Clerk an original and six copies of its appeal. The appellant shall provide notice of the filing of an appeal in accordance with 10 V.S.A. § 8504(c)(2), and shall also serve a copy of the Notice of Appeal on the Vermont Department of Public Service. For further information, see the Rules and General Orders of the Public Service Board, available online at www.psb.vermont.gov. The address for the Public Service Board is: 112 State Street, Montpelier, Vermont, 05620-2701; Telephone #: 802-828-2358.
 - B. All Other Projects – Right to Appeal to Environmental Court. Pursuant to 10 V.S.A. Chapter 220, any appeal of this decision must be filed with the clerk of the Environmental Division of the Superior Court within 30 days of the date of the decision. The Notice of Appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate the act or decision appealed from; must name the Environmental Division; and must be signed by the appellant or the appellant's attorney. The appeal must give the address or location and description of the property, project, or facility with which the appeal is concerned and the name of the applicant or any permit involved in the appeal. The appellant must also serve a copy of the Notice of Appeal in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. For further information, see the Vermont Rules for Environmental Court Proceedings available at www.vermontjudiciary.org. The address for the Environmental Division is: 32 Cherry Street; 2nd Floor, Suite 303; Burlington, VT 05401 Telephone #: 802-951-1740.

c. Findings

1. Jurisdiction - 29 V.S.A. § 403: Lake Bomoseen in Castleton is a public water of the state of Vermont. The Project encroaches beyond the shoreline as delineated by the mean water level. Therefore, the Department has jurisdiction under 29 V.S.A. Chapter 11.
2. Application Receipt and Review - 29 V.S.A. § 404: On March 27, 2015, the Department received an application from Champlain VT LLC, d/b/a TDI-New England (Permittee), under the provisions of 29 V.S.A. Chapter 11, for authorization to construct, operate, and maintain an electric transmission line and fiber optic cable that will run under the public waters of Lake Bomoseen in Castleton, Vermont.
3. Public Notification - 29 V.S.A. § 405(a): The Department gave written notice of this application to the municipalities in which the proposed encroachment is located, abutting property owners, and others having an interest in this matter and provided an opportunity for interested persons to file written comments or request a public information meeting. The Department also noticed and conducted three public information meetings that provided the public and interested persons additional opportunities to provide verbal or written comments on the application. The public information meetings were held in Rutland, Vermont on November 2, 2015, South Burlington, Vermont on November 3, 2015, and St. Albans, Vermont on November 4, 2015. The notice period began on October 1, 2015 and closed at 4:30 P.M. on November 6, 2015. One public comment was received during the notice period, which was addressed by the Department through a response to the commenter.
4. Background; Lake Encroachment Permit History: NONE
5. Project Description: The New England Clean Power Link (NECPL) project (Project) consists of the construction, operation, and maintenance of a high voltage direct current (HVDC) electric transmission line and fiber optic cable that will run from the Canadian border in Alburgh, Vermont to Ludlow, Vermont along aquatic and underground routes. The transmission line will provide electricity generated by renewable energy sources in Canada to the New England electric grid, a portion of which may also be delivered within Vermont in the future. The nominal operating voltage of the line will be approximately 300 to 320 kV, and the system will be capable of delivering 1,000 megawatts (MW) of electricity.

The transmission line consists of two cables, each approximately 5 inches in diameter, each cable weighing approximately 20.2 pounds per foot, and each cable will be installed directly adjacent to the other. The NECPL will include a fiber optic system, which will consist of an industry standard fiber optic cable. This cable is approximately one inch in diameter and will be housed in an approximately two inch HDPE conduit installed in the same trench as the power cables. The fiber optic cable is required to operate the Project and will facilitate HVDC control.

The overland (terrestrial) portions of the Project, approximately 57 miles in length, will be buried underground primarily within existing public road rights-of-way (ROWS) from Benson, Vermont to Ludlow, Vermont, and on private land held by the Permittee in Alburgh, Vermont, and Benson, Vermont. The overland transmission line route includes an HDD under the public waters of Lake Bomoseen, which is the Project subject to the permit decision herein (Lake Encroachment Permit 2015-011). HDD is a method of installing underground utilities in a shallow arc along a prescribed path by using a surface-launched drilling rig. HDD is a trenchless construction technique, which avoids impacts to the Lake shoreline and nearshore habitat.

As depicted in the profiles provided in Appendix 1 of the Approved Application, the transmission line is proposed to cross the southern end of Lake Bomoseen, just north of the US Route 4 bridge in Castleton. The Lake is approximately 260 feet wide in this area. The eastern edge of the HDD launch area will be situated approximately 180 feet from the western shore of the Lake between the Project's mile post (MP)

112.6 and MP 112.7. The entire HDD bore hole will be approximately 2,300 feet in length, with the HDD exit area being located over 1,600 feet to the east of Lake Bomoseen's eastern shore, at MP 113.1.

The main equipment used for HDD includes a directional drill rig sized for the Project; drill rods linked together to form a drill string for advancing the drill bit and for pulling back reamers and products, i.e., high density polyethylene pipe (HDPE) conduit; a transmitter/receiver or wire line for tracking and recording the location of the drill and product; a tank for mixing and holding drilling fluid; and a pump for circulating the drilling fluid and various pumping and centrifugal pumps/cyclones to recycle the drilling fluid and remove cuttings.

A pit for capturing drilling fluids (returns) is dug at the point of entry and at the planned exit point in terrestrial HDD's.

The drilling fluid is an absorbent clay composed of aluminum phyllosilicate, which facilitates the HDD function by suspension of drill cuttings allowing removal, reducing friction forces, and stabilizing the bore hole.

Separate drill holes for each cable will be required, and the cables will be installed at a minimum of 20 feet below the Lake bottom. Each cable will be installed within a 10-inch (64-cm) diameter, or larger, HDPE conduit. To maintain appropriate separation between the two cables, approximately 6 feet (1.8 meters) will be maintained between each drill path. After the HDPE conduits are in place, the transmission cables and the fiber optic line, which will be attached to one of the cables, will be pulled through these pipes. The pipes will remain in place to protect the transmission cable.

6. Project Purpose: The purpose of the NECPL project is to deliver and sell clean, renewable power from Canada to the markets operated by the New England Independent System Operator (ISO-NE), which may include markets in the State of Vermont in the future.
7. Effect of Encroachment – Whether Excessive for Stated Purpose: The Project has been designed to accommodate for sufficient and reliable transmission of renewable power from Canada to the markets operated by ISO-NE. The Permittee's business model is centered on the use of buried HVDC lines, which avoid aesthetic concerns and attendant impacts on communities, and also increases the electric grid's safety and reliability because the underground/aquatic infrastructure is less susceptible to damage from natural disasters. The Project is not considered excessive for achieving the stated Project purpose.
8. Effect of Encroachment – Less Intrusive Feasible Alternatives: The NECPL project has been designed using the least intrusive feasible alternative, in consultation with local, state, and federal officials. As identified in the Approved Application, the Permittee considered and designed the Project route in consideration of the overall environmental impact. A complete Alternatives Analysis was presented in the Permittee's U.S. Army Corps of Engineers Section 404/Section 10 Permit Application, dated November 7, 2014, which demonstrated that the Lake route described herein is the least environmentally damaging practicable alternative. In consideration of environmental impacts, the Project route has considered and will implement construction methods and best management practices that will limit impacts along the selected route, including the HDD proposed under Lake Bomoseen.
9. Effect of Encroachment – Measures to Reduce Impacts on Public Resources:
HDD. Any HDD inadvertent returns that occur during the Project construction will be addressed in accordance with the "New England Clean Power Link Project, Horizontal Directional Drilling Inadvertent Return Contingency Plan."

Aquatic Invasives. To address the potential for impacts from the introduction or transport of aquatic invasive species from outside Lake Bomoseen, the Permittee has prepared and will follow the "Aquatic

Invasive Species Management and Control Plan, for the New England Clean Power Link HVDC Transmission Project.”

- 10.** Placement of Fill: The NECPL project will not involve the placement of fill within Lake Bomoseen.
- 11.** Effects on Water Quality - 29 V.S.A. § 405(b): The Permittee proposes to use HDD at the entry and exit points upland of the mean water level of the lake to avoid impacts to water quality. Any HDD inadvertent returns that occur during the Project construction will be addressed in accordance with the “New England Clean Power Link Project, Horizontal Directional Drilling Inadvertent Return Contingency Plan.” The Project is not expected to have an adverse impact on water quality.

As part of the NECPL Project, and as specified in the Approved Application and the PSB Stipulation, the Permittee will establish a “Lake Champlain Pollution Abatement and Restoration Fund,” which will commit \$2 million in annual funding for Lake Champlain phosphorus cleanup for 40 years, in addition to \$1 million that will be paid at financial close and \$1 million that will be paid at the start of operations. The funds established are limited to use in the Lake Champlain watershed. If the Permittee operates the Project beyond the 40 year period, and as identified in the PSB Stipulation, the Permittee will negotiate in good faith regarding whether any additional payments are appropriate, and if so in what amount, which may also be considered in reauthorization of the encroachment permitted herein.

The water quality funding dedicated to the Lake Champlain watershed is expected to result in a positive impact on water quality.

- 12.** Effects on Fish and Wildlife Habitat - 29 V.S.A. § 405(b): The Permittee proposes to use HDD methodology at the entry and exit points upland of the mean water level of the lake to avoid impacts to Lake Bomoseen fish and wildlife habitat. The Project is not expected to have an adverse impact on fish and wildlife habitat.

As part of the NECPL Project, and as specified in the Approved Application and the PSB Stipulation, the Permittee will establish a “Lake Champlain Enhancement and Restoration Trust Fund,” one purpose of which is to promote research and development and habitat restoration programs and projects related to the Lake Champlain watershed. The fund will commit \$1.5 million in annual funding for 39 years, in addition to \$1 million that will be paid at financial close. If the Permittee operates the Project beyond the 40 year period, and as identified in the PSB Stipulation, the Permittee will negotiate in good faith regarding whether any additional payments are appropriate, and if so in what amount, which may also be considered in reauthorization of the encroachment permitted herein.

The water quality and habitat funding dedicated to the Lake Champlain watershed is expected to result in a positive impact on fish and wildlife habitat.

- 13.** Effects on Aquatic and Shoreline Vegetation - 29 V.S.A. § 405(b): The Project will not result in the removal of aquatic or shoreline vegetation. The Permittee proposes to use HDD methodology at the entry and exit points upland of the mean water level of the lake to avoid impacts to aquatic and shoreline vegetation. The Project is not expected to result in adverse impacts to aquatic and shoreline vegetation.
- 14.** Effects on Navigation and Other Recreational and Public Uses, Including Fishing and Swimming - 29 V.S.A. § 405(b): The Permittee proposes to use HDD methodology at the entry and exit points upland of the mean water level of the lake to avoid impacts to navigation and other recreational and public uses. The Project is not expected to result in adverse impacts on navigation and other recreational and public uses.

As part of the NECPL Project, and as specified in the Approved Application and the PSB Stipulation, the Permittee will establish a “Lake Champlain Enhancement and Restoration Trust Fund,” the purpose of which is to promote recreational access to Lake Champlain; for acquisition and development of lands and

facilities associated with municipal, state, and non-profit public recreation opportunities within the Lake Champlain watershed; and for recreational, cultural, historical, environmental, and educational activities, programs, and opportunities associated with the Lake Champlain watershed. The fund will commit \$1.5 million in annual funding for 39 years, in addition to \$1 million that will be paid at financial close. If the Permittee operates the Project beyond the 40 year period, and as identified in the PSB Stipulation, the Permittee will negotiate in good faith regarding whether any additional payments are appropriate, and if so in what amount, which may also be considered in reauthorization of the encroachment permitted herein.

15. Consistency with the Natural Surroundings - 29 V.S.A. § 405(b): Once installed, the NECPL project will not be visible from above the Lake surface, and will not involve the removal of shoreline vegetation, and therefore will be consistent with the natural surroundings.
16. Consistency with Municipal Shoreland Zoning Ordinances and Applicable State Plans - 29 V.S.A. § 405(b): Projects regulated under 30 V.S.A. § 248 are exempt from municipal regulation. This Project is regulated under 30 V.S.A. § 248 and therefore, there are no applicable municipal shoreland zoning ordinances. Additionally, there are no applicable state plans.
17. Cumulative Impact - 29 V.S.A. § 405(b): The cumulative effect of this Project is not adverse because it is the only line of this type crossing Lake Bomoseen and its construction and operation is not expected to have any adverse impacts on water quality, fish and wildlife habitat, aquatic and shoreline vegetation, navigation, and recreational and public uses.
18. Public Good Analysis Summary - 29 V.S.A. § 405(b): Based upon findings 11-17, the Project will not adversely affect the public good.
19. Public Trust Analysis: The public trust doctrine requires the Department to determine what public trust uses are at issue, to determine if the proposal serves a public purpose, to determine the cumulative effects of the proposal on the public trust uses, and to balance the beneficial and detrimental effects of the proposal. The public trust uses relevant to this proposal are fishing, boating/kayaking, swimming, ice fishing, ice skating, ice-related recreation, boating-related recreation, commerce, environmental preservation, and domestic water supply. There are no expected impacts of the Project on public trust uses related to Project construction. Additionally, impacts on public trust uses following construction of the Project are not expected. The NECPL project provides public benefits in the form of the established "Lake Champlain Pollution Abatement and Restoration Fund" and the established "Lake Champlain Enhancement and Restoration Trust Fund." The Department has therefore determined that the Project is consistent with the public trust doctrine.

d. Authorization

Based upon the foregoing findings, and in consideration of the Department's Interim Procedures for the Issuance or Denial of Encroachment Permits, dated October 4, 1989, excluding Section 3, which was invalidated by Lamoille County Superior Court, Docket No. S96-91, 9/04/92, it is the decision of the Department that the project described herein, as set forth in the above findings and in the plans on file with the Department, complies with the criteria of 29 V.S.A. § 405, and is consistent with the public trust doctrine.

In accordance with 29 V.S.A. § 401 *et seq.*, the Department hereby issues this decision and permit to Champlain VT, LLC, d/b/a TDI-New England for the above named Project. The Department has approved the Project subject to the conditions contained herein.

This permit shall not be effective until 10 days after the Department's notice of action and permit issuance in accordance with 29 V.S.A. § 405(c) and shall expire 15 years thereafter. **Prior to the expiration of this permit, the Permittee shall reapply for a lake encroachment permit, if the Permittee wishes to maintain the encroachment authorized by this permit.** If the Permittee wishes to modify the encroachment or conduct other jurisdictional activities not authorized by this permit, the Permittee must submit a new permit application.

Alyssa B. Schuren, Commissioner

Department of Environmental Conservation

By: _____

Perry Thomas, Program Manager

Lakes & Ponds Management and Protection Program