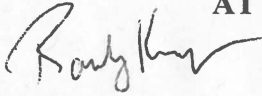


**STATE OF NEW HAMPSHIRE****Inter-Department Communication****DATE:** August 28, 2019**AT (OFFICE):** NHPUC

**FROM:** Randy Knepper   
Director – Safety Division

**SUBJECT:** Docket No. DE 19-109 Vermont Transco LLC  
Petition for a License to Construct and Maintain Fiber Optic Cable Over  
and Across the Connecticut River and Sugar River in the City of  
Claremont, New Hampshire  
**Staff Recommendation**

**TO:** Debra Howland, Executive Director  
Thomas Frantz, Director, Electric Division  
Rich Chagnon, Assistant Director, Electric Division  
Mary Schwarzer, Staff Attorney, Legal Division

The Safety Division's review of the above petition consisted of the following elements:

- Petition contents and history;
- Applicable State Statute;
- Review of the existing crossing(s) already licensed by the PUC;
- Review of land ownership of existing pole structures;
- Review of NESC code requirements as described in Puc 300;
- Review of public need and public impact, including applicability of other State regulations; and
- Conclusions and Recommendations.

**1. Petition contents and history**

On June 11, 2019, Vermont Transco LLC, (VT Transco), filed a petition pursuant to RSA 371:17 for a license to construct and maintain a fiber optic communications cable to provide improved information support of its electric transmission line. An existing set of structures used to support the existing electric overhead transmission line designated as K149 circuit will serve as an attachment point for the proposed cable over and across the public waters of the Connecticut River and Sugar River in the City of Claremont, New Hampshire. The Connecticut River crossing is located from Weathersfield, VT to Claremont, NH while the Sugar River crossing will solely be in Claremont, NH. See detailed NHPUC Safety Division maps/schematics in Attachments A1 and A2 of this recommendation. On August 13, 2109, VT Transco filed a copy of a U.S. Army Corp of Engineers (USACE) Letter of Permission for the Connecticut River Crossing.

### **Connecticut River Crossing (Claremont)**

The proposed crossing is located south of the NH Route 12 and east of Connecticut River Road (US Route 5) and spans approximately 1,650 feet between two existing structures. The structure on the western side of the river, #14, is constructed with a double crossed braced, 105 foot tall CCA pole. The structure on the eastern side of the river, number #15, is constructed with a double cross braced 100 foot tall CCA pole. VT Transco provided a location map, a project plan schematic, construction details of the structures, and River Crossing table as Exhibits 1 through 5 in its attachment to the petition<sup>1</sup>.

The basis of required technical information provided in this petition is the 2017 National Electric Safety Code (NESC) C2-2017. Within its petition, VT Transco notes that the proposed crossing was designed and will be constructed, maintained and operated, in accordance with NESC. The design criteria used for the fiber optic cable will be an all dielectric self-supporting (ADSS) insulated cable<sup>2</sup>. In its petition, VT Transco provides sufficient detail to show how all required clearances from the communication cables to the surface of the water will be maintained (23.2 feet.). The NESC states the USACE allowed clearances shall govern when reviewing Table 232-1. Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition.

### **Sugar River Crossing (Claremont)**

The proposed crossing is located east of Jarvis Hill Road and west of Main Street (NH Route 12 and NH Route 103) and spans approximately 733 feet between two existing structures. The structure on the western side of the river, #19, is constructed with a single crossed braced, 70 foot tall CCA pole. The structure on the eastern side of the river, number #120, is constructed with a double cross braced 80 foot tall CCA pole. VT Transco provided a location map, a project plan schematic, construction details of the structures, and River Crossing table as Exhibits 1 through 5 in its attachment to the petition<sup>3</sup>.

VT Transco used Ordinary High Water Marks elevation of 305.5 feet for the Sugar River and calculated clearances of 42.2 feet. VT Transco also states the water clearance of 27.8 feet are taken from the projected 100 year flood levels of elevation 319.9 feet. This is more conservative than the 10 year flood levels allowed by the NESC (note 18 to Table 232-1). VT Transco uses flood water elevations for the Sugar River in Sullivan County. Staff confirmed those values with those that are identified on FEMA flood map #50027C0644E. The 100-year flood elevation for the river in this location is approximately 319.9 feet, and is based on the North American Vertical Datum of 1929 (NAVD29). The Safety Division verified the 319.9 foot flood level from the FEMA flood map.

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<sup>1</sup> Exhibit 6 is a notarized Affidavit of the Senior Engineer

<sup>2</sup> The cable consists of 72 fibers with weight per foot of 0.115 pounds per linear foot. Communications from B McNamara to R Knepper 8/22/2019.

<sup>3</sup> See footnote 1, above.

The NESC clearance requirements are 14 feet for non-sailboating areas and 17 feet for sail boating so the vertical clearances far exceed the NESC requirements.

## **2. New Hampshire statute referenced in petition**

**371:17 Licenses for New Poles.** – Whenever it is necessary, in order to meet the reasonable requirements of service to the public, that any public utility should construct a pipeline, cable, or conduit, or a line of poles or towers and wires and fixtures thereon, over, under or across any of the public waters of this state, or over, under or across any of the land owned by this state, it shall petition the commission for a license to construct and maintain the same. For the purposes of this section, "public waters" are defined to be all ponds of more than 10 acres, tidewater bodies, and such streams or portions thereof as the commission may prescribe. Every corporation and individual desiring to cross any public water or land for any purpose herein defined shall petition the commission for a license in the same manner prescribed for a public utility.

**Source.** 1921, 82:1. PL 244:8. RL 294:16. 1951, 203:48 par. 17. 1953, 52:1, eff. March 30, 1953. 2013, 82:1, eff. June 19, 2013.

## **3. Review of existing license(s) and permissions previously granted by the PUC for this location of the Connecticut River and Sugar River**

This public waters crossing license application is part of the existing K149 circuits for VT Transco. Staff research did not find the electric crossings were previously licensed by the Commission. The petition is silent on any previous electric crossings for K149 but the petition indicates the K149 electric crossing was installed in 1958, which is after RSA 371:17 became effective.

The Connecticut River and Sugar Rivers are listed in the *Official List of Public Waters (OLPW)* under *Part 2 List of Freshwater Public Rivers and Streams*". The entire list of public waters can be accessed through the following web link:

<http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf>

The fiber optic crossing of the Connecticut River is subject to Section 10 of The Rivers and Harbors Act and requires a permit from the USACE. On August 13, 2019, VT Transco supplementary copy of a USACE letter of permission for the fiber optic cable installation governs the Connecticut River clearance requirement. Typically, these permits are based on the lowest bridge crossing height found on the Connecticut River which in this case exceeds the low clearance requirement as stated in the August 9, 2019 permit. The overhead fiber optic sag is calculated to be at an elevation of 328.2 feet which is higher than the NH Route 12 bridge in Claremont low steel height of 324.1 feet

and the NH Route 11 bridge in Charlestown low steel height of 316.4 feet. This allows for a margin of 4.1 feet and 11.8 feet respectively. There are no corresponding requirements of the Sugar River. A New Hampshire DES permit is also not required per Administrative Rule Env-Wq 1406.04 (d) (7).

VT Transco asserts in the petition that the proposed crossing will be exercised without substantially affecting the rights of the public in the public waters of the Connecticut River and Sugar River. Minimum safe line clearances above the river surface and affected shorelines will be maintained at all times. The use and enjoyment of the river by the public will not be diminished in any material respect as a result of the overhead line crossing except for the brief time period where the fiber optic cable is installed.

#### **4. Review of land ownership of existing pole structures**

In its petition, VT Transco specifies that the construction of this crossing will span the Connecticut River. Existing poles 14 and #15 are already located on each side of the river within VT Transco attained easements. Easement documentation was provided that was reviewed by the Safety Division and found to confirm VT Transco's assertions.

Also in its petition, VT Transco specifies the construction of the nearby crossing will span the Sugar River. Existing poles #19 and #20 are already located on each side of the river within VT Transco attained easements. Easement documentation was provided that was reviewed by the Safety Division and found to confirm VT Transco's assertions

#### **5. Review of NESC code requirements as described in Puc 300**

N.H. Code of Administrative Rules Puc 306 requires:

- (a) each utility shall construct, install, operate and maintain its plant, structures and equipment and lines, as follows:
  - (1) In accordance with good utility practice;
  - (2) After weighing all factors, including potential delay, cost and safety issues, in such a manner to best accommodate the public; and
  - (3) To prevent interference with other underground and above ground facilities, including facilities furnishing communications, gas, water, sewer or steam service.
- (b) For purposes of this section, "good utility practice" means in accordance with the standards established by:
  - (1) The National Electrical Safety Code C2-2012....

VT Transco states that the proposed crossing has been designed and will be constructed, maintained and operated in accordance with 2017 National Electrical Safety Code C2-2017.

Safety Division Staff reviewed the specifications related to the design and construction of this crossing project as provided in the petition, the attachments, and all supplemental support documents, and found them to be in conformance with the applicable sections of NESC code C2-2012 and Puc 300.

## **6. Review of public need and public impact**

In order to meet the reasonable requirements of electric service to the public, VT Transco proposes to construct and maintain a fiber optic communication cable, attached to existing electric transmission structures in Claremont, New Hampshire. The K149 circuit and its accompanying fiber optic are an integral part of VT Transcos's electric transmission system in the area and for managing energy resources. VT Transco's existing support structures are concurrently being replaced as a result of normal maintenance of aging infrastructure.

VT Transco asserts in the petition that the proposed license for this crossing may be exercised without substantially affecting the rights of the public in the public waters of the Connecticut River and Sugar River. Minimum safe line clearances above the river surface and affected shorelines will be maintained at all times. The use and enjoyment of the river by the public will not be diminished in any material respect as a result of the overhead line crossing.

Safety Division Staff concludes the impact to the public will be *de minimis* and not measurable. The proposed crossing does not appear to affect the rights of the public in the public waters of the Connecticut River and Sugar River because minimum safe line clearances above the water surface will be maintained at all times. Shorelines will not be affected by this project.

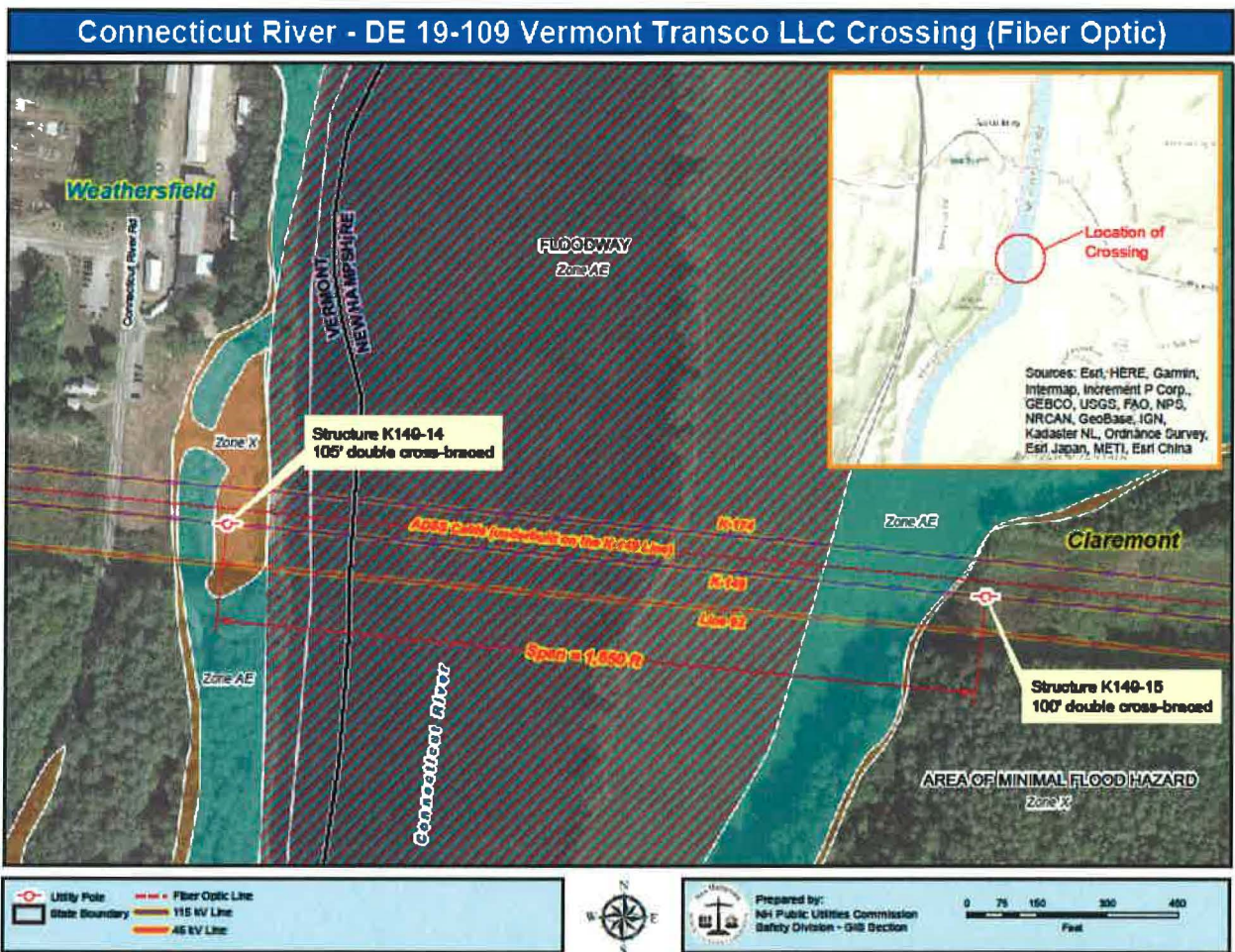
**Staff Recommendation:**

Based on the results of its review of the petition, its attachments, and all other supporting documents filed to this docket, the Safety Division Staff recommends that the Commission:

- 1) Find that the license VT Transco requests in this docket may be exercised without substantially affecting the public rights in the public waters which are the subject of the petition;
- 2) Grant VT Transco a license to construct, operate and maintain communication cables, across the public waters of the Connecticut River and Sugar River in Claremont, New Hampshire, as specified in the petition;
- 3) Require VT Transco to file a petition for license to operate and maintain electric transmission lines (K149), across the public waters of the Connecticut River and Sugar River in Claremont, New Hampshire; and
- 4) Issue an Order Nisi and orders for its publication.

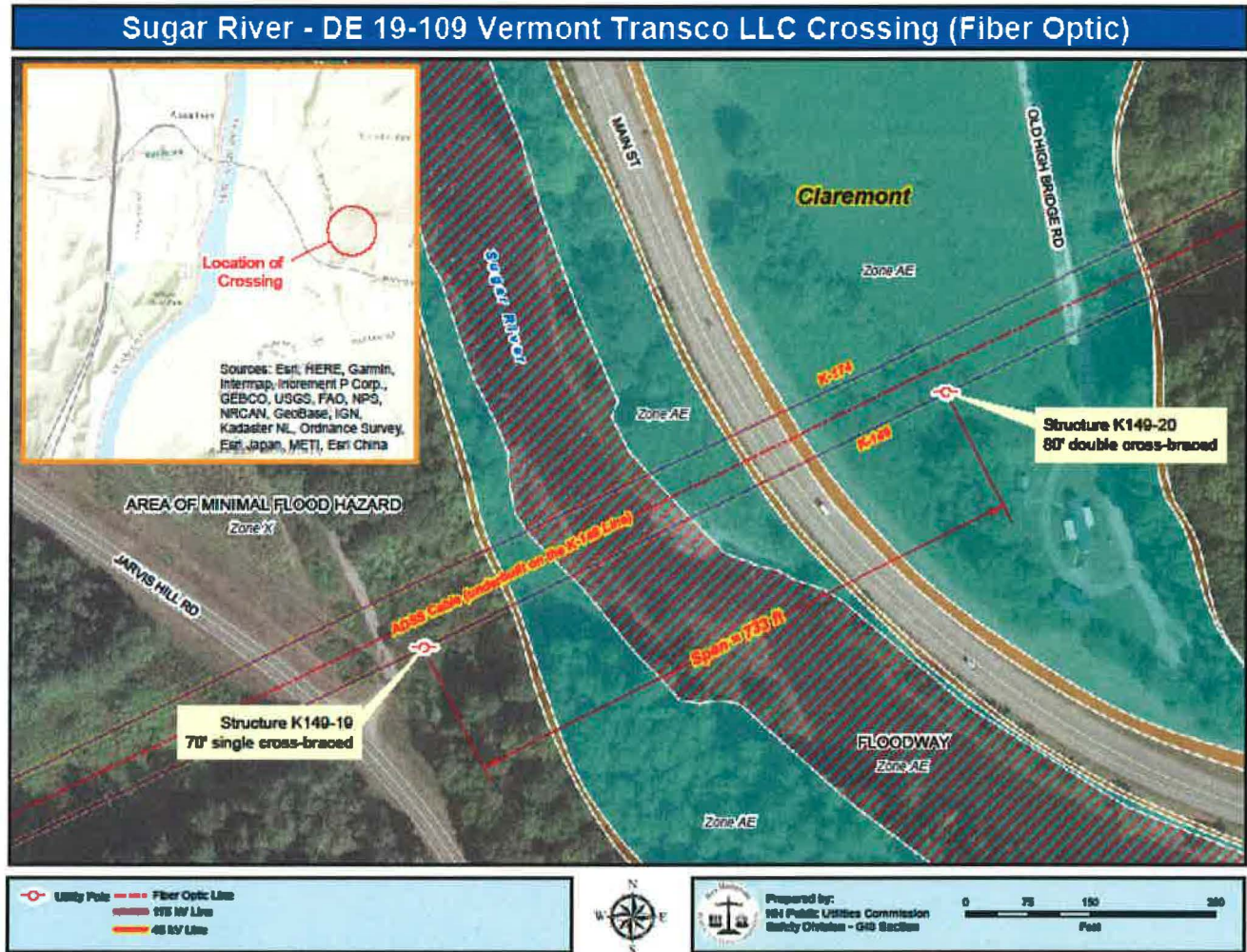
Reference Attachments on following pages

# Attachment A1



**Figure 1:** The location of the ADSS communication cable is on the same structures (underbuilt) of the electric transmission line designated as the K149 Circuit, a span of approximately 1,650 feet, across the Connecticut River in Claremont, NH. The structure on the east side of the river is a wooden double cross braced structure, designated #15 and will be constructed with a double 100 foot tall, CCA pole. The structure on the west side of the river, designated #14 shall be a structure, constructed with a double 105 foot tall, CCA pole. The span of the river is approximately 792 Ft. at the east and west banks.

# Attachment A2



**Figure 2:** The location of the ADSS communication cable is on the same structures (underbuilt) of the electric transmission line designated as the K149Circuit, a span of approximately 733 feet, across the Sugar River in Claremont, NH. The structure on the northeast side of the river is a wooden double cross braced structure, designated #20 and will be constructed with a double 80 foot tall, CCA pole. The structure on the southwest side of the river, designated # 19 shall be a structure, constructed with a single 70 foot tall, CCA pole. The span of the river is approximately 129 Ft. at the northeast and southwest banks.



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