

# STATE OF NEW HAMPSHIRE

## Inter-Department Communication

DATE: Dec 13, 2013  
AT (OFFICE): NHPUC

ML

**FROM:** Michael Ladam, Assistant Director, Telecommunications

**SUBJECT:** DT 13-158 Sovernet Fiber Corp. Petition for Authority to Construct and Maintain Telecommunications Lines Over and Across the Mascoma River at the Bank Street Extension in the Town of Lebanon

**TO:** Commissioners  
Debra Howland, Executive Director

On May 28, 2013, Sovernet Fiber Corp. (Sovernet) filed a petition pursuant to RSA 371:17 seeking approval for a license to construct and maintain fiber optic communications cables over and across the Mascoma River in the town of Lebanon. The application is a single water crossing located on the northern side of the Bank Street Extension, between utility poles National Grid (NG) #32 / FairPoint (FP) 1.5 and NG 33 / FP 2.

The Mascoma River at this location is listed as public water in the Department of Environmental Services' official list of public waters and therefore requires a license pursuant to RSA 371:17. (This petition was filed prior to the notification process available under RSA 371:17-a took effect, and Sovernet has not chosen to refile under that statute.) Sovernet's field survey reports that the river at this location is not suitable for sailing.

Sovernet states in its petition that no New Hampshire Department of Environmental Services or New Hampshire Department of Transportation permits are needed for this crossing.

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

In its petition Sovernet states that the new line will promote the public good "as part of an 800 mile network that will connect over 340 schools, libraries, hospitals and government facilities in Vermont, as well as several adjoining areas of New Hampshire and Massachusetts." Sovernet further states that the "rights of the public in the public waters of the river" will be unaffected by the crossing.

### **Review of NESC code requirements**

Staff reviewed the project documents attached to the petition and discovered that the proposed attachment would be located 6 inches below a municipal fire cable on one pole. The National Electrical Safety Code requires 12 inches clearance between such

cables, unless the cable owners agree to a lesser clearance which must be no less than four inches. The project documents also included references to a planned, but not yet constructed, future attachment below the proposed Sovernet fiber.

Staff contacted Sovernet and suggested that the future attachment not be referenced in this application – any issues that it may raise should be addressed when the future attacher submits its own notification of attachment. Staff also advised Sovernet that the company should either revise the plan to provide 12 inches clearance below the fire cable, or provide documentation of agreement from the municipal attacher for a closer spacing.

Sovernet subsequently provided Staff with a revised plan that does not reference possible future attachments, and with an e-mail communication from the City of Lebanon agreeing to a separation of as little as six inches between the municipal fire attachment and the Sovernet fiber.

According to the petition, the crossings will be designed, constructed, maintained and operated according to the NESC. Staff reviewed documents and data provided by Sovernet, including detailed diagrams, descriptions, and maps of the crossings. Staff confirmed the proposed crossing has been designed to meet the requirements of the National Electrical Safety Code (NESC), consistent with NH Admin Rule Puc 433.01(a). The attached worksheet provides a summary of Staff's review. Staff was unable to confirm whether other utility crossings at these locations are licensed and also comply with the NESC.

### **Recommendations and Conclusions**

Based upon Staff's analysis, the proposed crossing will not substantially affect the public rights in the waters and lands, and Staff concludes that Sovernet has demonstrated a public need for the proposed crossing. Accordingly, Staff recommends that the Commission grant the license for the Sovernet crossing in this petition, with the following conditions:

1. Sovernet ensure that all make ready work is performed pursuant to the submitted drawings.
2. Sovernet maintain proper clearances between its cables and those adjacent to it at all times across the entire span pursuant to NESC 235C2b and 235H.
3. Sovernet construct, operate and maintain the attachments at all times in accordance with both the 2002 and 2007 editions of the NESC as required by NH Admin. Code Puc 433.01 and 1303.07.

*Info provided is intended to be used in conjunction with the NESC and does not in any way supersede or replace the NESC. The NESC should always be considered as the primary basis for making clearance determinations.*

## Telecommunications Fiber Optic Cable<sup>1</sup> Water Crossing Checklist

Docket #: 13-158  
 Applicant: Sovernet  
 Date: Nov 22, 2013  
 Analyst: Michael Adam

Location: Mascoma River at Bank Street Extension in Lebanon

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1	Y	Is water body on DES list: <a href="http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf">http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf</a>
2	N/A	If Merrimack River from the MA-NH State line to Concord, NH; Lake Umbagog within NH; or the Connecticut River to Pittsburg, NH, has Army Corps of Engineers approved?
3	Not Needed	Does petition indicate DOT or DES approvals needed?
4	N/A	If DOT or DES approvals needed, ask applicant for contact at applicable state agency and call to determine status of approvals. Are DOT or DES approvals expected?
5	Y	Compare facts stated in petition to "as built" drawings. Are facts consistent? Check things like pole numbers, span length, location, water body.
6	Unk	Compare make ready requirements from pole owner to "as built" drawing. Confirm necessary appurtenances (e.g. guys) are included in drawing and all existing attachments are depicted.
7	Y	Does petition attest the proposed crossing is designed and will be built and maintained in accordance with the NESC?
8	Unk	Are existing attachments licensed? If not, notify existing attachers in writing and request license application.
9		If lowest attachment is not licensed, verify minimum water clearances plus one foot per attachment beneath proposed attachment are met under Heavy Load conditions and recommend conditional approval. (e.g. if water is not

<sup>1</sup>As defined by NESC 230 F 1e and NESC 230 F 2

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	Y*	suitable for sailing and there are 2 existing attachments below proposed, add 2 feet to 14 foot clearance requirement and determine if proposed attachment with maximum sag is greater than 16 feet from water surface). If water suitable for sailing, use 10 year flood elevation.
10	N/A	If lowest attachment is licensed, does make ready indicate lowest attachment will be moved closer to water? (If no, skip to step 15. If yes, what is max sag of lowest attachment at 0 deg F, 0.5 inch ice, 4 psf wind?)
11	N	Is water suitable for sailing?
12	Unk*	If not suitable for sailing is there <b>14 feet</b> clearance from lowest point in sag of lowest attachment to water surface under Heavy Load conditions? (preferably measured from water surface at 10 year flood elevation, but not required)  NESC Table 232-1, 6
13	N/A	If suitable for sailing is there appropriate clearance from lowest point in sag of lowest attachment to water surface under Heavy Load conditions at 10 year flood elevation. Size of rivers and streams based upon largest surface area of any 1 mile segment that includes the crossing (circle applicable standard) <ul style="list-style-type: none"> <li>a. Less than 20 acres: <b>17.5 feet</b></li> <li>b. Over 20 to 200 acres: <b>25.5 feet</b></li> <li>c. Over 200 to 2000 acres: <b>31.5 feet</b></li> <li>d. Over 2000 acres: <b>37.5 feet</b></li> </ul> NESC Table 232-1, 7 and notes 18 and 19.
14	N/A*	Is there a minimum of <b>40 inches</b> between electric neutral and proposed attachment on each pole?  NESC Table 235-5 1a
15	Unk	Is there a minimum 75% of distance required at supports at every point in the span ( <b>30 inches</b> between electric neutral and proposed attachment) under all conditions?  NESC 235C2b
16	2.19'	What is maximum sag of proposed attachment under Heavy Load Conditions?  NESC Table 250-1
17	OK 2.198'	Run tension numbers to verify maximum sag calculation.

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18	N*	Is there a minimum <b>12 inch</b> clearance between proposed attachment and adjacent communications attachments at each pole?  NESC 235H1
19	Unk	Is there a minimum <b>4 inch</b> clearance between proposed attachment and any conductor, cable or equipment of adjacent communications attachments at every point in the span under Heavy Load conditions?  NESC 235H2

**NOTES:**

*9. Bridge deck 16' over water at 10 year flood; not suitable for sailing; at sag point, after sag, new cable is 21.8' above deck, 37.8' above water*

*12. New cable is 37.8' above water with three cables below it.*

*14. New cable is not adjacent to electrical cable.*

*18. New attachment is 6 inches below municipal fire cable. Petitioner has submitted approval of City of Lebanon for the attachment to have this clearance. (Adjacency as close as 4 inches is allowed in the NESC when attachers agree.)*