STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: October 9, 2012

AT (OFFICE): NHPUC

FROM: Michael Ladam, Assistant Director, Telecommunications

SUBJECT: DT 12-261 Granite State Telephone, Inc..

Petition for Authority to Construct and Maintain Telecommunications Lines Over Portions of Highland Lake in Town of Washington

TO: Commissioners
Debra Howland, Executive Director

On August 23, 2012, Granite State Telephone, Inc. (GST) filed a petition pursuant to RSA 371:17 seeking approval for a license to construct and maintain fiber optic communications cables over and across portions of Highland Lake in the town of Washington. The application is for a single aerial water crossing located at:

- Highland Lake in Washington, between pole PSNH 158/1Y; GST 111A/2 near Beech Way and Birch Point Way on the mainland; and pole PSNH 158/1; GST 111A/3 on Point Island.

Highland Lake 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. GST states in its petition that no New Hampshire Department of Environmental Services or New Hampshire Department of Transportation permits are needed for this construction.

Review of public need and public impact.

In its petition GST states that the new line "will promote the public good as it is an extension of our existing network." GST reports that the project is being proposed in response to a request for telecommunications service from a resident of Point Island. GST further states its conclusion that the "use and enjoyment of the public of the waterway will not be diminished in any material respect as a result of the proposed overhead line-crossing."

Review of NESC code requirements.

Staff reviewed the project documents attached to the petition and found them to be generally in compliance with Commission requirements. The attached worksheet summarizes the results of Staff's review.

GST reports that neither the Flood Plain Administrator for the town of Washington nor the Federal Emergency Management Agency maintain ten year flood plain data for Highland Lake. However, GST reports that the level of the lake is limited by a dam located in the neighboring town of Stoddard. GST also reports that this portion of Highland Lake is not suitable for sailing. Calculations based on ten year flood plain data are helpful but not required where sailing is not a factor.

The worksheet highlights two matters requiring attention by GST:

a) The information provided by GST does not verify a minimum clearance of 75 percent of the distance required at the supports at every point in the span (30 inches between electric neutral and the proposed attachment) required by the National Electrical Safety Code (NESC) 235C2b. As this particular requirement of the NESC is not likely to affect the public rights in the waterway, rather than deny the license Staff recommends this requirements be made a condition of the license to ensure there will be no adverse impact on adjacent utility facilities.

b) Although the petition and attachments appear to use NESC standards for the project design, and cite the NESC in describing the project, they do not include an attestation that project construction and maintenance will comply with all NESC requirements.

Recommendations and Conclusions

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

1. GST maintain proper clearances between its cables and those adjacent to it at all times across the entire span pursuant to NESC 235C2b.
2. GST 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[1] Water Crossing Checklist

Docket #: DT 12-261

Applicant: Granite State Communications

Date: Oct 2, 2012

Analyst: ML Ladam

Location: Highland Lake in Washington, NH, at Birch Point Way and Point Island

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1	Y	Is water body on DES list: http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf
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	N	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	N/A	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	N	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.

[1]As defined by NESC 230 F 1e and NESC 230 F 2

9	**OK**	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 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	**Y**	If not suitable for sailing is there **14 feet** 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) a. Less than 20 acres: **17.5 feet** b. Over 20 to 200 acres: **25.5 feet** c. Over 200 to 2000 acres: **31.5 feet** d. Over 2000 acres: **37.5 feet** NESC Table 232-1, 7 and notes 18 and 19.
14	**Y**	Is there a minimum of **40 inches** 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 (**30 inches** between electric neutral and proposed attachment) under all conditions? NESC 235C2b
16	**3.08**	What is maximum sag of proposed attachment under Heavy Load Conditions? NESC Table 250-1
17	**3.09 (OK)**	Run tension numbers to verify maximum sag calculation.

18	**N/A**	Is there a minimum **12 inch** clearance between proposed attachment and adjacent communications attachments at each pole? NESC 235H1
19	**N/A**	Is there a minimum **4 inch** 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

NOTE: If the crossing is within 10 feet horizontally of an existing bridge structure that may already limit use of the waterway, a simplified drawing may be submitted with vertical distances measured to the bridge deck. If bridge deck is 15 feet above water surface, water is not suitable for sailing, and height of lowest crossing is above the bridge deck, clearance to water does not need to be measured. In this instance, flood elevation information is not required.

NOTES:

15. Information not provided.