

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: September 10, 2012

AT (OFFICE): NHPUC

FROM: Randy Knepper, Director, Safety & Security



SUBJECT: Docket No. DT 12-007 New Hampshire Optical Systems, Inc. Petition for a License to Construct and Maintain Fiber Optic Cables Over and Across Sugar River in Newport and Sugar River – South Branch in Goshen, New Hampshire

TO: Debra Howland, Executive Director
Kate Bailey, Director, Telecom Division
Lynn Fabrizio, Staff Attorney

This is memorandum 2 of 2 regarding DT 12-007. The Safety Division's review of the above petition consisted of the following elements:

- Petition contents and history
- Review of land ownership of existing pole structures.
- Review of public need and public impact, including applicability of State regulations
- Conclusions and Recommendations

1. Petition contents and history

- On January 11, 2012, New Hampshire Optical Systems, Inc. (NHOS) filed a petition to construct and maintain fiber optic cables over and across six bodies of water. Two of the proposed crossings will be constructed using a 144 single mode fiber cable (fiber) bundled with a 0.25 inch diameter extra high strength support cable. The bundle fiber will have a combined weight of 0.27 pound per foot and nominal diameter of 1 inch.
- The water crossings are located over:
 1. the Sugar River – South Branch in Goshen between Pole 27/177 and Pole 27/176.5 along a path that parallels the easterly side of Mill Village Rd (Route 10) in the vicinity of Mummery Rd East.
 2. the Sugar River in Newport between Pole 216A/4A and Pole 34/1 along a path that parallels the easterly side of Main St (Route 10 and 103) in the vicinity of a former functioning dam and spillway that is north of the intersection of Laurel St and River St.

- On February 27 2012, New Hampshire Optical Systems, Inc. (NHOS) filed revised petition on planned construction following discussion with Staff affecting crossing 2 above.
- NHOS' construction is a portion of the Network New Hampshire Now Middle Mile Fiber network; a project that will extend broadband capability in areas of New Hampshire that have limited or no broadband services. This project is being funded by a grant from the Federal Broadband Technology Opportunities Program. These crossing are cross referenced to those in Segment 1 of the Middle Mile Fiber network that connects from Keene to Enfield. An annotated map of this portion is labeled as Attachment 1.
- NHOS was certified to provide competitive local exchange services in New Hampshire on August 13, 2010 by the PUC (*see DT 10-215 authorization CL-08-002-10*).
- This construction does not require New Hampshire Department of Environmental Services or New Hampshire Department of Transportation permits.
- Vertical clearances over the water crossings have been calculated using the FEMA 10 year flood profile. Where the water crossing is within 10 feet horizontally of an existing bridge, the vertical clearances over the water crossings have been calculated from the bridge structure. Vertical distances on the submitted petition indicate final attachment heights and clearances, once all utilities have completed the make-ready work necessary to provide space for the NHOS fiber.
- The maximum sags of the fiber and minimum clearances for the proposed crossings were determined and designed using the above design criteria.
- The existing crossings over these bodies of waters have not been researched for existing licenses from the New Hampshire Public Utilities Commission.
- NESC heavy load conditions (0 degree F, 4.0 pound per sq ft wind loading and 0.5 inch radial ice loading) were the prevailing loading condition when verifying the sag conditions with required clearances.
- NHOS states that based on its research and field inspection these water crossings are not suitable for sail boating. This consideration has been taken into account in the engineering and design.

- The water crossing locations listed in the petition are listed as Public Rivers and Streams on the DES official list of public waters in which RSA 371:17 is applicable *see* <http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf>

1. A. Details of Each Crossing

(for purposes of this memo pole attachees are considered any utility or municipal cabling that are attached to the pole other than the electric company).

1) NHOS will install fiber optic over the Sugar River – South Branch in Goshen between Pole 27/177 and Pole 27/176.5 along a path that parallels the easterly side of Mill Village Rd (Route 10) in the vicinity of Mummery Rd East. The pole to pole span is 137 feet while the river span is 29 feet. The poles are jointly owned by Public Service of New Hampshire and Fairpoint Communications and are approximately 35 feet in height. NHOS will be the first attachee from the electric space and will be placed directly above Fairpoint telecommunication cable at a distance of 12 inches at both poles. There are no other attachees.

2) NHOS will install fiber optic over the Sugar River in Newport between Pole 216A/4A and Pole 34/1 along a path that parallels the easterly side of Main St (Route 10 and 103) in the vicinity of a former functioning dam and spillway that is north of the intersection of Laurel St and River St. The pole to pole span is 190 feet while the river span is 33 feet. The poles are jointly owned by Public Service of New Hampshire and Fairpoint Communications and are approximately 30 feet in height. NHOS will be the second attachee from the electric space and will be placed directly below fire alarm cable at a distance of 12 inches at both poles. There are no other attachees

2. Review of land ownership of existing pole structures.

NHOS states that each of the proposed water crossings will be placed on existing utility poles within the existing public-right-of way.

3. Review of public need and public impact.

The Safety Division's review of the petition finds the petition to be in conformance with the applicable sections of the NESC C2-2002.

Staff has determined, after reviewing the petition and existing field conditions, that the water crossings require a license under RSA 371:17. Staff concurs with the methodology utilized by NHOS in determining vertical clearances from existing bridge structures, where the crossing is 10 feet within an existing bridge, as the clearance will be greater than utilizing the FEMA 10 year flood profile. Staff notes that existing water crossing licenses, for the other utilities located on the poles utilized by NHOS, have not been researched in the interest of expediting this petition. This is based on NHOS' timeline dictated by Federal funding. Finally, NHOS states it will build an open access, non-discriminatory network offering broadband providers the ability to expand their service areas, allow companies the opportunity to build private networks they own and control, and give end users more choice and affordability in Internet access and communication products. Staff concludes that NHOS has demonstrated a public need for the proposed crossings and that approval of the petition for a license of the proposed crossings is consistent with the public interest.

4. Recommendations and Conclusions.

The Safety Division recommends approval of New Hampshire Optical Systems, Inc.'s petition for a license to construct and maintain fiber optic cables over and across Sugar River in Newport and Sugar River – South Branch in Goshen, New Hampshire with the following conditions:

- a) The Commission should require that all future alterations to the crossings that may affect the public conform to the requirements of both the 2002 and 2007 editions of the NESC and be resubmitted to the Commission 60 days prior to the alteration.
- b) New Hampshire Optical Systems, Inc. should be required to maintain and operate the crossings in conformance with the NESC or risk future revocation of the license.