

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: September 7, 2012

AT (OFFICE): NHPUC

FROM: Randy Knepper, Director, Safety & Security



SUBJECT: Docket No. DT 11-280 New Hampshire Optical Systems, Inc.
Petition for a License to Construct and Maintain Fiber Optic Cables Over
and Across Railroads in Northfield, Laconia, New Hampton, Bridgewater,
and Tilton, New Hampshire

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

This is memorandum 3 of 3 regarding DT 11-280. 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 December 20, 2011, New Hampshire Optical Systems, Inc. (NHOS) filed a petition to construct and maintain fiber optic cables over and across five railroads. The proposed crossings will be constructed using a 288 single mode fiber cable (fiber) bundled with a .25 inch diameter extra high strength steel support cable. The bundle fiber will have a weight of 0.31 pounds per foot and nominal diameter of 1.1 inches.
- The railroad crossings are located near:
 1. Main Street in Northfield between Pole 63/10 and Pole 63/8 in the vicinity of the intersections Prospect St and Park St
 2. New Salem Street in Laconia between Pole 180/14 and Pole 180/15 in the vicinity of the intersections of Winnisquam Avenue and Fair St.
 3. Winona Road in New Hampton between Pole 380/331 and Pole 380/300.
 4. John Jeness Road in Bridgewater between Pole 380/458 and Pole 380/457.

5. Main Street in Tilton between Pole 64/8 and Pole 64/7 east of Mechanic St.

- On February 13, 2012, New Hampshire Optical Systems, Inc. (NHOS) filed revised petitions on planned construction following discussion with Staff affecting crossing 1, 2 and 5 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 crossings are cross referenced to those in Segment 15 of the Middle Mile Fiber network that connects from Concord to Lebanon. An annotated map of this portion is labeled as Attachment 1.
- NHOS was certified and authorized 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*).
- NHOS has applied to the New Hampshire Department of Transportation (NHDOT) for a permit to cross Winona Road in New Hampton. The other petitioned railroad crossings do not require permits from NHDOT.
- The maximum sags of the fiber and minimum clearances for the proposed crossings were determined and designed in accordance with the National Electrical Safety Code. 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. In all cases a 12 inch separation from other utilities is depicted and a minimum 22 foot clearance from the rails is shown.
- The existing utility crossings over these railroads have not been researched for existing licenses from the New Hampshire Public Utilities Commission.

1.A Detailed descriptions of the crossings are:

1) NHOS will install fiber optic over the New Hampshire owned railroad adjacent to Main Street in Northfield between Pole 63/10 and Pole 63/8 in the vicinity of the intersections of Prospect St and Park St. The pole to pole span is 199 feet while the rail span is 9 feet. The poles are jointly owned by Public Service of New Hampshire and Fairpoint Communications and are approximately 38 feet in height on the easterly

side and 43 feet in height on the westerly side. NHOS will be placed directly under secondary electric cable by 5.5 feet.

2) NHOS will install fiber optic over the New Hampshire owned railroad adjacent to New Salem Street in Laconia between Pole 180/14 and Pole 180/15 in the vicinity of the intersections of Winnisquam Avenue and Fair St. The pole to pole span is 90 feet while the rail span is 5 feet. The poles are jointly owned by Public Service of New Hampshire and Fairpoint Communications and are approximately 38 feet in height. NHOS will be placed directly under fire alarm with a clearance at the poles of 12 inches.

3) NHOS will install fiber optic over the New Hampshire owned railroad adjacent to Winona Road in New Hampton between Pole 380/331 and Pole 380/300. Two new poles will be erected by NHOS that are 45 feet in height. The pole to pole span is 48 feet while the rail span is elevated by 13 feet.

4) NHOS will install fiber optic over the New Hampshire owned railroad adjacent to John Jeness Road in Bridgewater between Pole 380/458 and Pole 380/457. The pole to pole span is 213 feet while the rail span is 9 feet. The poles are jointly owned by Public Service of New Hampshire and Fairpoint Communications and are approximately 29 feet in height on the westerly side and 39 feet in height on the easterly side. NHOS will be placed directly under the electric space with a clearance at the poles of greater than 12 inches to the CATV and in midspan by 4 feet.

5) NHOS will install fiber optic over the New Hampshire owned railroad adjacent to Main Street in Tilton between Pole 64/8 and Pole 64/7 east of Mechanic St. The pole to pole span is 168 feet while the rail span is 6 feet. The poles are jointly owned by Public Service of New Hampshire and Fairpoint Communications and are approximately 39 feet in height on the northern side and 33 feet in height on the southern side. NHOS will be placed directly under the fire alarm with a clearance at the poles of 12 inches. 12 inch clearance will also be maintained from CATV.

2. Review of land ownership of existing pole structures.

NHOS states that each of the proposed railroad 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 railroad crossings require a license under RSA 371:17. Staff notes that

existing railroad 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. 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. Finally, 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 Railroads in Northfield, Laconia, New Hampton, Bridgewater, and Tilton, 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.