

**The State of New Hampshire  
Before the  
Public Utilities Commission  
Docket No.**

**PETITION OF THE NEW HAMPSHIRE OPTICAL SYSTEMS INC. FOR LICENSE TO CONSTRUCT AND MAINTIAN FIBER OPTIC CABLES OVER AND ACROSS THE FOLLOWING NEW HAMPSHIRE RAILROADS:**

- **MIDDLE STREET LANCASTER NH BETWEEN UTILITY POLE 24/11 AND POLE 24/12 (Ref. TID 136)**
- **MECHANIC STREET LANCASTER NH BETWEEN UTILITY POLE 232/1 AND POLE 23/16 (Ref. TID 137)**
- **PRESIDENTIAL HIGHWAY JEFFERSON NH BETWEEN UTILITY POLE 144/74 AND POLE 144/73 (Ref. TID 139)**
- **LANCASTER ROAD GORHAM NH BETWEEN UTILITY POLE 652/5 AND POLE 652/2 (Ref. TID 142)**
- **MAIN STREET GORHAM NH BETWEEN UTILITY POLE 164A/124 AND POLE 164A/123 (Ref. TID 146)**
- **EXCHANGE STREET BERLIN NH BETWEEN UTILITY POLE 109/1 AND POLE 107/5 (Ref. TID 147)**
- **SECOND AVENUE BERLIN NH BETWEEN UTILITY POLE 120/1 AND POLE 280/1 (Ref. TID 148)**

TO THE PUBLIC UTILITIES COMMISSION:

New Hampshire Optical Systems Inc., a Competitive Local Exchange Carrier (“CLEC”) in the State of New Hampshire, hereby petitions the Public Utilities Commission (“Commission”), pursuant to the RSA 371:17, for a license to construct and maintain fiber optic cables over and across the aforementioned railroads at seven locations in the towns or cities of Lancaster, Jefferson, Gorham, and Berlin.

New Hampshire Optical Systems, Inc. submits this petition in the interest of the public good as the fiber being placed over the railroad crossings is part of the Network New Hampshire Now (NNHN) Middle Mile Fiber network. The project will extend the availability of Internet access and broadband communications to areas of New Hampshire that heretofore had limited or no service. In adherence with the Federal Broadband Technology Opportunities Program (BTOP) grant, NHOS will build and maintain an open access, non-discriminatory network offering broadband providers the ability to economically expand their services areas, companies the opportunity to build private networks they own and control, and users more choice and affordability in their Internet access and communications products.

In support of its petition New Hampshire Optical Systems Inc. states as follows:

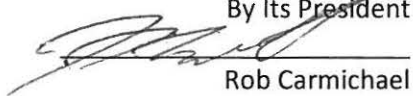
1. In order to meet reasonable requirements of service to the public, New Hampshire Optical Systems Inc. is proposing to construct a new fiber optic cable, to expand its fiber network, which is used for the purpose of providing telecommunications services to customer in New Hampshire.

2. A separate engineering package is provided for each of the seven crossings, which includes the design and proposed construction, with location maps detailing where and how the new line will cross each railroad.
3. Each proposed crossing will be placed between two existing utility poles in the existing public right-of-way. The attached diagrams provide exact distances between poles and the height of each pole. Vertical distances are representative of attachment heights after the completion of all moves deemed necessary by the pole owner's during their make-ready assessments.
4. The New Hampshire Optical Systems Inc. attachment on each of the seven crossings will be made up of two materials; strand (nominal diameter ¼ in. 7-strand steel EHS) and one 288 count non-selfsupporting Pureband (ZWP) single-mode fiber optic cable. Sag and tension calculations were done per NESC articles 232.A1 and 251 and the results are included in the attachments. In all cases the calculations for Article 251 using the heavy load conditions (0° F, pounds 4.0 psf wind loading and ½" radial ice) were found to be the governing condition for both sag and tension. The maximum tension under heavy load conditions was shown not to exceed the 60% usable strand load of 3990 lbs.
5. There are no NHDES or NHDOT permits necessary for the construction of each crossing.
6. The proposed crossings have been designed and will be constructed, maintained and operated by New Hampshire Optical Systems, its affiliates and contractors, in accordance with the NESC.
7. New Hampshire Optical Systems submits that the license petition for herein may be exercised without affecting the rights of the public in the public right of way. Minimum safe line clearances will be maintained at all times as required by the National Electrical Safety Code (NESC) and the New Hampshire Division of Transportation (NHDOT).

WHEREFORE, NEW HAMPSHIRE OPTICAL SYSTEMS respectfully requests that the Commission:

- A. Find that the license petitioned for herein may be exercised without affecting the public rights in the public waters which are the subject of this petition.
- B. Grant New Hampshire Optical Systems, Inc. a license to construct and maintain fiber optic cables over and across the public waters of each river as specified in this petition; and
- C. Issue an Order Nisi and orders for its publication.

Dated at Nashua the 13<sup>th</sup> day of April, 2012.

Respectfully submitted  
New Hampshire Optical Systems Inc.  
By Its President  
  
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