

# STATE OF NEW HAMPSHIRE

## Inter-Department Communication

**DATE:** October 4, 2012

**AT (OFFICE):** NHPUC

*David*  
**FROM:** David Goyette, Utility Analyst III - Telecommunications

**SUBJECT:** DT 12-024 New Hampshire Optical Systems, Inc.  
Petition to Cross Public Waterways and Railroads for Segment 8

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

On January 23, 2012, New Hampshire Optical Systems, Inc. (NHOS) filed a petition, pursuant to RSA 371:17, seeking approval for licenses to construct and maintain fiber optic cables over 3 public waterways and 2 railroads in a section of its cable line that begins in Meredith and ends in Conway. According to NHOS, the project, referred to as the Network New Hampshire Now (NNH Now) Middle Mile Network, is broken up into 17 segments across the state. The petition seeks approval for crossings in Segment 8 of its project.

The locations of the crossings in this petition are as follows:

- Pequawket River in Albany, near the junction of Madison Road and Route 16, between utility pole E-333/323 – T-150/1263 and utility pole E-333/324 – T-150/1263.5 (Ref. TID 172)
- Bearcamp River in Ossipee, adjacent to NH Route 25 near the junction of Route 25 and Route 16, between utility pole E-3116C/6 and utility pole E-3116C/5 (poles are not tagged for telephone) (Ref. TID 176)
- Red Hill River in Moultonborough, perpendicular to Whittier Highway in the vicinity of Sheridan Road, between utility pole E-144/115 – T-150/759 and utility pole E-144/114 – T-150/758 (Ref. TID 177)
- Railway crossing at West Main Street, Conway near the junction of West Main Street and Route 16, between utility pole E-333/344 – T-150/1280 and utility pole E-333/343 – T-150/1279 (Ref. TID 170)

- Railway crossing at South Main Street, Meredith in the vicinity of Lower Terrace Avenue, between utility pole E-121/1 – T-372/395 and utility pole E-120/78 – T-1/17 (Ref. TID 178)

Each river crossed by the cables in this petition is listed as a public water in the Department of Environmental Services' official list of public waters and each railroad crosses state land and therefore require license pursuant to RSA 371:17.

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

In its cover letter NHOS states that it has been contracted to construct and manage the NNH Now middle mile fiber network, which will expand the availability of broadband to areas of NH with limited or no internet service. According to NHOS, construction of the fiber is necessary to meet reasonable requirements of service to the public. NHOS states in its petition that no environmental permits are required for the crossings. Regarding the waterway crossings, NHOS submits that the licenses petitioned for "may be exercised without affecting the rights of the public in the public waters of each river. Minimum safe line clearances above the water surface and affected shorelines will be maintained at all times. The use and enjoyment by the public of each waterway will not be diminished in any material respect as a result of the overhead line crossing." Regarding the railroad crossings, NHOS states that the license petitioned for may be exercised without affecting the rights of the public in the public right of way and that minimum safe line clearances will be maintained at all times.

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

According to the petition, the crossings will be designed, constructed, maintained and operated according to the National Electrical Safety Code (NESC). Staff reviewed documents and data provided by NHOS, including detailed diagrams, descriptions, and maps of the crossings. Staff confirmed the information provided in the filing regarding the NHOS attachments complies with the requirements of the NESC. The attached worksheets summarize Staff's review.

As noted on the worksheets, however, the information provided by NHOS did 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 NESC 235C2b, or a minimum 4 inch clearance between the proposed attachment and any conductor, cable or equipment of adjacent communications attachments at every point in the span required by NESC 235H. As these particular requirements of the NESC are not likely to affect the public rights in the waterway, rather than deny the license Staff recommends these requirements be made conditions of the license to ensure there will be no adverse impact on adjacent utility facilities.

Additionally, Staff was unable to confirm whether other utility crossings at these locations are licensed and also comply with the NESC. To the extent other utilities or pole owners with attachments beneath the NHOS attachments seek a license in the future

and it is discovered that those attachments do not meet NESC requirements, NHOS may be required to rearrange its attachments. In the event NHOS is required for any reason to relocate its attachment, it should be required to file the proposed alteration prior to making such alteration.

### **Other Issues**

Staff contacted FairPoint regarding 3 instances where, based on submitted diagrams, non-NHOS cables appear to be in violation of NESC. At the river crossing in Albany, there appear to be two sets of adjacent cables that do not meet the 12 inch minimum requirement. At the rail crossings in Conway and Meredith, it appears the bottom cable is too low and should be raised. Staff asked FairPoint to confirm the drawings are accurate and, if so, to correct the violations. FairPoint responded. In regards to the 2 sets of adjacent cables at the river crossing in Albany FairPoint stated it owns both cables in the first set and one of the two cables in the second, and said that it would work with MetroCast, the owner of the other cable, to either reach an agreement or arrange to have the other line moved. According to NESC 235H1 spacing between adjacent communications facilities can be less than 12 inches by agreement between the parties involved. Regarding the Conway and Meredith rail crossings, FairPoint confirmed that the bottom cable, which it owns at each location, is too low and that it had issued work orders to have those cables raised. FairPoint's email response to Staff regarding these issues is attached.

Staff recommends granting NHOS license despite the 3 non-NHOS cable violations. Based on its response, FairPoint is making arrangements to correct the non-NHOS cable violations identified by Staff. In the case of the river crossing in Albany, where FairPoint owns both the cables, no correction is necessary and FairPoint has represented it will work with MetroCast to address the other spacing issue. In the case of the railroad crossings, FairPoint is in the process of correcting the existing violations and will notify NHOS when the work is complete. In summary, the issues are being addressed. Based on this, Staff believes that a license for Segment 8 should be granted, conditional upon NHOS attaching at these locations after the identified violations are corrected and filing revised diagrams showing the new cable locations after the work by FairPoint and MetroCast is completed.

### **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 NHOS has demonstrated a public need for the proposed crossings. Accordingly, Staff recommends that the Commission grant the licenses for the NHOS Segment 8 crossings in this petition, with the following conditions:

1. NHOS will file proposed alterations to this crossing prior to making any such alteration.
2. NHOS 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. NHOS 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.
4. NHOS attach its fiber after the existing NESC violations have been corrected and file revised diagrams for 1) the crossing at Pequawket River in Albany, TID 172, 2) the railway crossing at West Main Street, Conway, TID 170, and 3) the railway crossing at South Main Street, Meredith, TID 178, depicting the new location of the NHOS cable upon the completion of work by FairPoint and MetroCast.

## Bailey, Kate

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**From:** Taylor, Ryan <Ryan.Taylor@fairpoint.com>  
**Sent:** Thursday, September 20, 2012 9:21 AM  
**To:** Bailey, Kate  
**Subject:** RE: DT 12-024 Crossings

Morning Kate,

Regarding the first item you identified in your e-mail (water crossing in Albany), we dispatched an engineer to survey the attachments, and he validated that the two telephone attachments are in fact FairPoint's. Regarding the upper FairPoint attachment and CATV's attachment, our engineer verified that the spacing is less than 12" – so, we have contacted CATV (Metrocast) and are discussing plans to either come to agreement to leave spacing as is, or have Metrocast raise to achieve the 12" clearance. In the event that Metrocast raises, NHOS would not need a revised Form 3, because it is attaching at 12" above CATV.

Regarding the third and fourth items, respectively in Conway and Meredith, each involving railroad crossings, we also dispatched an engineer to survey these locations, and he validated that the spans are low and need to be raised. As such, the Engineering team has issued work orders for our Construction team to dispatch and remedy the clearances (this work will most likely involve coordination with the railroad to resolve and may involve a new pole set in the Conway instance). I will notify you when complete.

Regards, Ryan.

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**From:** Bailey, Kate [<mailto:Kate.Bailey@puc.nh.gov>]  
**Sent:** Monday, September 10, 2012 3:24 PM  
**To:** Taylor, Ryan; [desbiam@psnh.com](mailto:desbiam@psnh.com)  
**Cc:** Amy Kraus; Goyette, David  
**Subject:** DT 12-024 Crossings

NHOS filed for license to cross state land over water and railroads in DT 12-024. As part of the filing, NHOS provided diagrams of what the attachments will be after they make their attachment. Staff compared the drawings to the Form-3s submitted by NHOS which identify PSNH and FairPoint as pole owners. The diagrams depict existing clearance violations. You can view the diagrams in docketbook. The diagrams are each labeled in the bottom right had corner with a TID number I will use for reference.

On the water crossing in Albany, NH, in TID 172, the spacing between telephone attachments on pole E333/324 T-150/1263.5 is drawn as 8 inches. The NESC allows this if there is agreement between attaching entities (probably both FairPoint) and 4 inch clearance is maintained at all points on the span at all times. Can you confirm these are both FairPoint attachments? If so, I don't have an issue with these. On the same pole however, the spacing between the upper telephone attachment and the CATV attachment on this pole is drawn to be 10 inches. The NESC requires 12 inches unless there is agreement between both parties. If this is a FairPoint attachment, is there agreement or should CATV move up 2 inches on this pole? If so, how do we make this happen? It appears there is enough room on the pole to move CATV up 2 inches and attach NHOS 12 inches above CATV.

The next two apparent NESC violations appear on the railroad crossing diagrams in DT 12-024. In the Conway RR crossing diagram, TID 170, the lowest attachment is depicted at 22.1 feet from the rail with normal sag. The NESC requires 23.5 inches clearance to the rail at all times (which would mean maximum sag under Heavy load). It looks to me like there is an existing code violation which needs to be corrected and there seems to be plenty of room on the pole to correct it and allow the NHOS attachment.

In the Meredith RR crossing diagram, TID 178, the lowest attachment is depicted with 23.4 feet clearance to the rail. Once again, this does not meet the NESC requirement of 23.5 feet at all times (especially under heavy load).

I am writing to PSNH and FairPoint as pole owners and asking that you confirm the drawings are accurate and if so, for a plan to correct the violations, and new Form 3s to have NHOS attach at a height that will bring the poles into compliance with the NESC. I am happy to have a conference call to discuss if that would be helpful.

Thank you for your assistance.

Kate Bailey

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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 #: DT 12-024

Applicant: NHOS

Date: September 12, 2012

Analyst: David

Location: Pequawket Brook, Albany (TID 172)  
E 333/323 T150/1263 to E333/324 T150/1263.5

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1	Yes	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	NA	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	NA	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	yes	Compare facts stated in petition to "as built" drawings. Are facts consistent? Check things like pole numbers, span length, location, water body.
6	No issues	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	Yes	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.

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

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9	Yes	If lowest attachment is not known to be 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).
10	Unk	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 at 0 deg F, 0.5 inch ice, 4 psf wind, meet code?)
11	No	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? (preferably measured from water surface at 10 year flood elevation, but not required) NESC Table 232-1, 6
13	NA	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	Yes	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, see note	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) when proposed attachment is at 30 deg F, no ice and neutral or electric conductor is under Heavy Load conditions?  NESC 235 C 2b
16	3.34 ft	What is maximum sag of proposed attachment under Heavy Load Conditions?  NESC Table 250-1
17	Yes	Run tension numbers to verify maximum sag calculation.



*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.*

18	Yes, but see note	Is there a minimum <b>12 inch</b> clearance between proposed attachment and adjacent communications attachments at each pole?  NESC Table 235-6 2a
19	Unk, see note	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 235 H

**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. Not provided.

18. Based on diagram, Staff noted that there is 10 inches of spacing between phone and CATV on pole E333/324. Staff is addressing the apparent NESC violation with the pole owners, which may lead to revised attachment location.

19. Not provided.

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

Docket #: DT 12-024

Applicant: NHOS

Date: 10/4/2012

Analyst: David

Location: Bearcamp River, Ossipee Mountain Hwy, Ossipee (TID 176)  
E 3116C/6 E 3116C/5

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1	Yes	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	NA	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	NA	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	Minor issue found	Compare facts stated in petition to "as built" drawings. Are facts consistent? Check things like pole numbers, span length, location, water body.
6	No issues	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	Yes	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.

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

*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.*

9	Yes	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).
10	Unk	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	No	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	Yes	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, see note	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) when proposed attachment is at 30 deg F, no ice and neutral or electric conductor is under Heavy Load conditions?  NESC 235 C 2b
16	7.32 ft	What is maximum sag of proposed attachment under Heavy Load Conditions?  NESC Table 250-1
17	Yes	Run tension numbers to verify maximum sag calculation.

*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.*

18	Yes	Is there a minimum <b>12 inch</b> clearance between proposed attachment and adjacent communications attachments at each pole?  NESC Table 235-6 2a
19	Unk, see note	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 235 H

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:

5. Diagram shows poles are jointly owned, which is inconsistent with make-ready which shows poles are owned by the electric company.

15. Not provided.

19. Not provided.

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

Docket #: DT 12-024

Applicant: NHOS

Date: 9/12/2012

Analyst: David

Location: Whittier Highway, Moultonborough (TID 177)  
E 144/115 T-150/759 E 144/114 T-150/758

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1	Yes	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	NA	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	NA	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	Minor	Compare facts stated in petition to "as built" drawings. Are facts consistent? Check things like pole numbers, span length, location, water body.
6	No issues found	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	Yes	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.

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

*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.*

9	Yes	If lowest attachment is not known to be 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).
10	Unk	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 at 0 deg F, 0.5 inch ice, 4 psf wind, meet code?)
11	No	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? (Preferably measured from water surface at 10 year flood elevation but not required).  NESC Table 232-1, 6
13	NA	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	Yes	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) when proposed attachment is at 30 deg F, no ice and neutral or electric conductor is under Heavy Load conditions?  NESC 235 C 2b
16	2.67 ft	What is maximum sag of proposed attachment under Heavy Load Conditions?  NESC Table 250-1
17	Yes	Run tension numbers to verify maximum sag calculation.
18	Yes	Is there a minimum <b>12 inch</b> clearance between proposed attachment and adjacent communications attachments at each pole?

*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.*

		NESC Table 235-6 2a
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 235 H

**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:**

5. NHOS drawing shows pole E-144/114 with NHOS below secondary electric, However, NHOS is labeled with 30.0' height and secondary electric is labeled with 24.8'.
15. Not provided.
19. Not provided.

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> Railroad Crossing on State Land Checklist

Docket #: 12-024

Applicant: NHOS

Date: 9/12/2012

Analyst: David

Location: West Main St, Conway (TID 170)  
E333/344 – T-150/1280 E-333/343 – T-150/1279

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1	Yes	Is Railroad on state land?
2	Yes, DOT	Does petition indicate DOT or DES approvals needed?
3	Yes	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?
4	No issues found	Compare facts stated in petition to "as built" drawings. Are facts consistent? Check things like pole numbers, span length, location, railroad.
5	No issues found	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.
6	Yes	Does petition attest the proposed crossing is designed and will be built and maintained in accordance with the NESC?
7	Unk	Are existing attachments licensed? If not, notify existing attachers in writing and request license application.
8	No, see note.	Is lowest attachment 23.5 feet above rail track under Heavy Load conditions? NESC Table 232-1

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



*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.*

9	Yes	Is there a minimum of <b>40 inches</b> between electric neutral and proposed attachment on each pole?  NESC Table 235-5 1a
10	Yes	Is there a minimum <b>12 inch</b> clearance between proposed attachment and adjacent communications attachments at each pole?  NESC 235H1
11	3.08 ft	What is maximum sag of proposed attachment under Heavy Load conditions?  NESC Table 250-1
12	Done	Run tension numbers to verify maximum sag calculation.
13	No, see note	If data not available on lowest attachment, is proposed attachment, under Heavy Load conditions, at least 23.5 feet plus 1 foot per attachment below proposed attachment? (e.g if two existing attachments are below proposed attachment, is clearance under Heavy Load of proposed attachment at least 25.5 ft?)
14	Unk, see note.	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
15	Unk, see note.	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:**

8. Based on NHOS diagram, Staff noted that lowest attachment, without sag, is 22.1' above rail track. Staff is addressing the apparent NESC violation with the pole owners, which may lead to revised attachment location.

13. Attaching as proposed may prevent apparent existing code violations from being corrected. Awaiting direction from pole owners.

14. Not provided.

15. Not provided.

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# Telecommunications Fiber Optic Cable<sup>1</sup> Railroad Crossing on State Land Checklist

Docket #: DT 12-024

Applicant: NHOS

Date: 10/4/2012

Analyst: David

Location: South Main St, Meredith (TID 178)  
E-121/1 – T-372/395 E-120/78 – T-1/17

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1	Yes	Is Railroad on state land?
2	Yes, DOT	Does petition indicate DOT or DES approvals needed?
3	Yes	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?
4	Note	Compare facts stated in petition to "as built" drawings. Are facts consistent? Check things like pole numbers, span length, location, railroad.
5	No issues found	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.
6	Yes	Does petition attest the proposed crossing is designed and will be built and maintained in accordance with the NESC?
7	Unk	Are existing attachments licensed? If not, notify existing attachers in writing and request license application.
8	No, see note.	Is lowest attachment 23.5 feet above rail track under Heavy Load conditions? NESC Table 232-1

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

*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.*

9	No, see note	Is there a minimum of <b>40 inches</b> between electric neutral and proposed attachment on each pole?  NESC Table 235-5 1a
10	Yes	Is there a minimum <b>12 inch</b> clearance between proposed attachment and adjacent communications attachments at each pole?  NESC 235H1
11	2.61 ft	What is maximum sag of proposed attachment under Heavy Load conditions?  NESC Table 250-1
12	Done	Run tension numbers to verify maximum sag calculation.
13	No, see note.	If data not available on lowest attachment, is proposed attachment, under Heavy Load conditions, at least 23.5 feet plus 1 foot per attachment below proposed attachment? (e.g if two existing attachments are below proposed attachment, is clearance under Heavy Load of proposed attachment at least 25.5 ft?)
14	Unk, see note.	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
15	Unk, see note.	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:**

4. Diagram does not identify South Main Street but does show Ladd Hill Road, which, according to the provided map, becomes Main Street.

8. Based on NHOS diagram, Staff noted that lowest attachment, without sag, is 23.4' above rail track. Staff is addressing the apparent NESC violation with the pole owners, which may lead to revised attachment location.

13. Attaching as proposed may prevent apparent existing code violations from being corrected. Awaiting directions from pole owners.

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14. Not provided.

15. Not provided.