KB

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: December 19, 2012
AT (OFFICE): NHPUC

David

FROM: David Goyette, Utility Analyst III - Telecommunications

SUBJECT: DT 12-020 New Hampshire Optical Systems, Inc.
Petition to Cross Public Waterways and Railroads for Segment 10

TO: Commissioners
Debra Howland, Executive Director

On January 17, 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 5 public waterways and 2 railroads in a section of its cable line that begins in Conway and ends in Bartlett. 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 10 of its project.

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

• Gorham: The Peabody River crossing parallels the westerly side of White Mountain Road (Route 16), between utility poles E30/48 – T17/48 and E30/47 – T17/47 (reference TID 157).

• Bartlett: The Ellis River crossing parallels the easterly side of White Mountain Highway (Route 16), between utility poles E8/466 – T3/41 and E8/465 – T3/42 (reference TID 162).

• Bartlett: The East Branch Saco River crossing parallels the easterly side of White Mountain Highway (Route 16), between utility poles E520/157 – T2/136 and E520/156 – T2/135 (reference TID 163).

• Conway: The Saco River crossing which runs between the dead end at the southeast-most section of Meeting House Hill Road and dead end at the northwest-most section Heath Road, between utility poles E333/486 – T not tagged and E333/485 – T not tagged (reference TID 166).

• Conway: The Saco River crossing parallels the northerly side of East Side Road, between utility poles E31/2 – T6/2 and E31/3 – T6/3 (reference TID 168).

• Conway: The railroad crossing parallels the easterly side of White Mountain Highway (Route 16) in the vicinity of Hurricane Mountain Road, between utility poles E14/253 – T2/75 and - E not tagged - T2/76 (reference TID 164).

• Conway: The railroad crossing parallels the easterly side of White Mountain Highway (Route 16) in the vicinity of Crawford Hollow Road and Pine Street, between utility poles E15/9 – T2/12 and E15/8 - T2/11 (reference TID 165).

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. Except for the crossing in TID 164, 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, 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.

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 -an attachment, it should be required to file the proposed alteration prior to making such alteration.

In regards to the railroad crossing in TID 164, Staff found that NHOS's proposed cable location does not appear to comply with NESC. Based on sag calculations provided by NHOS, under heavy load conditions it appears that clearance for NHOS's cable would be 24.8 feet above the railway. Because there are two cables below that of NHOS, the clearance from the rail should be a minimum of 25.5 feet above the railway.

Based on the diagram of the two poles at the TID 164 crossing, there does not appear to be any space available on the poles to move NHOS's cable to ensure it complies with the NESC. If indeed that is the case, the pole owners would likely have to replace the existing poles so that NHOS can attach. Staff issued a letter to the pole owners requesting they review the crossing, take remedial action if necessary, inform Staff when any needed work is completed, and notify NHOS when it can attach. If after such review NHOS is assigned a new attachment height, it should revise TID 164 and resubmit it.

Other Issues

In its filing, in the location field on page 1 of TID 165 for the Conway rail crossing along White Mountain Highway, NHOS incorrectly indicated that the nearest cross street is Hurricane Mtn. Rd. Page 2 of TID 165 correctly identifies the cross street as Crawford Hollow Rd. Because Hurricane Mtn. Rd is the cross street for the crossing depicted in TID 164, it appears the error may have been caused by not clearing out this field for the first diagram page in TID 165.

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, with the exception of the crossing in TID 164, Staff recommends that the Commission grant licenses for six of the crossings in NHOS Segment 10, 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 resubmit diagram sheets for the rail crossing in Conway, in TID 165, with the correct cross street, Crawford Hollow Rd, on the first sheet.

Staff does not recommend granting a license for the rail crossing near Hurricane Mountain Road, Conway (TID 164) until remedial work to correct apparent NESC violations has been completed and a new proposal for attaching NHOS's cable has been filed.

#1

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 12-020

Applicant: NHOS

Date: 12/18/2012

Analyst: David

Location: Peabody River, Gorham (TID 157)
E30/48 T17/48 – E30/47 T17/47

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1	Yes	Is water body on DES list: http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf
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	Not needed	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	Yes	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.

[1]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 from water surface). If water suitable for sailing, use 10 year flood elevation.
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 **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	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) 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	Yes	Is there a minimum of **40 inches** 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 (**30 inches** between electric neutral and proposed attachment) under all conditions? NESC 235C2b
16	7.84 ft	What is maximum sag of proposed attachment under Heavy Load Conditions? NESC Table 250-1
17	Done	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 **12 inch** clearance between proposed attachment and adjacent communications attachments at each pole? NESC 235H1
19	Unk, see note	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. Not provided.
19. Not provided.

#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.

Telecommunications Fiber Optic Cable[1] Water Crossing Checklist

Docket #: DT 12-020

Applicant: NHOS

Date: 12/13/2012

Analyst: David

Location: Ellis River, Bartlett (TID 162)
E8/466 T3/41 – E8/465 T3/42

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1	Yes	Is water body on DES list: http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf
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	Not needed	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	Yes	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.

[1]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 from water surface). If water suitable for sailing, use 10 year flood elevation.
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 **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	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) 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	Yes	Is there a minimum of **40 inches** 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 (**30 inches** between electric neutral and proposed attachment) under all conditions? NESC 235C2b
16	7.34	What is maximum sag of proposed attachment under Heavy Load Conditions? NESC Table 250-1
17	Done	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 **12 inch** clearance between proposed attachment and adjacent communications attachments at each pole? NESC 235H1
19	Unk, see note	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. 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.

#3

Telecommunications Fiber Optic Cable[1] Water Crossing Checklist

Docket #: DT 12-020

Applicant: NHOS

Date: 12/18/2012

Analyst: David

Location: East Branch Saco River, Bartlett (TID 163)
E520/157 T2/136 – E520/156 T2/135

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1	Yes	Is water body on DES list: http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf
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	Not needed	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 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.

[1]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 from water surface). If water suitable for sailing, use 10 year flood elevation.
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 **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	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) 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	Yes	Is there a minimum of **40 inches** 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 (**30 inches** between electric neutral and proposed attachment) under all conditions? NESC 235C2b
16	3.86	What is maximum sag of proposed attachment under Heavy Load Conditions? NESC Table 250-1

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.

17	Done	Run tension numbers to verify maximum sag calculation.
18	Yes	Is there a minimum **12 inch** clearance between proposed attachment and adjacent communications attachments at each pole? NESC 235H1
19	Unk, see note	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. Not provided.
19. Not provided.

#4

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 12-020

Applicant: NHOS

Date: 12/18/2012

Analyst: David

Location: Saco River, Conway (TID 166)
E333/486 – E333/485

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1	Yes	Is water body on DES list: http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf
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	Not needed	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 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.

[1]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 from water surface). If water suitable for sailing, use 10 year flood elevation.
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 **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	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) 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	Yes	Is there a minimum of **40 inches** 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 (**30 inches** between electric neutral and proposed attachment) under all conditions? NESC 235C2b
16	8.23	What is maximum sag of proposed attachment under Heavy Load Conditions? NESC Table 250-1

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.

17	Done	Run tension numbers to verify maximum sag calculation.
18	Yes	Is there a minimum **12 inch** clearance between proposed attachment and adjacent communications attachments at each pole? NESC 235H1
19	Unk, see note	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. Not provided.
19. Not provided.

#5

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 12-020

Applicant: NHOS

Date: 12/18/2012

Analyst: David

Location: Saco River, Conway (TID 168)
E31/2 T6/2 – E31/3 T6/3

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1	Yes	Is water body on DES list: http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf
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	Not needed	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.

[1]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 from water surface). If water suitable for sailing, use 10 year flood elevation.
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 **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	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) 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	Yes	Is there a minimum of **40 inches** 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 (**30 inches** between electric neutral and proposed attachment) under all conditions? NESC 235C2b
16	6.47	What is maximum sag of proposed attachment under Heavy Load Conditions? NESC Table 250-1

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.

17	Done	Run tension numbers to verify maximum sag calculation.
18	Yes	Is there a minimum **12 inch** clearance between proposed attachment and adjacent communications attachments at each pole? NESC 235H1
19	Unk, see note	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. Not provided.
19. Not provided.

#C

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] Railroad Crossing on State Land Checklist

Docket #: 12-020

Applicant: NHOS

Date: 12/18/2012

Analyst: David

Location: Hurricane Mountain Road, Conway (TID 164)
T2/76 – E14/253 T2/75

	√	
1	Yes	Is Railroad on state land?
2	Not needed	Does petition indicate DOT or DES approvals needed?
3	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?
4	Yes	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	Unk	Is lowest attachment 23.5 feet above rail track under Heavy Load conditions? NESC Table 232-1

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

#6

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 **40 inches** between electric neutral and proposed attachment on each pole? NESC Table 235-5 1a
10	Yes	Is there a minimum **12 inch** clearance between proposed attachment and adjacent communications attachments at each pole? NESC 235H1
11	3.40 feet	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 (**30 inches** between electric neutral and proposed attachment) under all conditions? NESC 235C2b
15	Unk, see note.	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

NOTES:

13. Proposed attachment under heavy load conditions is 24.8 feet above rail. With 2 attachments beneath it, proposed attachment under heavy load conditions should be 25.5 feet above rail.

14. Not provided.

15. Not provided.

#7

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] Railroad Crossing on State Land Checklist

Docket #: 12-020

Applicant: NHOS

Date: 12/18/2012

Analyst: David

Location: Crawford Hollow Road, Conway (TID 165)
E15/9 T2/12 – E15/8 T2/11

	√	
1	Yes	Is Railroad on state land?
2	Not needed	Does petition indicate DOT or DES approvals needed?
3	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?
4	See 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	Unk	Is lowest attachment 23.5 feet above rail track under Heavy Load conditions? NESC Table 232-1

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

#7

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 **40 inches** between electric neutral and proposed attachment on each pole? NESC Table 235-5 1a
10	Yes	Is there a minimum **12 inch** clearance between proposed attachment and adjacent communications attachments at each pole? NESC 235H1
11	1.19 feet	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	Yes	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 (**30 inches** between electric neutral and proposed attachment) under all conditions? NESC 235C2b
15	Unk, see note.	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

NOTES:

4. Sheet 1 of TID 165 incorrectly lists Hurricane Mtn. Rd. as nearest cross street. This is inconsistent with Sheet 2, which, based on longitude and latitude coordinates provided, correctly lists Crawford Hollow Rd as nearest cross street.

14. Not provided.

15. Not provided.