

NHPUC 13DEC13AM11:58

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: December 12, 2013**AT (OFFICE):** NHPUC

David
FROM: David Goyette, Utility Analyst III - Telecommunications

SUBJECT: DT 12-113 New Hampshire Optical Systems, Inc.
Petition to Cross Public Waterways and Railroads for Segment 7

TO: Commissioners
Debra Howland, Executive Director

On April 27, 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 7 railroads in a section of its cable line that begins in Lancaster and ends in Berlin. On July 11, 2013, December 9, 2013, and December 12, 2013, NHOS filed revisions for diagrams provided with its initial filing. 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 7 of its project.

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

- TID 136, Lancaster: The railroad crossing parallels the southerly side of Middle Street in the vicinity of Stone Street, between utility poles E24/11 – T40/8 and E24/12 – T40/9.
- TID 137, Lancaster: The railroad crossing parallels the southerly side of Mechanic Street west of Middle Street, between utility poles E232/1 – T not tagged and E23/16 – T406/4.
- TID 138, Lancaster: The Israel River crossing parallels the southerly side of Mechanic Street, between utility poles E23/12 – T90/12 and E232/2 – T90/14.
- TID 139, Jefferson: The railroad crossing parallels the westerly side of Presidential Highway (Route 2) in the vicinity of Turnpike Road, between utility poles E not tagged – T144/73 and E not tagged – T144/74.
- TID 140, Jefferson: The Israel River crossing parallels the westerly side of

Presidential Highway (Route 2), between utility poles E2/81 – T901/54 and E2/80 – T901/53.

- TID 142, Gorham: The railroad crossing parallels the northerly side of Lancaster Road in the vicinity of Lary Street, between utility poles E652/5 – T216/583 and E652/2 – T602/4.
- TID 143, Gorham: The Moose Brook crossing parallels the easterly side of Main Street, between utility poles E600/62 – T164/205 and E600/61 – T164/206.
- TID 146, Gorham: The railroad crossing parallels the westerly side of Main Street south of the intersection with Cascade Flats Road, between utility poles E not tagged – T164A/123 and E not tagged – T164A/124.
- TID 147, Berlin: The railroad crossing crosses Exchange Street south of the intersection with Western Avenue, between utility poles E109/1 – T171/1 and E107/5 – T not tagged.
- TID 148, Berlin: The railroad crossing parallels the westerly side of 2nd Avenue in the vicinity of Mannering Street, between utility poles E120/1 – T145/1 and E not tagged – T280/1.

The crossings in TIDs 136, 137, 138, 139, 140, and 143 require license pursuant to RSA 317:17 because each either traverses a body of water listed in the Department of Environmental Services' official list of public waters or crosses state land. The crossings in TIDs 142, 146, 147, and 148 do not require license under RSA 371:17, however, because each of those are over railroads that are not on state land.

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 filings regarding the NHOS attachments complies with the requirements of the NESC. The attached worksheets summarize Staff's review.

Although the crossings in TIDs 142, 146, 147, and 148 do not require license under RSA 371:17, Staff reviewed the information provided by NHOS to confirm NESC requirements have been met. In regards to the crossing in TID 147, Staff noted, on pole E-109/1 – T171/1, the cable for NHOS and a fire alarm cable did not appear to have adequate clearance.

Recommendations and Conclusions

Based upon Staff's analysis, the proposed crossings at 136, 137, 138, 139, 140, and 143 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 licenses for the NHOS Segment 7 crossings with the following conditions for each:

1. NHOS maintains proper clearances between its cables and those adjacent to it at all times across the entire span pursuant to NESC 235C2b and 235H.
2. NHOS constructs, operates and maintains 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.

Although a license is not required for the crossing represented in TID 147, NHOS should ensure the attachment complies with the NESC. Regarding the possible clearance issue on pole E-109/1 – T171/1, Staff recommends NHOS work with the owner of the fire alarm cable to determine if agreement can be reached for spacing less than 12 inches pursuant to NESC 235H, or if agreement cannot be reached, relocate the attachment to comply with the NESC.

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 Cable¹ Water Crossing Checklist

Docket #: DT 12-113

Applicant: NHOS

Date: 12/20/2012

Analyst: David

Location: Israel River, Lancaster (TID 138)
E 232/2 T90/14 to E 23/12 T90/12

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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	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.

¹As 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) <ul style="list-style-type: none"> 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	2.69'	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.

Telecommunications Fiber Optic Cable¹ Water Crossing Checklist

Docket #: DT 12-113

Applicant: NHOS

Date: 12/20/2012

Analyst: David

Location: Israel River, Jefferson (TID 140)
E 2/80 T901/53 to E 2/81 T901/54

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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	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.

¹As 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) <ul style="list-style-type: none"> 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	7.77'	What is maximum sag of proposed attachment under Heavy Load Conditions? NESC Table 250-1

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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.

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Telecommunications Fiber Optic Cable¹ Water Crossing Checklist

Docket #: DT 12-113

Applicant: NHOS

Date: 12/20/12

Analyst: David

Location: Moose Brook, Gorham (TID 143)
E600/62 T164/205 to E600/61 T164/206

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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	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.

¹As 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) <ul style="list-style-type: none"> 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	3.45	What is maximum sag of proposed attachment under Heavy Load Conditions? NESC Table 250-1

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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.

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Telecommunications Fiber Optic Cable¹ Railroad Crossing on State Land Checklist

Docket #: DT 12-113

Applicant: NHOS

Date: 7/31/2013

Analyst: David

Location: Middle Street Rail Crossing, Lancaster (TID 136)
E24/11 – T40/8 to E24/12 – T40/9

1	Yes	Is Railroad on state land? http://www.nh.gov/dot/org/aerorailtransit/railandtransit/documents/RailRoad by Owner State 2011.pdf
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	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.
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

¹As 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 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	1.98	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:

14. Not provided.

15. 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 Cable¹ Railroad Crossing on State Land Checklist

Docket #: DT 12-113

Applicant: NHOS

Date: 12/09/2013

Analyst: David

Location: Mechanic Street Rail Crossing, Lancaster (TID 137)
E232/1 – T not tagged and E23/16 – T406/4

1	Yes	Is Railroad on state land? http://www.nh.gov/dot/org/aerorailtransit/railandtransit/documents/RailRoad by Owner State 2011.pdf
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	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.
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

¹As 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 40 inches between electric neutral and proposed attachment on each pole? NESC Table 235-5 1a
10	No, see note.	Is there a minimum 12 inch clearance between proposed attachment and adjacent communications attachments at each pole? NESC 235H1
11	2.14'	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:

10. NHOS and cable operator have agreed to be closer than 12 inches on the pole.

14. Not provided.

15. 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 Cable¹ Railroad Crossing on State Land Checklist

Docket #: DT 12-113

Applicant: NHOS

Date: 12/20/2012

Analyst: David

Location: Presidential Highway Rail Crossing, Jefferson (TID 139)
E not tagged - T144/74 to E not tagged - T/144/73

1	Yes	Is Railroad on state land? http://www.nh.gov/dot/org/aerorailtransit/railandtransit/documents/RailRoad by Owner State 2011.pdf
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	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

¹As 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	NA	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	4.58	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:

14. Not provided.

15. 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 Cable¹ Railroad Crossing on State Land Checklist

Docket #: DT 12-113

Applicant: NHOS

Date: 12/20/2012

Analyst: David

Location: Lancaster Road Rail Crossing, Gorham (TID 142)
E652/5 – T216/583 to E652/2 – T602/4

1	No	Is Railroad on state land? http://www.nh.gov/dot/org/aerorailtransit/railandtransit/documents/RailRoad by Owner State 2011.pdf
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	Yes, w minor issue	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

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

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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	1.12'	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:

14. Not provided.

15. 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 Cable¹ Railroad Crossing on State Land Checklist

Docket #: DT 12-113

Applicant: NHOS

Date: 12/09/2013

Analyst: David

Location: Main Street Rail Crossing, Gorham (TID 146)
E not tagged - T164A/124 to E not tagged - T164A/123

1	No	Is Railroad on state land? http://www.nh.gov/dot/org/aerorailtransit/railandtransit/documents/RailRoad by Owner State 2011.pdf
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	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.
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

¹As 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	NA	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	5.78	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	NA	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:

15. 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 Cable¹ Railroad Crossing on State Land Checklist

Docket #: DT 12-113

Applicant: NHOS

Date: 12/09/2013

Analyst: David

Location: Exchange Street, Berlin (TID 147)
E109/1-T171/1 to E107/5 – T not tagged

1	No	Is Railroad on state land? http://www.nh.gov/dot/org/aerorailtransit/railandtransit/documents/RailRoad by Owner State 2011.pdf
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	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	Yes	Is lowest attachment 23.5 feet above rail track under Heavy Load conditions? NESC Table 232-1

¹As 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	NA, see notes	Is there a minimum of 40 inches between electric neutral and proposed attachment on each pole? NESC Table 235-5 1a
10	No, see notes	Is there a minimum 12 inch clearance between proposed attachment and adjacent communications attachments at each pole? NESC 235H1
11	3.19'	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 notes	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 notes	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:

- 9. NHOS is not adjacent to neutral.
- 10. Staff recommends NHOS reach agreement with fire alarm owner.
- 14. Not provided.
- 15. 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 Cable¹ Railroad Crossing on State Land Checklist

Docket #: DT 12-113

Applicant: NHOS

Date: 12/20/2012

Analyst: David

Location: 2nd Ave Rail Crossing, Berlin (TID 148)
E120/1 – T145/1 to E not tagged - T280/1

1	No	Is Railroad on state land? http://www.nh.gov/dot/org/aerorailtransit/railandtransit/documents/RailRoad by Owner State 2011.pdf
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	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.
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

¹As 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	NA	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	2.07	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:

14. Not provided.

15. Not provided.