

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: August 5, 2013
AT (OFFICE): NHPUC

FROM: Leszek Stachow, Analyst



NHPUC 5AUG'13AM10:25

SUBJECT: DT 12-249 New Hampshire Optical Systems, Inc.
Petition for Authority to Construct and maintain Fiber Optic
Communications Cable over and across the following New
Hampshire waters:

Suncook River in Pembroke,
Suncook River in Epsom
Oyster River in Lee
Bellamy River in Madbury
Cochecho River in Dover
Cochecho River in Rochester,
collectively referred to as Segment 14, Concord to Dover.

TO: Commission
Debra Howland, Executive Director

On August 10, 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 communications cables over and across six public waterways in a section of its cable line that begins in Concord and ends in Dover. According to NHOS, the project is broken up into 17 segments across the state. The petition here seeks approval for crossings in Segment 14 of its project. Following Staff discussions, NHOS submitted a revised diagram for the Oyster River on May 15, 2013

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

- Suncook River in Pembroke:
 - Parallel to the east side of Rte 106 (Sheep Davis Rd) north of Clough Mill Road, between utility pole E-NT, T-1514/33 on the north side of the river and pole E-NT,T-2413/14 on the south side of the river. (TID 190)
- Suncook River in Epsom:
 - Parallel to the north side of Rte 9 (Dover Rd) between utility pole E-NT/39,T-114/383 ½ on the west side of the river and pole E-NT/40,T-114/385 on the east side of the river. (TID 191)

- Oyster River in Lee:
 - Parallel to the south side of Rte 155 (Lee Rd), between utility pole E-318/29, T-149/16 on the west side of the river and pole E-318/28, T-149/17 on the east side of the river. (TID 192)
- Bellamy River in Madbury:
 - Parallel to the south side of Rte 155 (Knox Marsh Rd), north of Pudding Hill Rd, between utility poles E-303/77, T-146/66 on the east side of the river and pole E-303/78, T-146/67 on the west side of the river. (TID 197)
- Cocheco River in Dover:
 - Approximately parallel to the south side of Water St, west of River St, between utility pole E-4/9, T-49/12 on the east side of the river and pole E-4/10, T-49/11 on the west side of the river. (TID 199)
- Cocheco River in Rochester:
 - Parallel to the northwest side of Gonic St, north of Brock St, between utility pole E-6/8, T-151/50 on the southwest side of the river and pole E-6/6, T-151/48 on the northeast side of the river. (TID 203)

Following Staff discussions, NHOS submitted a revised technical diagram for the Oyster River crossing located in Lee, NH on May 15, 2013.

Each river crossing by the cables in this petition is listed as public water in the Department of Environmental Services' official list of public waters and therefore requires a license pursuant to RSA 371:17.

1. Review of public need and public impact.

In its cover letter NHOS states that it has been contracted to construct and manage the Network New Hampshire Now (NH 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 in order to meet reasonable requirements of service to the public. NHOS states in its petition, that no environmental permits are required of the crossings. NHOS states 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."

2. 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 complies

with the requirements of the NESC. The attached worksheets provide a summary of Staff's review.

Staff noted inconsistencies between the notation for pole numbers in the petition and the supporting technical diagrams. Additionally, Staff was unable to confirm whether other utility crossings at these locations are licensed and also comply with the NESC.

3. 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 14 crossings in this petition, with the following conditions;

1. 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.
2. 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.
3. The petition and technical diagrams need to be resubmitted to reflect the following corrections;

TID 190:

Pole designations in petition to concur with diagram references. Label river.

TID 197

Label NHOS cable correctly. Label river.

TID 199

Label river.

TID 203

Label river.

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 12-249

Applicant: NHOS

Date: July 25, 2012

Analyst: Stachow



Location: E- NT, T-1514/33 & E- NT, T-2413/14

Suncook River, Pembroke, NH (TID 190)

Parallel to the east side of Rte 106, north of Clough Mill Road

1	Yes	Is water body on DES list: http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf
2	N/A	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	N/A	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	No minor	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	Not Known	Are existing attachments licensed? If not, notify existing attachers in

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

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		writing and request license application.
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	Not Known	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	Not known	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	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"> 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	No electric attachment	Is there a minimum of 40 inches between electric neutral and proposed attachment on each pole? NESC Table 235-5 1a
15	No electric attachment	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	6.23	What is maximum sag of proposed attachment under Heavy Load Conditions?

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		NESC Table 250-1
17	Correct	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	Not known	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:

#5. The petition references crossing between utility pole 1514/33 and pole 2413/15 whereas the diagram references pole 1514/33 and pole 2413/14. Please correct. Please label river.

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Telecommunications Fiber Optic Cable¹ Water Crossing Checklist

Docket #: DT 12-249

Applicant: NHOS

Date: July 25, 2012

Analyst: Stachow 

Location: E-NT/39,T-114/383 ½ and E-NT/40,T-114/385
Suncook River, Epsom, NH (TID 191)

Parallel to the north side of Rte 9, east of the Rte 28 junction

1	Yes	Is water body on DES list: http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf
2	N/A	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	N/A	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	Not Known	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	Not Known	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	Not Known	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	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"> 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	Not known	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	3.48	What is maximum sag of proposed attachment under Heavy Load Conditions? NESC Table 250-1

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17	Correct	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	Not known	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:

Info provided is intended to be used in conjunction with the NESCS and does not in any way supersede or replace the NESCS. The NESCS should always be considered as the primary basis for making clearance determinations.

Telecommunications Fiber Optic Cable¹ Water Crossing Checklist

Docket #: DT 12-249

Applicant: NHOS

Date: July 25, 2012

Analyst: Stachow 

Location: E-318/29,T-149/16 and E-318/28,T-149/17

Oyster River, Lee, NH (TID 192)

Parallel to the east side of Rte 155, northeast of Randall Road

1	Yes	Is water body on DES list: http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf
2	N/A	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	N/A	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 NESCS?
8	Not Known	Are existing attachments licensed? If not, notify existing attachers in writing and request license application.

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

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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	Not Known	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	Not known	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	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"> 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	Not Known	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	5.25	What is maximum sag of proposed attachment under Heavy Load Conditions? NESC Table 250-1

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17	Correct	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	Not known	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:

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Telecommunications Fiber Optic Cable¹ Water Crossing Checklist

Docket #: DT 12-249

Applicant: NHOS

Date: July 25, 2012

Analyst: Stachow *JS*

Location: E-303/77, T-146/66 and E-303/78, T-146/67

Bellamy River, Madbury, NH (TID 197)

Parallel to the east side of Knox Marsh Road in the vicinity of Pudding Hill Road

1	Yes	Is water body on DES list: http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf
2	N/A	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	N/A	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	No minor	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?

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

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8	Not Known	Are existing attachments licensed? If not, notify existing attachers in writing and request license application.
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	Not Known	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	Not known	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	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"> 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	Not Known	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	3.85	What is maximum sag of proposed attachment under Heavy Load Conditions? NESC Table 250-1

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17	Correct	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	Not known	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:

#5. Subject cable is labeled FO CATV in technical diagram, should be corrected to FO NHOS.

Please label river.

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Telecommunications Fiber Optic Cable¹ Water Crossing Checklist

Docket #: DT 12-249

Applicant: NHOS

Date: July 25, 2012

Analyst: Stachow 

Location: E-4/9-T-49/12 and E-4/10-T-49/11

Cocheco River, Dover, NH (TID 199)

South of Waters St, between utility pole E-4/9-T-49/12 on the east side of the river, and utility pole E-4/10-T-49/11 on the west side of the river.

1	Yes	Is water body on DES list: http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf
2	N/A	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	N/A	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	Not	Are existing attachments licensed? If not, notify existing attachers in writing

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

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	Known	and request license application.
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	Not Known	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?)
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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"> 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	Not Known	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	3.80	What is maximum sag of proposed attachment under Heavy Load Conditions? NESC Table 250-1

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17	Correct	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	Not known	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:

Please label river in TID 199

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Telecommunications Fiber Optic Cable¹ Water Crossing Checklist

Docket #: DT 12-249

Applicant: NHOS

Date: July 25, 2012

Analyst: Stachow 

Location: E-6/8,T-151/50 and E-6/6,T-151/48

Cocheco River, Rochester, NH (TID 203)

Parallel to the west side of Gonic Road in the vicinity of Brock Street.

1	Yes	Is water body on DES list: http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf
2	N/A	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	N/A	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.
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7	Yes	Does petition attest the proposed crossing is designed and will be built and maintained in accordance with the NESC?
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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.

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	Not Known	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	Not known	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	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"> 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	Not Known	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	4.73	What is maximum sag of proposed attachment under Heavy Load Conditions? NESC Table 250-1

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17	Correct	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	Not known	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:

River is not labeled on TID 203. Drawing should be resubmitted with appropriate label.