

STATE OF NEW HAMPSHIRE
Inter-Department Communication

DATE: March 25, 2013
AT (OFFICE): NHPUC

FROM: Randy Knepper ^{R.S.K}
Director of Safety

SUBJECT: Review of PSNH Petition for Revision to an Existing Circuit 385
Crossing of the Cocheco River, Rochester and Isinglass River,
Strafford, NH
Docket No. DE 12-176, alteration of communication wire

TO: Debra Howland, Executive Director
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The Safety Division review of the above petition consisted of the following elements:

- Petition contents and history
- Applicable State Statute
- Review of existing crossing(s) already licensed by the PUC
- Review of land ownership of existing pole structures.
- Review of NESC code requirements as described in Puc 300 Rules
- Review of public need and public impact, including applicability of other State regulations
- Conclusions and Recommendations

1. Petition contents and history.

- On June 29, 2012, Public Service Company of New Hampshire (PSNH) filed a petition to alter an existing crossing of the Cocheco River in Rochester and a second crossing of the Isinglass River in Strafford, New Hampshire by replacing one of the two static wires which serve as shield wires that are the highest attachments to the support structures. Both of these crossings are associated with a 345 KV circuit identified as 385. The material, height, location of both support structures adjacent to each river crossing as well as the conductor size and material, the size and material of the remaining static wire will remain as originally constructed. The overall purpose of the petition replaces the communication wire from an ADSS type to an OPGW line (84 fiber optic cable).

- The span between the structures 15 and 16 of the Cocheco River will remain at approximately 693.5 feet while the Cocheco River span is depicted as approximately 63 feet. Structures 15 and 16 consist of wooden poles approximately 100 feet above grade and consist of H frame tangential type.
- The span between the structures 87 and 88 of the Isinglass River will remain at approximately 770 feet while the Isinglass River span is depicted as approximately 37.7 feet. Structures 87 and 88 consist of wooden poles approximately 70 feet and 75 feet respectively above grade and consist of H frame tangential type.
- The single conductors for all 3 phases will remain as the existing 850.8 ACSR (45/7 configuration).
- A single 7/#8 Alumoweld static wire will remain serving as a shielding wire for lightning strikes
- The position and type of communication carrier is being replaced from an ADSS type (All Dielectric Self Supporting) fiber optic to an overhead power ground wire (OPGW) fiber optic cable with 84 strands. The new communication cable (OPGW) will be overhead of the conductors for both crossings. The OPGW wire serves dual purposes as a static wire and communication cable.
- All water clearances are conservatively taken from the 100 year flood level that was derived by PSNH based on NAVD 88 datum and FEMA flood map and #33017C0203D for the Cocheco River and #33017C0190D for the Isinglass River.
- Originally construction was scheduled for October 2012 but was rescheduled for spring of 2013. On February 11, 2013, PSNH requested a completed licensure for these crossings because of a planned reconstruction of the communication wire to begin in mid March 2013.

2. New Hampshire statute referenced in petition.

TITLE XXXIV
PUBLIC UTILITIES

CHAPTER 371
PROCEEDINGS TO ACQUIRE PROPERTY OR RIGHTS

Rights in Public Waters and Lands

371:17 Petition. – Whenever it is necessary, in order to meet the reasonable requirements of service to the public, that any public utility should construct a pipeline, cable, or conduit, or a line of poles or towers and wires and fixtures thereon, over, under or across any of the public waters of this state, or over, under or across any of the land owned by this state, it shall petition the commission for a license to construct and maintain the same. For the purposes of this section, "public waters" are defined to be all ponds of more than 10 acres, tidewater bodies, and such streams or portions thereof as the commission may prescribe. Every corporation and individual desiring to cross any public water or land for any purpose herein defined shall petition the commission for a license in the same manner prescribed for a public utility.

Source. 1921, 82:1. PL 244:8. RL 294:16. 1951, 203:48 par. 17. 1953, 52:1, eff. March 30, 1953.

3. Review of existing license(s) and permissions previously granted by the PUC for Cocheco River Crossing in Rochester, NH; Isinglass River Crossing in Strafford, NH and ownership of lands.

On August 26, 1969, the PUC issued Order No. 9777 granting a license to Public Service Company of New Hampshire to construct and maintain electric transmission lines over and across the Cocheco River in Rochester. This order was the result of a petition filed under Docket No. D-E5700 by PSNH.

There is no record that the Isinglass River crossing in Strafford was ever issued a license by the PUC. This petition completes the record of the Isinglass River crossing and allows PSNH to update and conform to the existing statute.

These portions of the Cocheco River in Rochester and Isinglass River in Strafford are considered public rivers and are listed on the DES official list of public rivers and streams. See <http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf>

These portions of the Cocheco River in Rochester and Isinglass River in Strafford are not considered navigable per the US Army Corp of Engineers. All vertical clearances easily exceed the minimum requirement for sailing

4. Review of land ownership of existing pole structures.

Both crossings are located in an approximate 270foot right of way that PSNH owns through a paid fee has obtained a permanent easement for its lines and facilities on both the east and west sides of the Cocheco River and Isinglass River. The orientation, structures and distances from the edge of right of way will all remain as originally constructed.

5. Review of NESC code requirements as described in Puc 300.

N.H. Code of Administrative Rules PART Puc 306 requires each utility shall construct, install, operate and maintain its plant, structures and equipment and lines, as follows:

- (1) In accordance with good utility practice;
 - (2) After weighing all factors, including potential delay, cost and safety issues, in such a manner to best accommodate the public; and
 - (3) To prevent interference with other underground and above ground facilities, including facilities furnishing communications, gas, water, sewer or steam service.
- (b) For purposes of this section, "good utility practice" means in accordance with the standards established by:

(1) The National Electrical Safety Code C2-2002...

PSNH in its petition states that the 2007 National Electrical Safety Code C2-2007 was used for compliance. The Safety Division reviewed the differences between the C2-2007 and C2-2002 edition for section 23 Clearances and found the differences were mainly additional clarity in the later edition, but no clearance values were adjusted that would have an impact on this crossing.

A New Hampshire DES permit is also not required per Administrative Rule Wq 1406.04 (d) (7). There will not be any alteration of terrain, thus no permit is required.

The Safety Division reviewed 15 supporting statements contained in the petition, the four statements in Appendix B, Figures 1 and 2, and Exhibits 1 and 2, and found them to be in conformance with the applicable sections of the NESC code C2-2002.

6. Review of public need and public impact.

PSNH states “the proposed communication wires will not substantially affect the rights of the public in the public water of neither the Cocheco River nor the Isinglass 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 the Cocheco River and Isinglass River will not be diminished in any material respect as a result of the overhead line and cable crossings.”

The Safety Division concludes the impact to the public will be *deminimis* and not measurable.

7. Recommendations and Conclusions.

The Safety Division recommends full approval of PSNH’s petition to the Commission without any conditions:

Appendix A

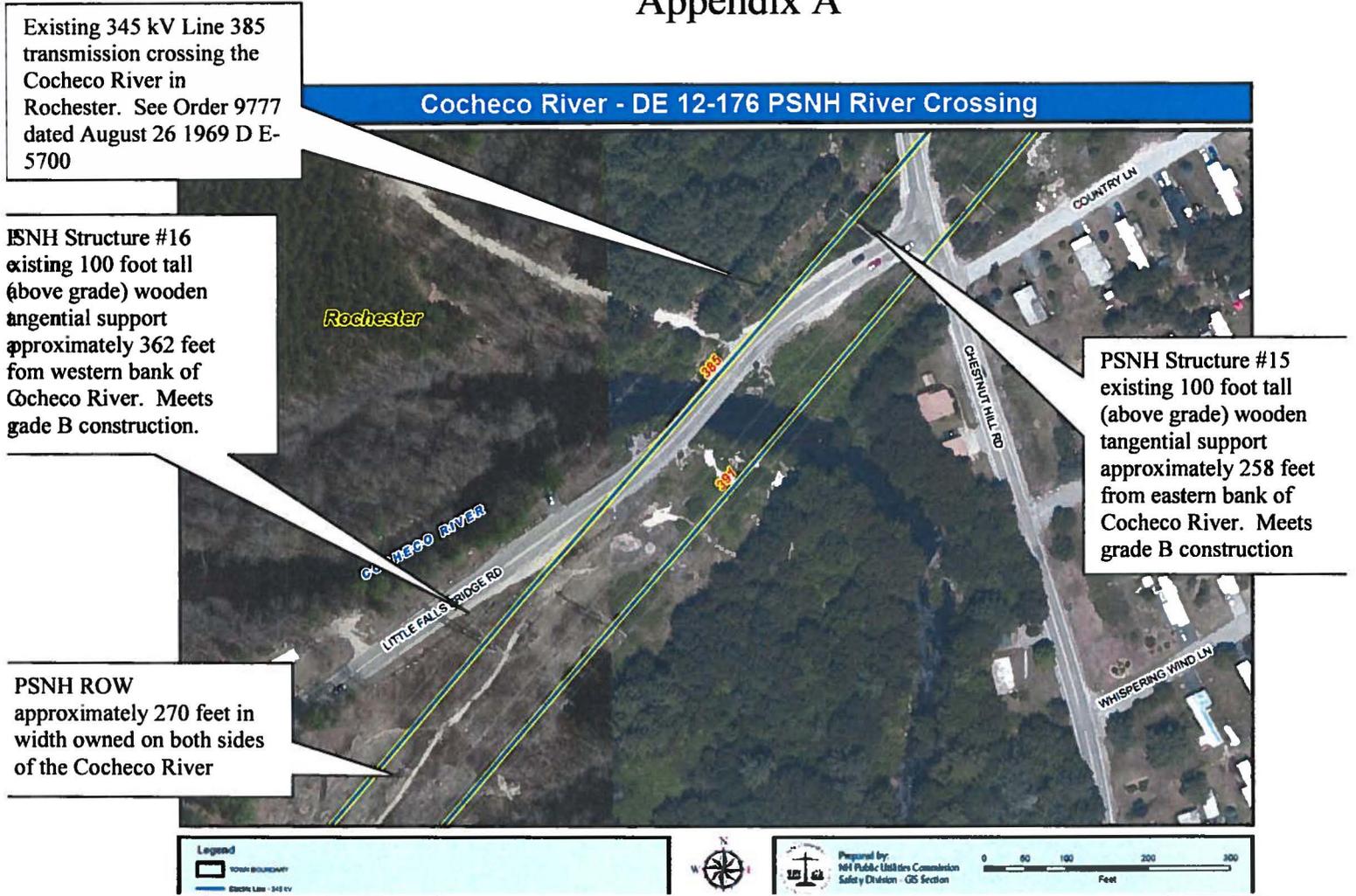


Figure 1. Closer View of Cochecho River Crossing, Rochester, NH. Nearest streets are Little Falls Bridge Rd and Chestnut Hill Rd.

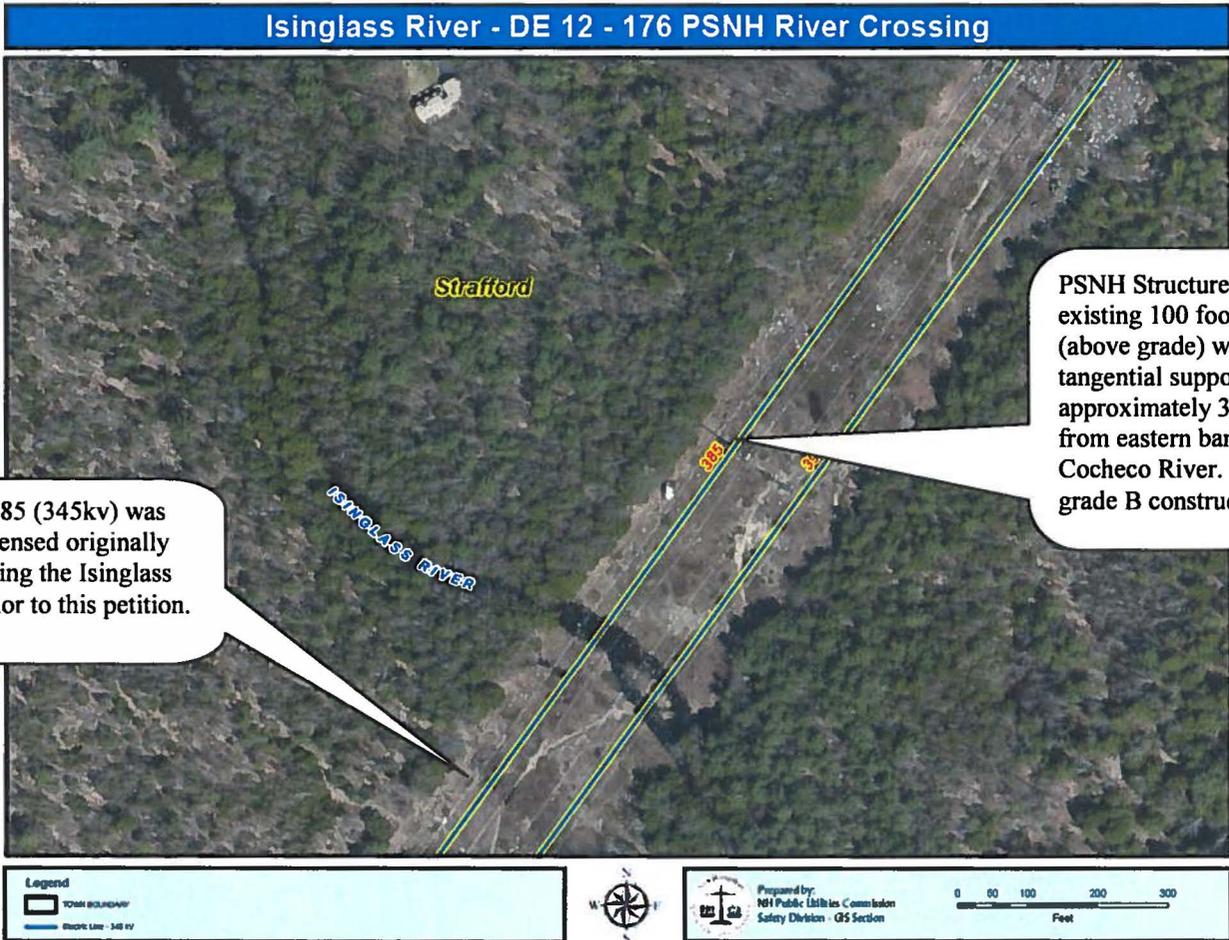


Figure 2. View of Isinglass River Crossing, Strafford, NH. Note span is approx. 770 feet between support structures and the river crossing is approximately .50 miles (2,640 feet) south west of Route 126 along the ROW.