

STATE OF NEW HAMPSHIRE

Inter-Department Communication

NHPUC 12DEC17PM4:00

DATE: Dec 12, 2017
AT (OFFICE): NHPUC

FROM: Randy Knepper 
Director – Safety Division

SUBJECT: Docket No. DE 16-442 Seacoast Reliability Project
Public Service Company of New Hampshire d/b/a Eversource Energy
Petition for Ten Licenses to Cross Public Lands at Five Locations in
the Towns of Durham and Newington, NH
Staff Recommendation

TO: Debra Howland, Executive Director
Thomas Frantz, Director, Electric Division
Leszek Stachow, Assistant Director, Electric Division
Suzanne Amidon, Staff Attorney

cc: Robert Wyatt, Assistant Director, Safety Division

The Safety Division's Staff review of the above petition consisted of the following elements:

- Petition contents and history;
- Applicable State Statute;
- Existing crossing(s) already licensed by the PUC;
- Land ownership at existing facility locations;
- NESC code requirements as described in Puc 300;
- Public need and public impact, including applicability of other State regulations;
- Areas not reviewed by the Safety Division; and
- Conclusions and Recommendations.

A. Petition contents and history

The Seacoast Reliability Project

On April 12, 2016, Public Service Company of New Hampshire d/b/a Eversource Energy ("PSNH" or "the Company"), filed a petition pursuant to RSA 371:17 for licenses to construct and maintain electric lines, neutral wire and fiber optic cable over and across

public lands at five locations owned by the State of New Hampshire (“State of NH”) in the Towns of Durham and Newington.

On February 8, 2017, PSNH filed revisions to its petition. Minor changes to the engineering crossing design drawings and petition appendices were included to accommodate concerns of abutters along the project corridor. The Company also made further refinements to the design in order to align with Eversource standard structure configurations. The Company asserts that the revisions and changes to the engineering crossing designs continue to meet or exceed all NESC requirements.

The new transmission line will cross through the towns of Madbury, Durham and Newington, and the city of Portsmouth, along existing utility corridors. This new 115 kV electric transmission line has been identified by PSNH as Line F107 and the project is designated the Seacoast Reliability Project with a targeted in-service date of the fourth quarter of 2018.

In its petition, PSNH asserts that the proposed new 115 kV F107 transmission line is needed to address reliability concerns in the New Hampshire Seacoast Region, which had previously been identified by the Independent System Operator – New England (“ISO-NE”). The Project will help improve the transmission system in the Seacoast area, necessary in order to continue to meet the reasonable requirements of service to the public. The Project is designed to meet current demand requirements and future demand expectations in the Seacoast region of New Hampshire.

The proposed path of this Project will follow existing distribution line right of way (“ROW”) of 34.5kV circuit 380, between the Madbury Substation and the Packers Falls Substation in Durham, 34.5kV circuit 3162 between the Packers Falls Substation and the Little Bay shoreline in Durham, and 34.5kV circuit 3850 between and the Little Bay shoreline in Newington and the Portsmouth Substation.

The Project’s five proposed public lands crossings in which PSNH seeks licenses, as addressed in this docket, are small segments of the Company’s proposed installation of a new 13 mile, 115 kV electric transmission line between existing substations in Madbury and Portsmouth. There will be three overhead crossings locations on separate parcels of State of NH public lands managed by the New Hampshire Fish and Game Department (“NHF&G”) in Durham. Two additional overhead public crossings locations are on State of NH lands managed by the New Hampshire Department of Transportation (“NHDOT”) in Newmarket.

In its Original Petition, as well as in its Petition Revisions, PSNH asserts that the design specifies that each of the three public lands crossings in Durham and the two public lands crossings in Newington will use overhead circuit design configurations. The proposed overhead crossings of the 115 kV F107 transmission circuit will use three 1590 kcmil ACSR 45/7 phase conductors with an optical ground wire (“OPGW”) installed above the phase conductor cables and near the top of each of the structures. The optic portion of the OPGW cable is necessary in order to improve and enhance the reliability and capacity

of the communications system used in its electric system operations, and thereby meet the reasonable requirements of service to the public. The OPGW cable will also provide lightning protection above the F107 conductors in the designed overhead configurations. The proposed overhead of the 34.5 kV crossings 380, 3162 and 3850 distribution line circuits will each use three 477 kcmil ACSR 18/1 phase conductors¹ and one neutral wire, where the phase conductors in most cases attached approximately 15 feet below the F107 conductors on each of the shared structures.² Due to ROW space constraints, as an alternative to open wire conductors a portion of the 3162 line near NH Route 108 in Durham will be constructed with 477 kcmil spacer cable attached to a 19#10 alumoweld messenger cable.

The Company has provided location maps, design and construction plans, profile drawings, and other engineering calculations for each crossing. In addition, the Company acknowledges that technical information provided is based on the 2012 National Electric Safety Code (NESC) C2-2012 and the proposed crossings have been designed and will be constructed, maintained and operated by PSNH in accordance with the applicable requirements of NESC.

Details of the public lands overhead crossings, as provided by PSNH in its April 12, 2016 original Petition, Appendices and Exhibits, and updated with its February 8, 2017 revisions, have been reviewed by Staff. Staff provides its summary of the overall project by breaking it down into five sections. Within each section, Staff has organized sequentially, 1 through 10, details for all ten public lands crossings that will require licenses.

1. Public Lands Parcel LL#232 (see Staff Attachment 1)

The first public lands parcel is LL#232, as identified in the petition and engineering drawings, is located north of Bennett Road and slightly northeast of the PSNH Packers Falls substation in the Town of Durham, NH.³ The project will require the Commission to grant three public lands crossing licenses related to this parcel. Descriptions of each of the three crossings are as follows:

License 1.

License 1 is specific to the proposed 115 kV transmission circuit F107, an overhead crossing of public lands parcel LL#232, a span between Structures 46 and 58.⁴

- a. Structures 46-48 will be type ST-1-UB, 1-pole, steel tangent suspension, direct embed structures. Structure 46 will be placed just outside this public land parcel. Structures 47 and 48 will be placed on this parcel of public land.

¹ The 380 line has been designed to accommodate 795 ACSR 26/7 conductor, with no changes to clearances, which may be necessary to meet future demand by the time the project construction begins.

² Not all structured are of the double circuit configuration. The 3850 line crossing LL#1001 will remain on existing structures, sharing its ROW with new structures for the F107 line.

³ Re. Petition, revised Exhibit 1, Line List 232, Tax Map 15 Lot 1-0, Durham.

⁴ Re. Petition, revised Appendix A and Exhibits 1, 2 and 11.

- b. Structure 49 will be type SPDE-VUB, 1-pole, steel dead-end structure on a concrete foundation, placed on PSNH fee owned property near the Packers Falls substation and adjacent to the southwesterly portion of the public land.
- c. Structures 50 through 57 will be placed west to east on the parcel with the F107 exiting this public land crossing slightly west of structure 58. With the exception of Structures 57-58, 50-56 will be type ST-2-UB, 1-pole, steel tangent suspension, direct embed structures. Structures 58-59 will be type SRAX-UB, a 2-pole, steel H-Frame tangent, direct embed structures.
- d. The segment between structures 46-48 will use double-circuit configuration with 115 kV F107 circuit attached above PSNH 34.5 kV distribution circuit 380.⁵ This segment follows existing PSNH easements and ROW for the 380 distribution line. After pole 48, the 380 circuit exits public land as it terminates at the Packers Falls substation.
- e. The segment between Structures 49-58 will again use a double-circuit configuration with the F107 circuit attached above PSNH 34.5 kV distribution circuit 3162.⁶ This end of the 3162 distribution line begins at the Packers Falls substation before attaching to Structure 49.
- f. For this overhead crossing of public lands, PSNH owns a permanent, minimum 100 foot wide easement or a 100 foot wide use and occupancy utility corridor for its lines and facilities of the proposed locations.⁷
- g. PSNH will also install and maintain an optical ground wire (OPGW cable) on its new overhead line structures across the entire span between Structures 46 through 58, above the F107 circuit. The OPGW cable will provide operational communications capabilities as well as lightning protection for the attached circuits.

License 2.

License 2 is specific to PSNH 34.5 kV distribution circuit 380, an overhead crossing of public lands parcel LL#232, a span between Structures 46-48, then exiting public land between Structure 48 and the Packers Falls substation, where circuit 380 terminates.⁸

- a. As noted above for License 1, Structures 46 through 48 will be type ST-1-UB, 1-pole, steel tangent suspension, direct embed structures. Structure 46 will be placed just outside this public land parcel. Structures 47 and 48 will be placed on this parcel of public land.
- b. Structures 46 through 48 will use a double-circuit configuration with the 380 circuit attached to each structure below the F107 circuit.
- c. This segment follows existing PSNH easements and ROW for the 380 distribution line.
- d. For this overhead crossing of public lands, PSNH owns a permanent, minimum 100 foot wide easement or a 100 foot wide use and occupancy utility corridor for its lines and facilities of the proposed locations.

⁵ PSNH 34.5 kV circuit 380 will be licensed separately as described under **License 2**.

⁶ PSNH 34.5 kV circuit 3162 will be licensed separately as described under **License 3**.

⁷ Re. original Petition, statement 16.

⁸ Re. Petition, revised Appendix A and Exhibits 1, 2 and 11.

License 3.

License 3 is specific to PSNH 34.5 kV distribution circuit 3162, an overhead crossing of public lands parcel LL#232. This span begins between Structures 49-50, continuing with the double circuit configuration through Structure 57, where the 3162 Line attaches to pole HEN1, a Hendrix type pole, before exiting public land at Structure 58.⁹

- a. As noted above for License 1, Structure 49 will be type SPDE-VUB, 1-pole, steel dead-end structure on a concrete foundation, placed on PSNH fee owned property near the Packers Falls substation and adjacent to the southwesterly portion of the public land.
- b. Structures 50 through 57 will be placed west to east on the parcel with the F107 exiting this public land crossing slightly west of structure 58. With the exception of Structures 57-58, 50-56 will be type ST-2-UB, 1-pole, steel tangent suspension, direct embed structures. Structures 58-59 will be type SRAX-UB, a 2-pole, steel H-Frame tangent, direct embed structures.
- c. The segment between structures 49-57 will use double-circuit configuration with PSNH 34.5 kV distribution circuit 3162 attached to each structure below the 115 kV F107 circuit. After pole 57, the 3162 Line attaches to pole HEN1, a Hendrix type pole, before exiting public land at Structure 58.
- d. For this overhead crossing of public lands, PSNH owns a permanent, minimum 100 foot wide easement or a 100 foot wide use and occupancy utility corridor for its lines and facilities of the proposed locations.

2. Public Lands Parcel LL#238, Durham (see Staff Attachment 1)

The second public lands parcel is LL#238, a second, smaller parcel, adjacent to parcel 1 above, also managed by the NHF&G. This public lands parcel, as identified in the petition and engineering drawings, is located north of Bennett Road and west of Newmarket Road (SR 108) in Durham.¹⁰ The project will require the Commission to grant two public lands crossing licenses related to this parcel. Descriptions of each of the two crossings are as follows:

License 4.

License 4 is specific to the proposed 115 kV transmission circuit F107, an overhead crossing of public lands parcel LL#238, a span between Structures 59 and 61.¹¹

- a. Structure 59, placed just outside this public land parcel, will be type C-UB, a multi-pole, steel running angle structure on a concrete foundation.
- b. Structure 60 will be placed on this public land parcel, will be a type SRAX-UB, a 2-pole, direct embed, steel tangent structure.
- c. Structures 61 will be placed outside this public land parcel, will be the same type SRAX-UB, as describe for Structure 60.

⁹ Re. Petition, revised Appendix A and Exhibits 1, 2 and 11.

¹⁰ Re. Petition, revised Appendix B, Exhibit 1 and 3, Line List 238, Tax Map 15 Lot 7-3, Durham.

¹¹ Re. Petition, revised Appendix B and Exhibits 1, 3 and 11.

- d. Structures HEN 2 and HEN 3 are single, wood pole structures used to support the 34.5 kV circuit 3162 spacer cable on long spans between Structures 59-60 and 60-61 respectively.
- e. Structure 59 will consist of 3 poles, used by both the F107 circuit and the 3162 circuit. Structures 60 and 61 will use the double-circuit configuration with 115 kV F107 circuit attached above PSNH 34.5 kV distribution circuit 3162.¹²
- f. For this overhead crossing of public lands, PSNH owns a permanent, minimum 100 foot wide easement or a 100 foot wide use and occupancy utility corridor for its lines and facilities of the proposed locations.
- g. PSNH will also install and maintain an optical ground wire (OPGW cable) on its new overhead line structures across the entire span between Structures 59-61, above the F107 circuit. The OPGW cable will provide operational communications capabilities as well as lightning protection for the attached circuits.

License 5.

License 5 is specific to PSNH 34.5 kV distribution circuit 3162, an overhead crossing of public lands parcel LL#238, a span between Structures 59 and 61.

- a. Structure 59, placed just outside this public land parcel, will be type C-UB, a multi-pole, steel running angle structure on a concrete foundation.
- b. Structure 60 will be placed on this public land parcel, will be a type SRAX-UB, a 2-pole, direct embed, steel tangent structure.
- c. Structures 61 will be placed outside this public land parcel, will be the same type SRAX-UB, as describe for Structure 60.
- d. Structures HEN 2 and HEN 3 are single, wood pole structures used to support the spacer cable for the 34.5 kV circuit 3162 on these long spans between Structures 59-60 and 60-61 respectively. HEN 2 and HEN 3 will be placed on the public land parcel.
- e. Structure 59 will consist of 3 poles, used by both the F107 circuit and the 3162 circuit. Structures 60 and 61 will use the double-circuit configuration with PSNH 34.5 kV distribution circuit 3162 attached to each structure below the 115 kV F107 circuit.
- f. For this overhead crossing of public lands, PSNH owns a permanent, minimum 100 foot wide easement or a 100 foot wide use and occupancy utility corridor for its lines and facilities of the proposed locations.

3. Public Lands Parcel LL#263, Durham (see Staff Attachment 2)

The third public lands parcel is LL#263, Tax Map 15 Lot 5-0, in Durham and also managed by the NHF&G. This public lands parcel, as identified in the petition and engineering drawings, is located east of Sandy Brook Drive and north of Long Marsh Road.¹³ The project will require the Commission to grant two public lands crossing licenses related to this parcel. Descriptions of each of the two crossings are as follows:

¹² PSNH 34.5 kV circuit 3162 will be licensed separately as described under **License 5**.

¹³ Re. Petition, revised Appendix C, Exhibit 4, Line List 263, Tax Map 15 Lot 5-0, Durham.

License 6.

License 6 is specific to the proposed 115 kV transmission circuit F107, an overhead crossing of public lands parcel LL#263, a span between Structures 74-80.¹⁴

- a. Structure 74 will be placed just outside the western boundary and Structure 80 will be placed just outside the eastern boundary of this public land parcel. These two structures will be type ST-1-UB, 1-pole, steel tangent suspension, direct embed.
- b. Structures 75-79 will be placed on this public land parcel and will also be type ST-1-UB, 1-pole, steel tangent suspension, direct embed structures.
- c. Structures 74-80 will use the double-circuit configuration with 115 kV F107 circuit attached above PSNH 34.5 kV distribution circuit 3162.¹⁵
- d. For this overhead crossing of public lands, PSNH owns a permanent, minimum 100 foot wide easement or a 100 foot wide use and occupancy utility corridor for its lines and facilities of the proposed locations.
- e. PSNH will also install and maintain an optical ground wire (OPGW cable) on its new overhead line structures across the entire span between Structures 74-80, above the F107 circuit. The OPGW cable will provide operational communications capabilities as well as lightning protection for the attached circuits.

License 7.

License 7 is specific to PSNH 34.5 kV distribution circuit 3162, an overhead crossing of public lands parcel LL#263, a span between Structures 74 and 80.

- a. Structure 74 will be placed just outside the western boundary and Structure 80 will be placed just outside the eastern boundary of this public land parcel. These two structures will be type ST-1-UB, 1-pole, steel tangent suspension, direct embed.
- b. Structures 75-79 will be placed on this public land parcel and will also be type ST-1-UB, 1-pole, steel tangent suspension, direct embed structures.
- c. Structures 74-80 will use the double-circuit configuration with PSNH 34.5 kV distribution circuit 3162 attached to each structure below the 115 kV F107 circuit.
- d. For this overhead crossing of public lands, PSNH owns a permanent, minimum 100 foot wide easement or a 100 foot wide use and occupancy utility corridor for its lines and facilities of the proposed locations.

4. Public Lands Parcel LL#1000, Newington (see Staff Attachment 3A and 3B)

The fourth public lands crossings will require two licenses, both of which involve a parcel managed by the NHDOT in Newington.¹⁶ First, the F107 line travels west of the Spaulding Turnpike in an approximate north to south orientation within existing PSNH 3850 Line ROW across this parcel of public land. The second license required for this

¹⁴ Re. Petition, revised Appendix C and Exhibits 4 and 5.

¹⁵ PSNH 34.5 kV circuit 3162 will be licensed separately as described under **License 7** (below).

¹⁶ Re. Petition, revised Appendix D, Exhibit 6, Line List #1000, NHDOT managed, Newington.

parcel will be for the PSNH 3850 circuit, across this parcel of public land within the same existing 3850 Line ROW.

License 8.

License 8 is specific to the proposed 115 kV transmission circuit F107, an overhead crossing of public lands parcel LL#1000, a span between single-circuit Structures 123-129.¹⁷

- a. Structure 123 will be placed just outside the northern boundary of this public land parcel. Structure 123 will be type SPT, a 1-pole, steel running angle structure on a concrete foundation.
- b. Structure 129 will be placed just outside the southern boundary of this public land parcel. Structure 129 will be type ST-2-SB, a 1-pole, steel braced post tangent, with a direct embed foundation.
- c. Structure 124 will be placed on this public land parcel and will be a type SPT, a 1-pole, steel running angle structure on a concrete foundation.
- d. Structures 125 and 127 will be placed on this public land parcel and will be type ST-2-SB, a 1-pole, steel braced post tangent structures, with direct embed foundations.
- e. Structures 126 and 128 will be placed on this public land parcel and will be type SA-2, 1-pole, steel guyed 8-20 degree angled, with a direct embed foundation.
- f. For this overhead crossing of public lands, PSNH owns a permanent, minimum 100 foot wide easement or a 100 foot wide use and occupancy utility corridor for its lines and facilities of the proposed locations.
- g. PSNH will also install and maintain an optical ground wire (OPGW cable) on its new overhead line structures across the entire span between Structures 74-80, above the F107 circuit. The OPGW cable will provide operational communications capabilities as well as lightning protection for the attached circuits.

License 9.

License 9 is specific to PSNH 34.5 kV distribution circuit 3850, an overhead crossing of public lands parcel LL#1000, a span between single-circuit Structures 9-15.¹⁸

- a. Structure 9 will be placed just outside the northern boundary of this public land parcel. Structure 9 will be type DX, a 1-pole, wood or steel tangent, with a direct embed foundation.
- b. Structure 15 will be placed just outside the southwestern boundary of this public land parcel. Structure 15 will be type DE, a 1-pole, wood or steel, 0-15 degree deadend angle, with a direct embed foundation.
- c. Structure 10 will be placed on this public land parcel. Structure 10 will be type DEA, a 1-pole, wood or steel direct embed deadend structure.
- d. Structures 11 and 13 will be placed on this public land parcel and will be type TAN, 1-pole, wood or steel tangent, with direct embed foundations.

¹⁷ Re. Petition, revised Appendix D.3. and Exhibits 6 and 7.

¹⁸ Re. Petition, revised Appendix D.4. and Exhibits 6 and 10.

- e. Structure 12 will be placed on this public land parcel. Structure 12 will be type DX, a 1-pole, wood or steel tangent, with a direct embed foundation.
- f. Structure 14 will be placed on this public land parcel. Structure 14 will be type DE, a 1-pole, wood or steel, 0-15 degree deadend angle, with a direct embed foundation.
- g. The entire segment of this crossing follows existing PSNH easements and ROW for the 3162 Line.

5. Public Lands Parcel LL#1001, Newington (see Staff Attachment 4)

The fifth and last public lands crossing for this project will require one license to cross a second State of NH parcel in Newington.¹⁹ The parcel is managed by the NHDOT. The proposed F107 line will track west of the Spaulding Turnpike in an approximate north to south orientation within existing PSNH 3850 Line ROW across this parcel of public land.

License 10.

License 10 is specific to the proposed 115 kV transmission circuit F107, an overhead crossing of public lands parcel LL#1001, a span between single-circuit Structures 131-133.²⁰

- a. Structure 131 will be placed outside the northern boundary of this public land parcel. Structure 133 will be type ST-2-SB, a 1-pole, steel braced post tangent, with a direct embed foundation.
- b. Structure 133 will be placed outside the southern boundary of this public land parcel. Structure 133 will be type SA-2, a 1-pole, steel guyed 8-20 degree angled, with a direct embed foundation.
- c. Structure 132 will be placed on this public land parcel. This structure will be type ST-2-SB, a 1-pole, steel braced post tangent, with a direct embed foundation.
- d. The entire segment of this crossing follows existing PSNH easements and ROW for the 3850 Line.
- e. PSNH will also install and maintain an optical ground wire (OPGW cable) on its new overhead line structures across the entire span between Structures 131-133, above the F107 circuit. The OPGW cable will provide operational communications capabilities as well as lightning protection for the attached circuits.

¹⁹ Re. Petition, revised Appendix E, Exhibits 8 and 9, Line List #1001, Newington.

²⁰ Re. Petition, revised Appendix E, Exhibits 8 and 9.

B. New Hampshire statute referenced in petition
Rights in Public Waters and Lands

371:17 Licenses for New Poles. – 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. 2013, 82:1, eff. June 19, 2013.

In its Petition, PSNH states that in order to meet the reasonable requirements of service to the public it has determined it is necessary to install a new 115 kV line from its Madbury Substation to its Portsmouth Substation. Installing the new transmission line will allow PSNH to continue to provide reliable electric service to its customers in the Seacoast Region of the New Hampshire.

Rights in Public Waters and Lands

371:20 Hearing; Order. – The commission shall hear all parties interested; and, in case it shall find that the license petitioned for, subject to such modifications and conditions, if any, and for such period as the commission may determine, may be exercised without substantially affecting the public rights in said waters or lands, it shall render judgment granting such license. Provided, however, that such license may be granted without hearing when all interested parties are in agreement and in cases involving filings made under RSA 371:17-a and RSA 371:17-b. The executive director of the commission may issue licenses under RSA 371:17-a and RSA 371:17-b.

Source. 1921, 82:1. PL 244:10. RL 294:18. 1951, 203:48 par. 20. RSA 371:20. 1967, 21:1, eff. May 7, 1967. 2013, 82:5, eff. June 19, 2013.

In its Petition, PSNH submitted that the licenses petitioned for herein may be exercised without substantially affecting the rights of the public in the public lands covered in its Petition. Minimum safe line clearances above all surfaces will be maintained at all times. The use and enjoyment by the public of the public lands will not be diminished in any material respect as a result of the overhead lines.

PSNH Petition, Revised Appendices A through E provide Tables showing NESC vertical and horizontal minimum clearance requirements as well as the Eversource vertical design span clearances of each circuit's phase conductors at and between structures crossing each public land parcel. Using NESC C2-2012 as its reference, Staff was able to verify that NESC minimum clearance requirements were met and exceeded for each crossing span.

C. Existing license(s) and permissions previously granted by the PUC for these locations

Staff was not able to confirm the existence of any previously granted crossing licenses for the overhead crossing locations.

PSNH noted in its petition that none of the existing overhead public lands crossings of the 380 line, the 3162 line, or the 3850 line were previously licensed. The Company explained that this was due to either oversight, or the fact that the lands involved were in private ownership at the time of original construction, neither the existing 380 Line crossing, the existing 3162 Line, nor the existing 3850 Line crossings of these public lands have been previously licensed by the Commission.

Staff questioned why Eversource was not seeking a license for the 3850 line crossing of LL#1001 in Newington. In its response, Eversource explained that because the 3850 Line was not being modified as part of this Seacoast reliability Project, the petition did not include this crossing as part of the overall project. When Staff asked if the 3850 Line had an existing license to cross LL#1001, the responded in part as follows in an email on April 6, 2017:

Following up, we have not been able to find a PUC crossing license for the existing line 3850 crossing over this DOT parcel (LL#1001). The history is that the line was constructed in the approximate 1955-56 time frame, pursuant to an easement grant from the USA in connection with a relocation needed for the construction of Pease AFB. Therefore, no crossing license would have been obtained or required at that time, since it was not State owned public land. This was a NH Electric Company line and easement, which PSNH acquired in 1965 when it acquired all the land rights and assets of that company. The State DOT acquired LL#1001 in 2012 from the Pease Development Authority subject to all existing easements, including PSNH's for the 3850 line.

However, it appears the 3850 line was shifted slightly westerly and rebuilt by PSNH over this parcel (still within the easement), by agreement with DOT, in connection with a DOT Spaulding Turnpike improvement project (new Spaulding Tpke/Woodbury Road interchange and ramps) during the 2013-14 time frame. We do not find a record of having licensed the "rebuilt" crossing at that time, due likely to a belief that it was not required since we were working cooperatively with DOT, and were within our existing easement rights.

Staff believes it is appropriate that Eversource be required to file a separate petition seeking a license for the 3850 Line crossing LL#1001 in Newington. Normally, Staff's expectation is that a petition for a license to cross this parcel would have been filed when the 3850 Line was relocated and rebuilt in order to accommodate the NHDOT for its Spaulding Turnpike Improvement Project in 2013-14. Staff will address this open issue as part of this recommendation.

D. Land ownership at existing facility locations

As noted in its petition, at statement 14, PSNH is using existing power line rights of way. For each of its overhead crossings PSNH owns permanent, minimum 100 foot wide easements for its lines and facilities across public lands at the proposed crossing locations. Each of the crossings will be constructed within the limits of those easements.

E. NESC code requirements as described in Puc 300

N.H. Code of Administrative Rules Puc 306 requires:

- (a) 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 C2-2012....

The Company explicitly states that the required technical information provided in its petition is based on the 2012 National Electric Safety Code (NESC) C2-2012. The Company continues by stating the proposed crossings have been designed and will be constructed, maintained and operated by PSNH in accordance with the applicable requirements of the NESC.²¹

Safety Division Staff reviewed the specifications related to the maps, design and proposed construction plan and profile drawings of the crossing projects as provided in the Petition, Appendices and supporting Exhibits, as filed on April 12, 2016, in its revisions to the Petition, Appendices and supporting Exhibits, as filed on February 8, 2017, in subsequent email correspondence. Based on its review, Staff finds the project’s applicable technical specifications to be in conformance with the applicable sections of NESC code C2-2012 and Puc 300.

F. Public need and public impact, including applicability of other State regulations

In order to meet the reasonable requirements of electric service to the public, PSNH has previously constructed, and currently operates and maintains, other three-phase 115 kV transmission lines on its system. The Company has also previously constructed, and currently operates and maintains 34.5 kV electric distribution system circuits within the same easements in the Towns of Durham and Newington, New Hampshire. The proposed new F107 Line will be an integral part of the PSNH system, as well as the

²¹ Re. Petition, paragraph 7.

regional ISO-NE Grid. Alternative transmission routes were evaluated but were ultimately not selected by PSNH and ISO-NE. The proposed new F107 Line will use existing distribution system easements and cross the same public lands at each crossing location.

PSNH asserts in the petition that the construction, maintenance and operation of these crossings will be exercised without affecting the rights of the public of the public lands at each crossing location. Minimum safe line clearances above ground surfaces will be maintained at all times. The use and enjoyment of the public lands at each of the Durham and Newington locations by the public will not be diminished in any material respect as a result of the overhead line crossings.

The Safety Division notes the reconfiguration of the distribution lines within the existing rights of way are necessary to allow for the addition of the proposed new F107 line, a 115 kV transmission line, designed to serve the growing demand requirements of the Seacoast Region of New Hampshire. NHPUC Safety Division Staff concludes the impact to the public in terms of safety will be *de minimis* and not measurable in terms of meeting minimum NESC clearance requirements over the public lands at each location.

G. Areas not reviewed by the Safety Division

The scope of the Safety Division review was limited to analysis of the functional use and safety at the proposed crossings.

The scope of this review excluded environmental and aesthetic impacts as those areas are reviewed by New Hampshire Department of Environmental Services and the New Hampshire Site Evaluation Committee.

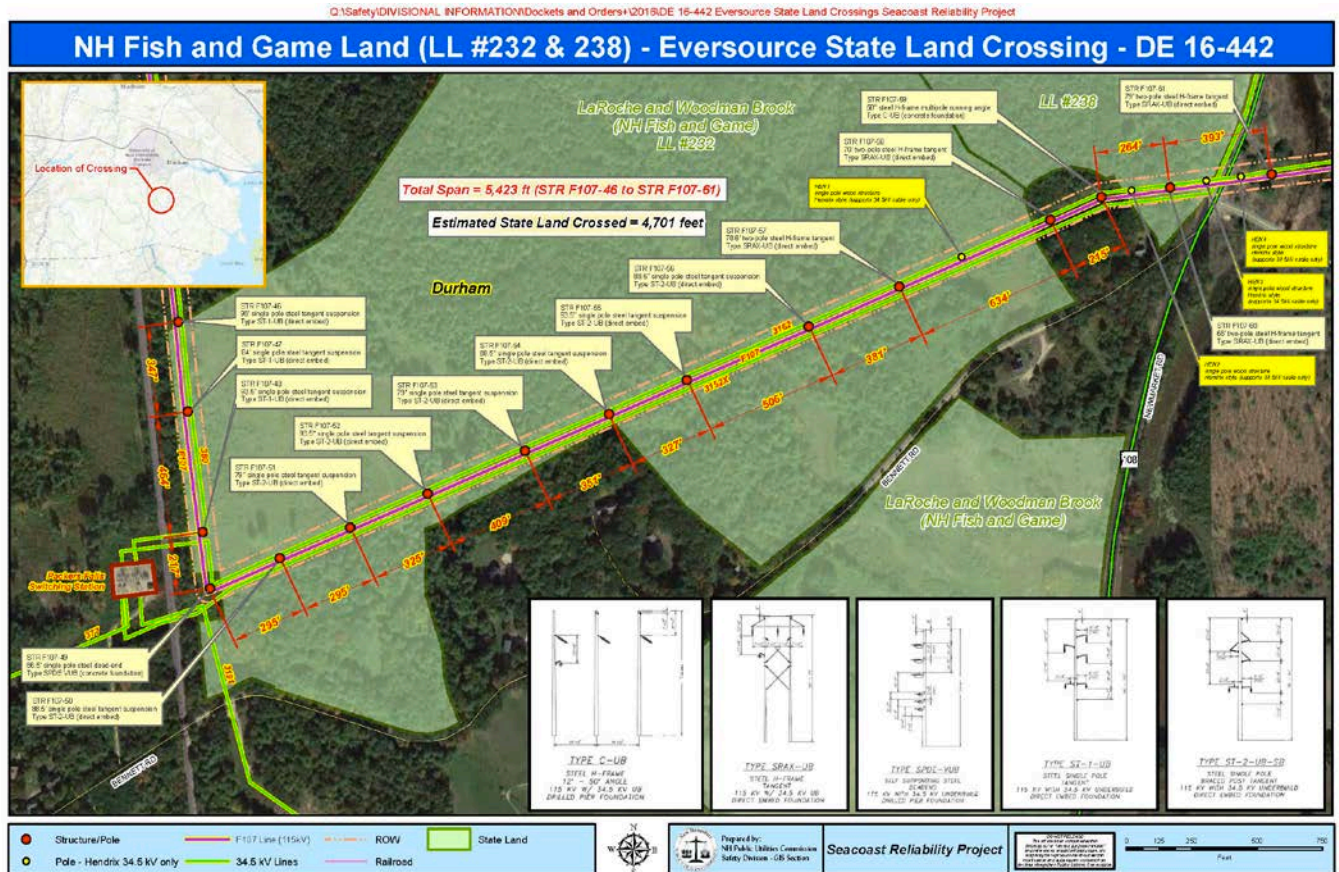
H. Safety Division Staff Recommendations:

Based on the results of its review of the petition, appendix, exhibits, and other available supporting documents, the Safety Division Staff recommends that the Commission:

- a) Find that the public lands crossing licenses PSNH requests in this docket may be exercised without substantially affecting the public rights of the public lands which are the subject of the petition;
- b) Grant PSNH ten licenses to construct and maintain electric transmission and distribution lines, including communication wires, across the public lands, and identified as follows:
 - 1. 115 kV transmission circuit F107, overhead crossing of NHF&G land LL #232, Tax Map 15 Lot 1-0, Durham;

2. 34.5 kV distribution circuit 380, overhead crossing of NHF&G land LL #232, Tax Map 15 Lot 1-0, Durham;
 3. 34.5 kV distribution circuit 3162, overhead crossing of NHF&G land LL #232, Tax Map 15 Lot 1-0, Durham;
 4. 115 kV transmission circuit F107, overhead crossing of NHF&G land LL #238, Tax Map 15 Lot 7-3, Durham;
 5. 34.5 kV distribution circuit 3162, overhead crossing of NHF&G land LL #238, Tax Map 15 Lot 7-3, Durham;
 6. 115 kV transmission circuit F107, overhead crossing of NHF&G land LL #263, Tax Map 15 Lot 5-0, Durham;
 7. 34.5 kV distribution circuit 3162, overhead crossing of NHF&G land LL #263, Tax Map 15 Lot 5-0, Durham;
 8. 115 kV transmission circuit F107, overhead crossing of NHDOT land, LL #1000, Newington;
 9. 34.5 kV distribution circuit 3850, overhead crossing of NHDOT land, LL #1000, Newington;
 10. 115 kV transmission circuit F107, overhead crossing of NHDOT land LL #1001, Newington;
- c) Require PSNH to file within 60 days, outside this proceeding, a Petition for a License to Cross Public Lands for the 34.5 kV distribution circuit 3850, overhead crossing of NHDOT land, LL #1001, Newington;
- d) Require PSNH to notify the Commission Safety Division Staff within 60 days of any proposed changes related to the location or other technical specifications to any of the ten overhead crossings of public lands identified in this Staff Recommendation; and
- e) Require PSNH to forward the Order after 30 days of publication notice to Site Evaluation Committee for consideration in SEC proceeding 15-04.

Staff Attachment 1

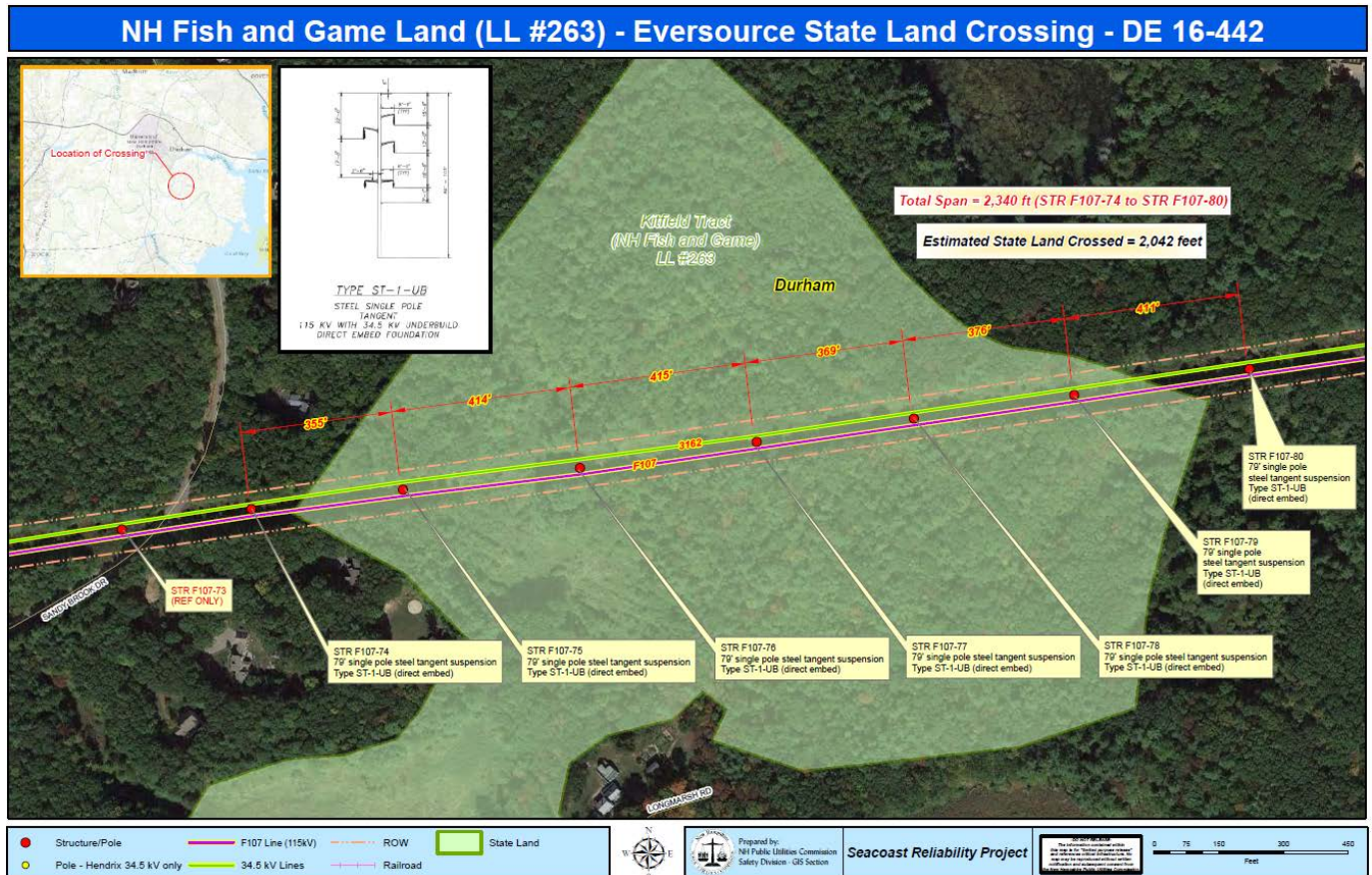


Public Land Parcels 1 and 2:

Parcel 1 is LL#232, as identified in the petition and engineering drawings, is located north of Bennett Road and slightly northeast of the PSNH Packers Falls substation in the Town of Durham, NH. The project will require the Commission to grant three public lands crossing licenses related to this parcel. The first license will be for the 115 kV F107 Transmission Line for approximately 4,364 feet. The second license will be for the 34.5 kV 380 Distribution Line for approximately 957 feet. The third license will be for the 34.5 kV 3162 Distribution Line for approximately 3,407 feet.

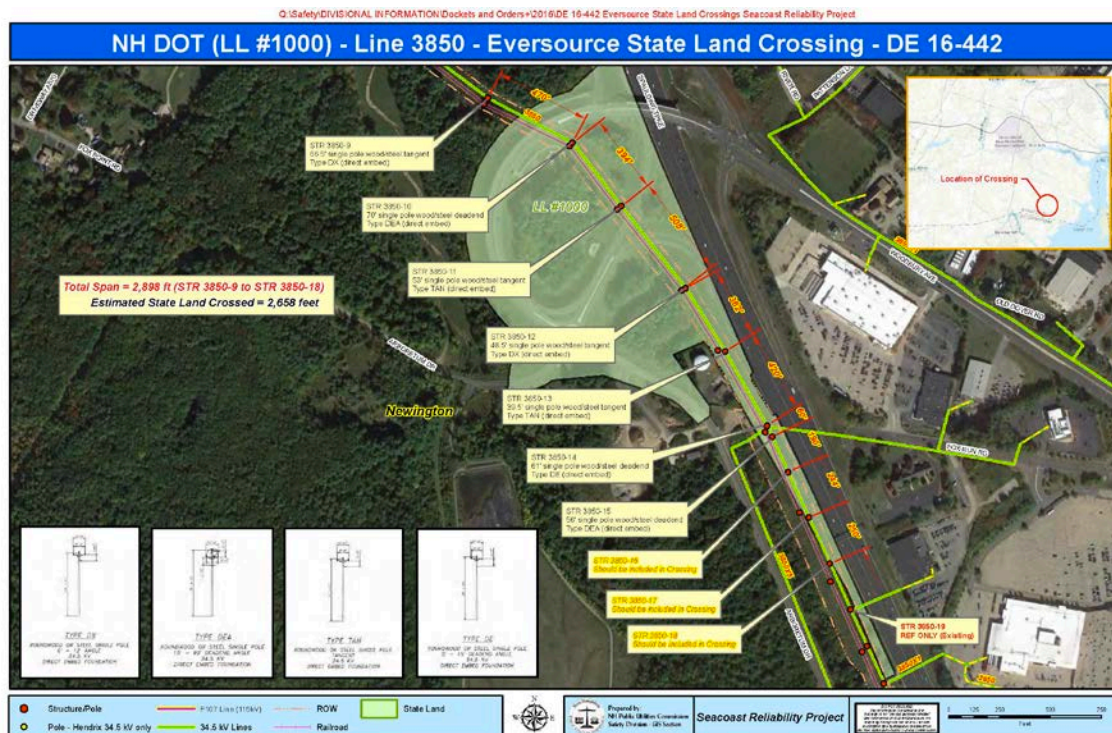
Parcel 2 is LL#238, a second, smaller parcel, adjacent to parcel 1 above, also managed by the NHF&G. This public lands parcel, as identified in the petition and engineering drawings, is located north of Bennett Road and west of Newmarket Road (SR 108) in Durham. The project will require the Commission to grant two public lands crossing licenses related to this parcel. The first License will be for the 115 kV F107 Transmission Line for approximately 337 feet. The second license will be for the 34.5 kV 3162 Distribution Line for approximately 337 feet.

Staff Attachment 2



Public Land Parcel 3:

Parcel 3 is State owned public land managed by the NHF&G, in Durham. This parcel is identified in the petition and engineering drawings as LL#263, Tax Map 15 Lot 5-0, in Durham. This parcel is located east of Sandy Brook Drive and north of Long Marsh Road. The project will require the Commission to grant two public lands crossing licenses related to this parcel. The first license will be for the 115 kV F107 Transmission Line for approximately 2042 feet. The second license will be for the 34.5 kV 3162 Distribution Line for approximately 2042 feet.

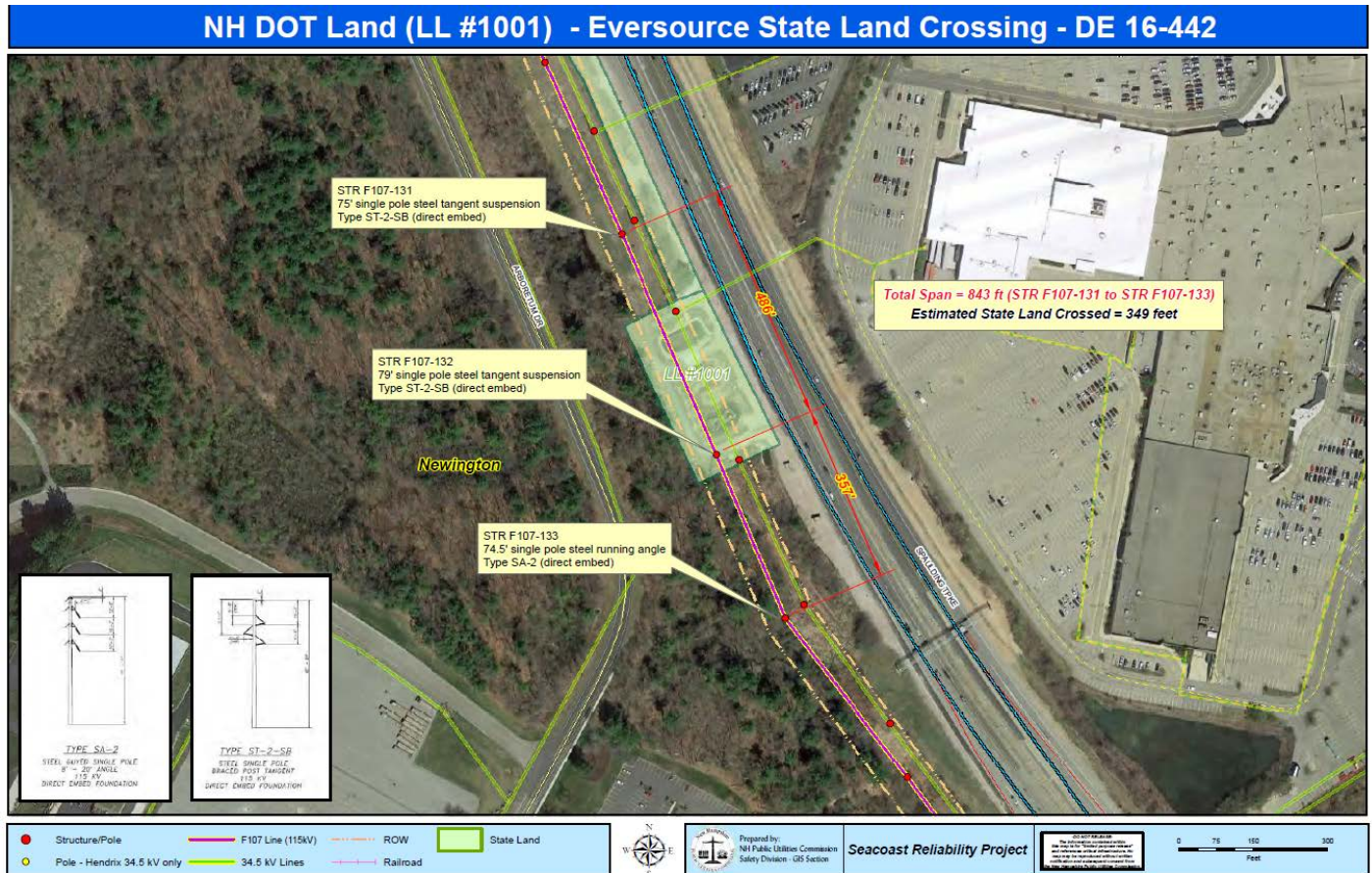


Staff Attachment 3

Public Land Parcel 4:

Parcel 4 is State owned public land managed by the NH Department of Transportation in Newington, NH. This parcel is identified as LL #1000 in the PSNH petition and its attached exhibits. The crossing is located west of the Spaulding Turnpike in an approximate north-south orientation where the NHDOT reconstructed the southbound Woodbury Avenue off-ramp and on-ramp. The existing PSNH 3850 Line ROW passes directly over the public land. The project will require the Commission to grant two public lands crossing licenses related to this parcel. The first license will be for the 115 kV F107 Transmission Line for approximately 2340 feet. The second license will be for the reconfigured 34.5 kV 3850 Distribution Line for approximately 2658 feet. Note: the F 107 Line and 3850 Line exit the land parcel at differing points. Staff's parcel boundary differed from the petition as Staff used the DOT parcel information from SEC Drawing No 38504402 that showed slight differences. PSNH petition showed the 3850 lease stopping at existing Pole 15 where Staff showed it as continuing onto Pole 17.

Staff Attachment 4



+264215

Public Land Parcel 5:

Parcel 5 is State owned public land managed by the NH Department of Transportation in Newington, NH. This parcel is identified as LL #1001 in the PSNH petition and its attached exhibits. This crossing is also located west of the Spaulding Turnpike in an approximate north-south orientation, just south of Parcel 4, described in Staff Attachment 3 above. The existing PSNH 3850 Line ROW passes directly over this public land. The petition provides information seeking Commission approval for one public land crossing license related to this parcel. The license request is for the 115 kV F107 Transmission Line for approximately 350 feet.

Following additional discussion with the Company, Staff is recommending the Company file for a second license at this location for the 34.5 kV 3850 Distribution Line, which was relocated and rebuilt in the 2013-14 timeframe. Staff recommends the license for the 3850 Line to be addressed in a separate docketed proceeding.

SERVICE LIST - EMAIL ADDRESSES - DOCKET RELATED

Pursuant to N.H. Admin Rule Puc 203.11 (a) (1): Serve an electronic copy on each person identified on the service list.

Executive.Director@puc.nh.gov
amanda.noonan@puc.nh.gov
christopher.allwarden@nu.com
leszek.stachow@puc.nh.gov
ocalitigation@oca.nh.gov
randy.knepper@puc.nh.gov
robert.wyatt@puc.nh.gov
suzanne.amidon@puc.nh.gov
tom.frantz@puc.nh.gov

Docket #: 16-442-1 Printed: December 12, 2017

FILING INSTRUCTIONS:

- a) Pursuant to N.H. Admin Rule Puc 203.02 (a), with the exception of Discovery, file 7 copies, as well as an electronic copy, of all documents including cover letter with:**
- DEBRA A HOWLAND
EXECUTIVE DIRECTOR
NHPUC
21 S. FRUIT ST, SUITE 10
CONCORD NH 03301-2429
- b) Serve an electronic copy with each person identified on the Commission's service list and with the Office of Consumer Advocate.**
- c) Serve a written copy on each person on the service list not able to receive electronic mail.**