

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: February 27, 2017

AT (OFFICE): NHPUC

FROM: Randy Knepper
Director – Safety Division

SUBJECT: Docket No. DE 15-460, DE 15-461, DE 15-462 and DE 15-463
Northern Pass Transmission Project
Northern Pass Transmission, LLC (NPT) and
Public Service Company of New Hampshire d/b/a Eversource Energy (ESE)
**Staff's Overall Review of the Petitions for Licenses to Cross Public Waters and
Lands**

TO: Debra Howland, Executive Director
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cc: Robert Wyatt, Assistant Director, Safety Division

A. Brief Summary of Procedural History and Staff's Review Process

On October 19, 2015, Northern Pass Transmission, LLC (NPT), and Eversource Energy (ESE) filed with the New Hampshire Public Utilities Commission petitions for licenses to cross public waters (DE 15-460 (NPT) and DE 15-462 (ESE)) and public lands including state owned railroads (DE 15-461 (NPT) and DE 15-463 (ESE)) for the Northern Pass Transmission Project. NPT and ESE filed for a combined 67 licenses¹ at 29 individual locations. NPT filed for 39 licenses and ESE filed for 28 licenses. These crossings include overhead as well as underground crossings. On April 1 and 4, 2016, the Commission held Prehearing Conferences for all four petitions, providing each party the opportunity to present their initial positions. Based on these positions, the Commission ordered legal briefs concerning the application of RSA 371:17 and RSA 371:20 with respect to the four petitions. By secretarial letter dated April 15, 2016, the Commission set a deadline of May 2, 2016, for submission of briefs. Briefs were filed by NPT, the City of Concord (as an intervenor in DE 15-460 and DE 15-462), the Society for the Protection of New Hampshire Forests (SPNHF), (an intervenor in DE 15-460), and Commission Staff. The Commission issued Order 25, 910 to guide the overall review of the four petitions.

The Commission's Safety Division (Staff) has completed its review of the petitions for licenses to cross each of the public waters and state-owned public lands along the full length of the Northern Pass Transmission Project. The new transmission line will cross the US-Canadian border in Pittsburg NH, extending approximately 192 miles through multiple cities and towns along existing and proposed

utility corridors, plus two smaller segments that will be constructed under State highways, and terminating in Deerfield, NH. Approximately 158 miles of the NPT transmission line will be operated as direct current (DC) at 320 kVolts² and the remaining approximate 34 miles will be operated as alternating current (AC) at 345 kVolts.

Research involved in the review of the four petitions required Staff to use commercial engineering modeling software to verify much of the design and clearance data submitted in the petitions. This review involved communication with NPT's engineers to clarify data points used in the PUC assessment. Staff used a comprehensive verification scheme applying Geographic Information Systems to review the locations of the crossings in context with surrounding residential and commercial buildings, existing utilities and other energy infrastructure. Staff examined proposed support structures and parcel information regarding easement documentation and land use. Since state lands were involved, a historical verification was made on land crossings to assess if easement documentation predated the state acquiring the lands and also to consider if the Northern Pass Project required relocation of existing transmission or distribution lines which would necessitate new licenses to be issued. Typically, such an extensive review is not conducted but given the high profile of the Northern Pass Project and its potential impacts within the state, Staff analyzed the detailed information submitted to identify if deficiencies existed. Staff also used the traditional tools at its disposal for gathering information to complete its review such as field investigations and code compliance assessment. The project review consisted of the following:

- Staff issued seven sets of data requests to the petitioners and reviewed all of the data responses, all other supplemental support documents filed by the petitioners, as well as all other filings and correspondence filed to the dockets.
- Additionally, two technical sessions were conducted among the parties to these dockets, allowing for additional review of discovery and an open exchange of information.
- Staff sent letters soliciting comments related to the NPT project to Executive Leadership of three State Agencies including the New Hampshire Adjutant General, all of which manage public lands with proposed new and/or relocated existing land crossings. Response comments were received from the Department of Transportation, the Department of Resources and Economic Development and the NH Adjutant General office.
- Staff retained an independent engineer to perform technical analysis of the transmission line clearances above each of the Public Waters and State Lands crossings. The analysis used Southwire's "SAG 10" commercial software licensed to the NHPUC Safety Division.
- Staff performed limited field inspections using measuring equipment to verify existing transmission line clearances and structure types, heights and locations.
- Staff researched and collected land ownership documents, copies of deeds, easements, etc. from public records filed in the NH Site Evaluation Committee Docket 2015-06, Forward NH internet site regarding plan reviews and NH PUC Docket DE 15-464 for each of the public waters and lands crossing locations.

Staff's typical review process used to develop recommendations regarding the crossings petitions consisted of the following elements:

- Petition contents and history;
- Applicable State Statutes;
- Crossings included in the petitions that did not require licenses;
- Whether the license can be exercised without substantially affecting the public rights in waters or lands;
- Whether any of the proposed relocations of existing ESE crossings are already licensed by the PUC;
- An assessment of land ownership, deeds, easement documents, etc., for each of the crossing facility locations;
- Verification and methodology used to determine clearances of electric power lines from railroad, land and waters crossings;
- A determination that the crossings will be constructed and maintained in accordance with the standards of the NESC code and the requirements of N.H. Administrative Rules Chapter Puc 300; and
- Conclusions and Recommendations.

Staff's approach was to combine the four petitions into one large project and to geographically regroup the license requests from north to south into 4 zones depicted on 24 Public Utility Commission generated detailed maps. These four zones each have a corresponding recommendation. Staff reviewed each of the sixty-seven public waters and state lands crossings related to the four petitions filed in dockets DE 15-460, DE 15-461, DE 15-462 and DE 15-463. Staff eliminated six of the crossings that did not meet the requirements of public waters thus did not require a license be reviewed or issued. As stated previously, each recommendation includes a group of crossings that have been organized by specific geographic zone. See Table 1 for the complete list of the crossings that Staff reviewed in detail for license suitability. Figure 1 shows the overall NPT project depicting locations and types of crossings, underground portions, overhead portions, locations of detailed PUC Generated Maps and sample layouts for the AC/DC converter station, Underground/Overhead Transition stations. Figures 2-5 show the corresponding detailed map locations in relation to the overall Northern Pass Project and segment the NPT project into four zones. Figures 2-5 are single-page maps and display the towns, types of crossings and corresponding detailed map identifications.³ Figures 1-5 and the 24 detailed Maps were created by the NHPUC Safety Division using internal GIS mapping software.

Staff Recommendations 1 through 4 are provided under separate cover attached to this Overall Staff Review Memorandum. The four Staff Recommendations provide information specific to each public water, land or rail crossing. Crossing details are provided in Appendix A of each recommendation. For example, Appendix A.1 in Staff Recommendation 1 corresponds to Staff designated Zone 1 and has 20 separate single-page tables. Staff Recommendation 2 for Staff designated Zone 2 includes 5 licenses identified as individual crossings, with single-page detail tables for each in Appendix A.2. Recommendation 3 covers the crossings in designated Zone 3 including 17 licenses, with single-page

detail tables for each in Appendix A.3. Recommendation 4 covers the crossings in designated Zone 4 including 19 licenses, with single-page detail tables for each in Appendix A.4.

As noted in Commission Order No. 25,910, dated June 28, 2016, licenses to cross these public waters and lands, if approved, are contingent on the project developers, Northern Pass Transmission, LLC and Public Service Company of New Hampshire d/b/a Eversource Energy, getting final approvals from the New Hampshire Site Evaluation Committee. These will be conditions that Staff recommends be included within each license if granted.

Attachment A provides 3 Spreadsheets which summarize the crossings with details that cross reference Site Evaluation Committee Dockets, previous licenses granted through PUC Commission Orders and Deed Information including book and page number; Tax Map Information including tax map number, block number and lot number; and DE 15-464 Bates Page reference numbers. These spreadsheets are organized by 3 sorts:

- 1) detailed PUC generated Map number
- 2) by town alphabetically
- 3) by Zone by detailed PUC generated Map number

Table 1. NPT Project Review - List of NPT and ESE Public Waters and Lands Crossings

Staff Zone-Map #	Water/Land Name	DE 15-460 NPT Water Crossing/License	DE 15-461 NPT Land Crossing/License	DE 15-462 ESE Water Crossing/License	DE 15-463 ESE Land Crossing/License	Totals
1-1	Halls Stream	Pittsburg	--	--	--	1
1-2	Connecticut River	Pittsburg	--	--	--	1
1-3	Nash Stream Forest	--	Stark	--	Stark	2
1-4	Percy State Forest	--	Stark	--	Stark	2
1-5	Upper Ammonoosuc	Stark	--	Stark	--	2
1-6	Cape Horn Forest	--	Northumberland		Northumberland	2
1-7	Otter Brook	Lancaster	--	Lancaster	--	2
1-7	Israel River	Lancaster	--	Lancaster	--	2
1-7	NHDOT RR	--	Lancaster	--	Lancaster	2
1-8	NHDOT RR	--	Dalton	--	Dalton	2
1-8	Johns River	Dalton	--	Dalton	--	2
2-9	NHDOT RR	--	Bethlehem	--	--	1
2-9	Ammonoosuc River	Bethlehem	--	--	--	1
2-10	Gale River	Franconia	--	--	--	1
2-11	Moosilauke Brook	Woodstock	--	--	--	1
2-12	Baker River	Plymouth	--	--	--	1
3-13	Pemigewasset River	Bridgewater	--	--	--	1
3-14	Squam River	Ashland	--	--	--	1
3-15	NHDOT	--	New Hampton	--	New Hampton	2
3-15	Pemigewasset River	New Hampton	--	New Hampton	--	2
3-16	Pemigewasset River	Bristol	--	Bristol	--	2
3-17	Pemigewasset River	New Hampton	--	New Hampton	--	2
3-18	W.H. Thomas Forest	--	Hill	--	--	1
3-19	Northern Rail Trail	--	Franklin	--	Franklin(2)	3
3-19	Chance Pond	Franklin	--	Franklin (2)	--	3
4-20	Northern Rail Trail	--	Franklin	--	Franklin	2
4-20	NHDOT Land	--	Franklin	--	Franklin	2
4-20	Merrimack River	Franklin	--	Franklin	--	2
4-21	NHDOT RR	--	Canterbury	--	Canterbury	2
4-22	Turtle Pond	Concord	--	Concord (2)	--	3
4-23	Soucook River	Concord	--	Concord (2)	--	3
4-23	NHAG Land	--	Pembroke	--	Pembroke (2)	3
4-24	Suncook River	Pembroke	--	--	--	1
4-24	Bear Brook Park	--	Allenstown	--	---	1
Zone 1	Sub-Total Licenses	6 NPT Water	5 NPT Land	4 ESE Water	5 ESE Land	20
Zone 2	Total Licenses	4 NPT Water	1 NPT Land	0 ESE Water	0 ESE Land	5
Zone 3	Total Licenses	6 NPT Water	3NPT Land	5 ESE Water	3 ESE Land	17
Zone 4	Total Licenses	4 NPT Water	5 NPT Land	5 ESE Water	5 ESE Land	19
Project	Total Licenses	20 NPT Water	14 NPT Land	14 ESE Water	13 ESE Land	61

Figure 1: Overall 192 mile Northern Pass Project (best when viewed on E Size)

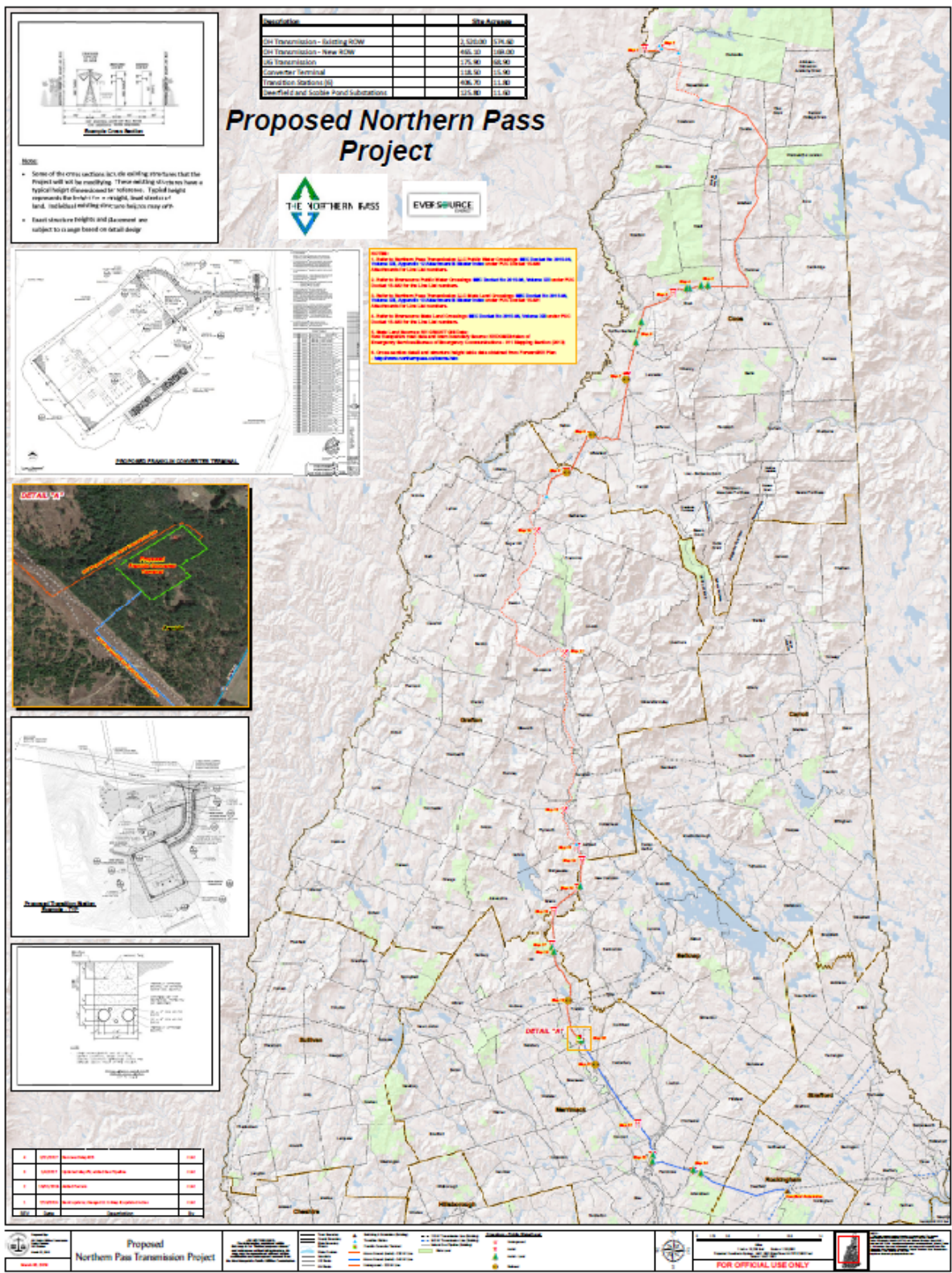


Figure 2: Pittsburg, Stark, Northumberland, Lancaster, Dalton

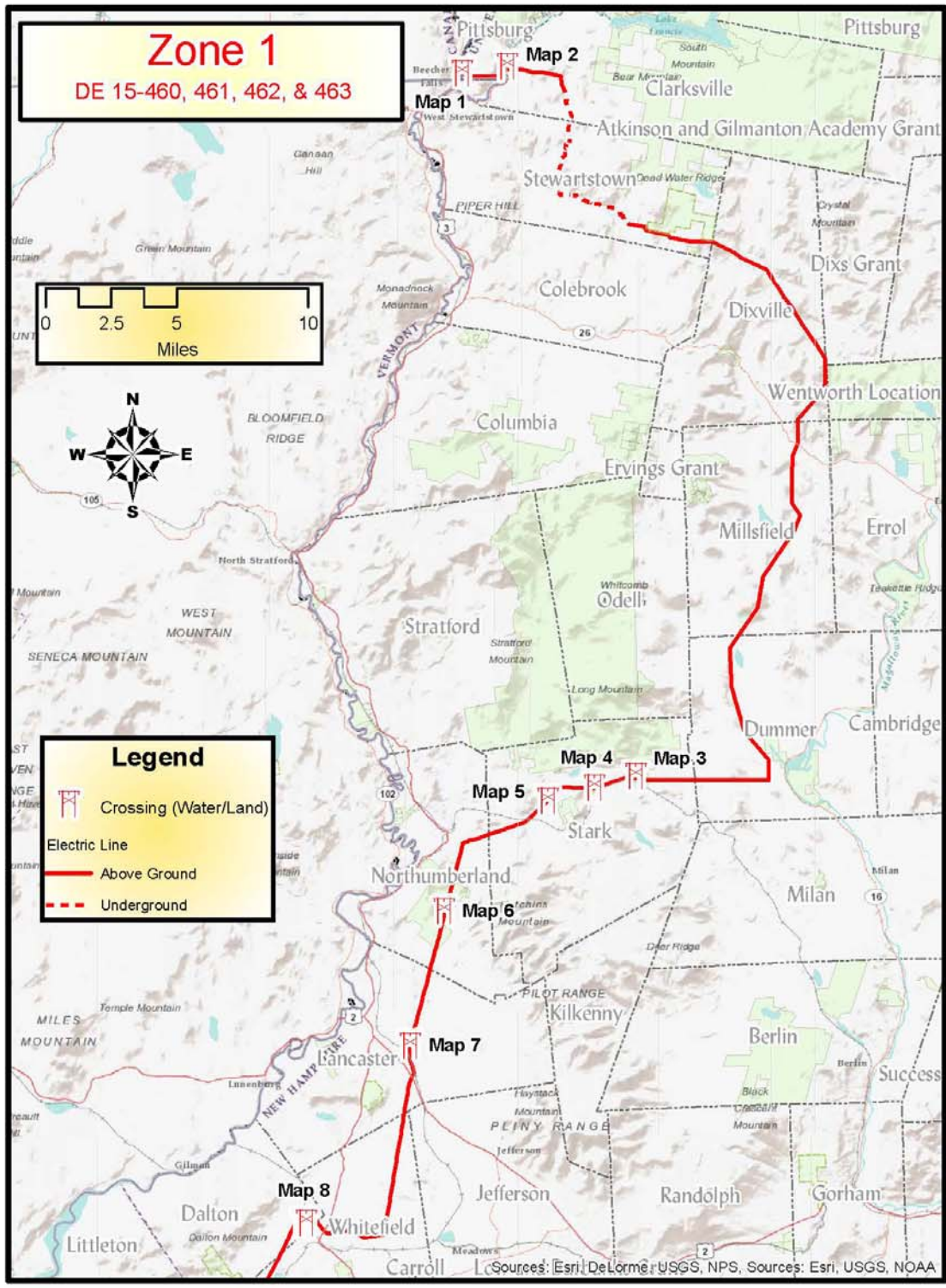


Figure 3: Bethlehem, Franconia, Woodstock, Plymouth

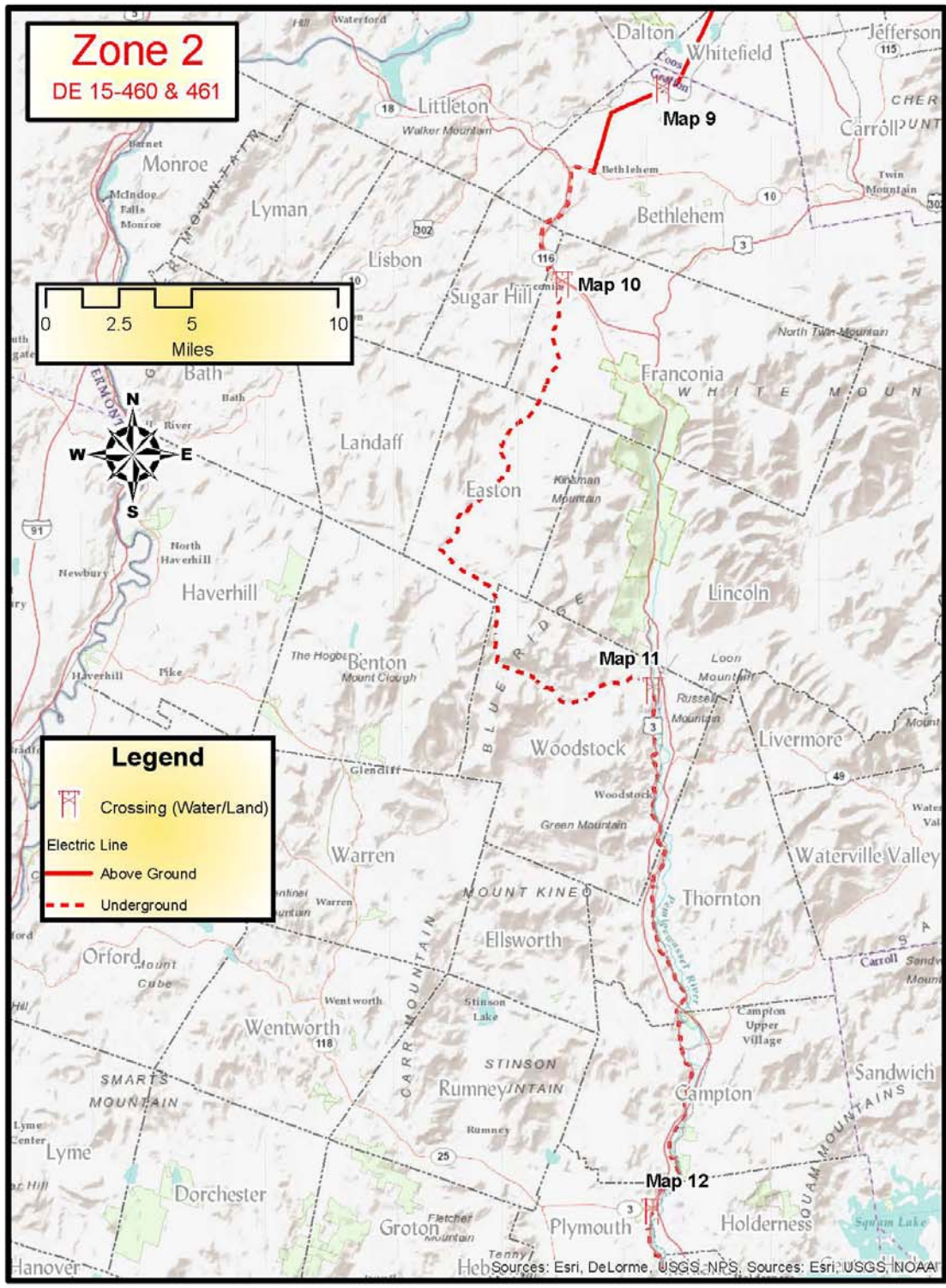


Figure 4: Bridgewater, Ashland, New Hampton, Bristol, Hill, Franklin

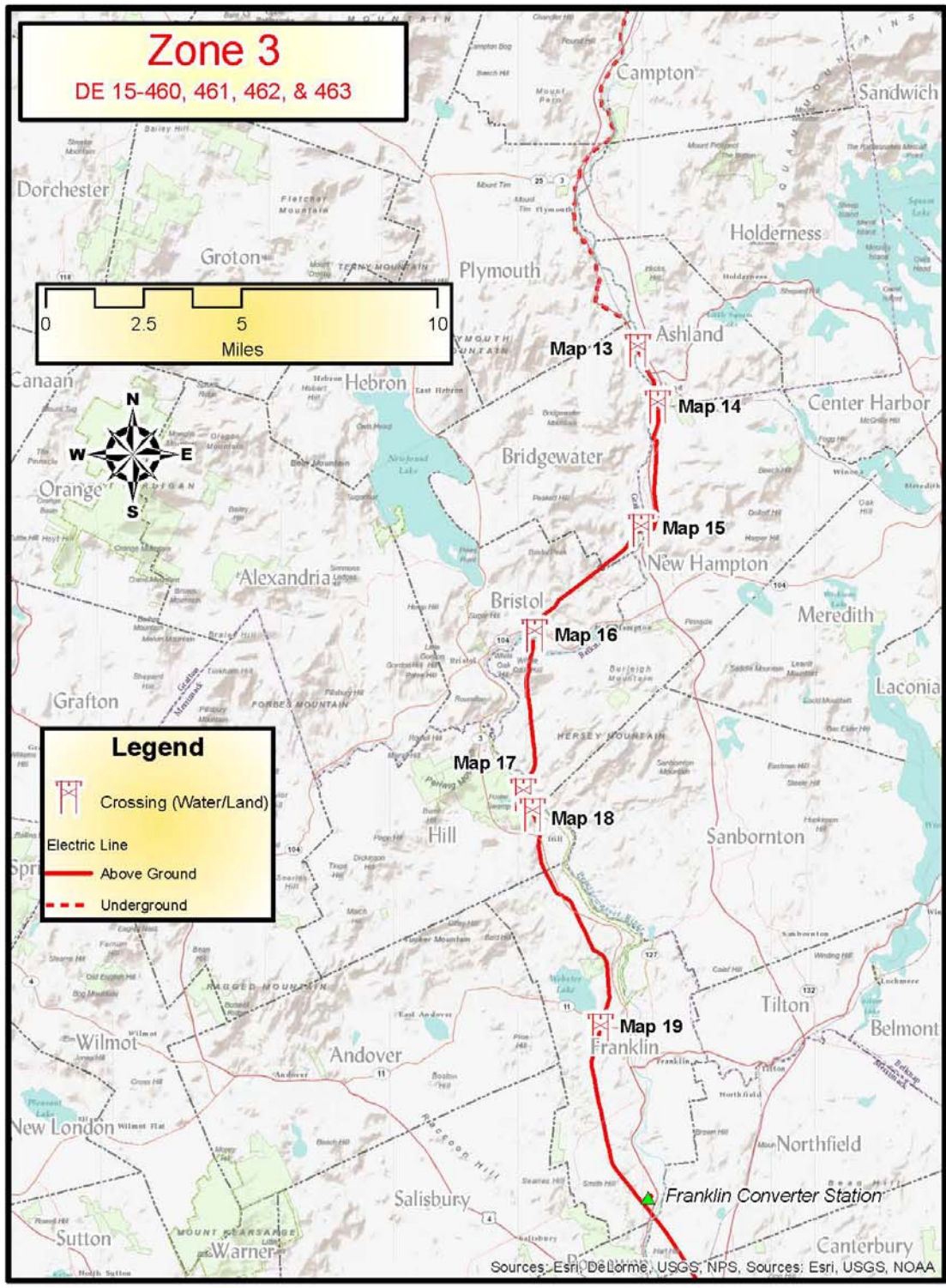
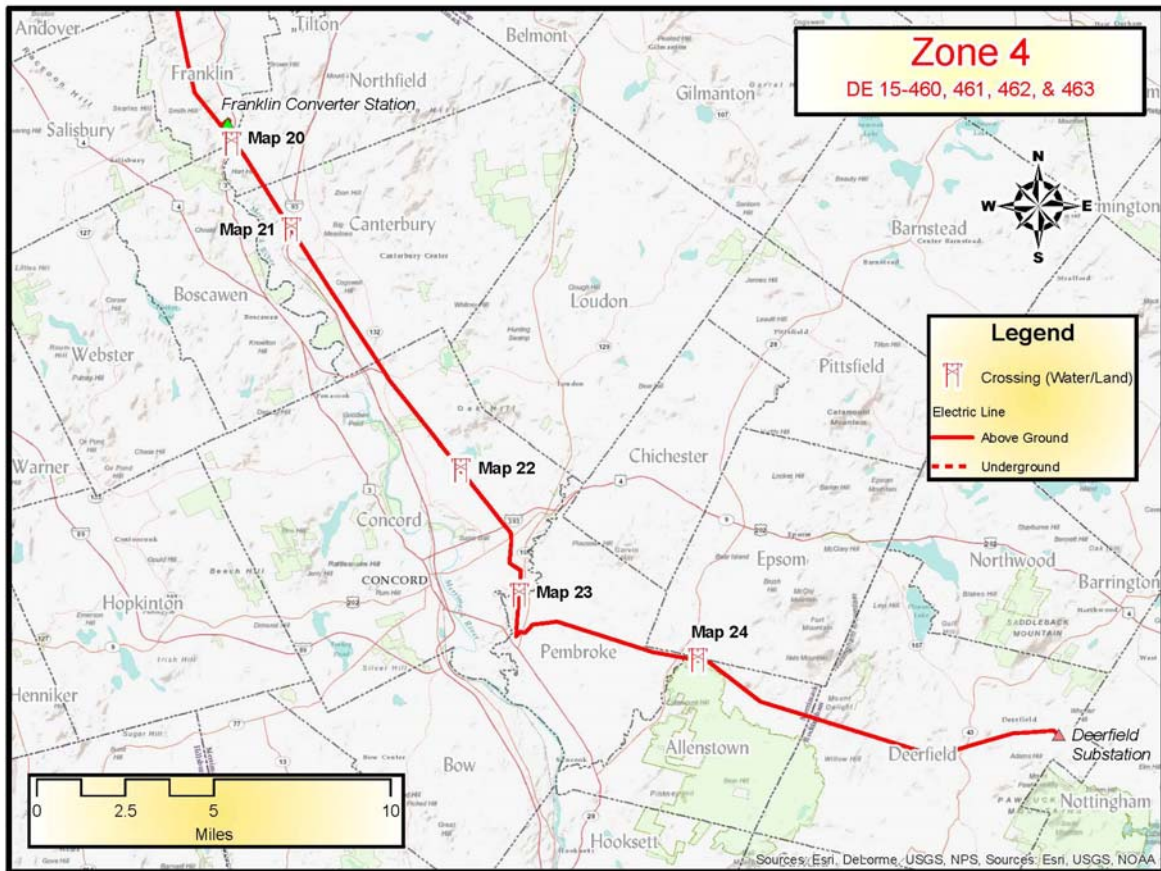


Figure 5: Franklin, Canterbury, Concord, Pembroke, Allenstown



B. Scoping Limitations of Staff's Review

Commission Order No. 25,910 issued on June 28, 2016, provides clarity to the Commission Staff regarding the scope of our review of petitions for licenses to cross public waters and public lands pursuant to RSA 371:17 and RSA 371:20. *“The Commission interprets these statutes to direct the focus of its inquiry when considering a crossing license petition to be on the proposed crossing’s effects on the public rights in the waters or lands in question. The provision of RSA 371:17 regarding the proposed crossing being “necessary, in order to meet the reasonable requirements of service to the public” is a threshold matter that the petitioner meets if the reason for the crossing is to provide a service that historically has been provided by a public utility.”* In this order the Commission found that the NPT and ESE crossings meet the threshold requirement of necessary for service to the public under 371:17.⁴ With regard to 371:20, the order provides that *“the Commission will limit its review of the proposed crossings under RSA 371:20 to the functional use and safety of the proposed crossings, and all licenses shall be contingent upon Site Evaluation Committee approval of the project.”* With the scope clearly defined by Commission order, Staff’s review under RSA 371:20 focused on the functional use and safety of the proposed crossings. Issues related to environmental and aesthetic aspects of the project remain under SEC review.

C. Standard Review

As Staff conducted its review of the petitions for each of the public waters and lands crossings it must first consider the Commission interpretation of RSA 371:20, which directs the focus of its inquiry when considering a crossing license petition to be on *the proposed crossings’ effects on the public rights in the waters or lands in question*. More specifically, the proposed crossings must not interfere with *the public’s rights to the functional use and safety of the waters or lands* at the proposed crossings locations. The functional use by the public in and around these crossing locations may vary from one site to the next. It is necessary for Staff to review how the public may use the waters and lands in each of the proposed crossing locations, and then assess the crossing information provided in each petition, to determine whether or not the rights of the public in these waters or lands have been harmed. The standard of review that Staff used for determining the adequacy of any petition for a public water or land crossing relies primarily on the guidelines provided in the most currently available version of the National Electric Safety Code (NESC). NESC Codes are the industry standard used by project developers and utility operators for the design, construction, operation and maintenance of electric distribution and transmission systems. Throughout this review, Staff references technical design specifications provided in the petitions for each crossing and identifies key NESC codes that were used to make its assessments of conformance for the proposed crossings.

D. Crossings Not Requiring Licenses

There were six crossings of public waters that were submitted by NPT and ESE including underwater and overhead that Staff reviewed and concluded that they did not meet the current definitions of public waters. They were as follows:

- 1) DE 15-460, Part B, Ham Branch Crossing 1 in Easton (underground) by NPT
- 2) DE 15-460, Part B, Ham Branch Crossing 2 in Easton (underground) by NPT
- 3) DE 15-460, Part B, Ham Branch Crossing 3 in Easton (underground) by NPT
- 4) DE 15-460, Part B, Gordon Pond Brook Crossing in Woodstock (underground) by NPT

- 5) DE 15-460, Appendix 17, Lamprey River, Deerfield (overhead) by NPT
- 6) DE 15-462, Table 1 Appendix 15, Lamprey River, Deerfield (overhead) by ESE

The crossings in Easton and Woodstock are not considered a public river or stream and are not listed on the DES official list of public rivers and streams. See <http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf>

This portion of the Lamprey River in Deerfield is not considered a public river or stream and is not listed on the DES official list of public rivers and streams. There are other portions of the Lamprey River in Deerfield and other towns that are considered public waters but the location of where the crossings are to occur is upstream of those designated portions.

The Staff has consistently used the Official List of Public Waters in New Hampshire compiled by the DES as the publication resource for determining public waters. Over the years, as more data has been collected and more information has become available the list of public waters has evolved from those that may have been designated 50 to 70 years ago when much of the electrical transmission infrastructure was initially constructed by ESE.

E. Methodology Used in Verifying Overhead Clearances Lands, Rails and Rivers

Staff completed an extensive process of trying to verify calculated clearances made in the petitions of (DE 15-460 (NPT) and DE 15-462 (ESE)) and public lands including state owned railroads (DE 15-461 (NPT) and DE 15-463 (ESE)).

Staff used various inputs presented in each of the Appendices of the petitions, the diagrams presented, responses to data requests for materials, spans, heights, and other pertinent data to compile individual single span models using commercial software (SAG 10) that is used within the electric industry and has been used in previous docket submittals by electric providers in New Hampshire.

Of the 67 crossings that were petitioned, 8 were for underground crossings and 2 were eliminated per paragraph D above. This left a remaining 57 overhead or aerial crossings that were analyzed. This was further broken down into types:

- Land Crossings: 15 crossings total (8 by NPT and 7 by ESE)
- Rail Crossings: 12 crossings total (6 by NPT and 6 by ESE)
- Water Crossings: 30 crossings total (16 by NPT and 14 by ESE)

NPT and ESE used a more complex model PLS-CADD from Power Line Systems that uses a 3 dimensional model in which data taken from LIDAR measurements (high resolution 3D survey information) are used and can account for slopes across a cross section where as Staff's elevations were only from the centerline of the structure. Both models were able review inclined spans and account for tensions on the conductors.

Staff determined what verification results would be considered acceptable as follows. If results of the Staff Verification came out within +/-3 ft of clearance presented then the results were considered accurate given the large amounts of data required for the models and that modeling using two different software packages would be expected to vary. The model output variance is what determined Staff's

margin of safety characterization determination that considered the verification as either “Excellent, Good, Acceptable or Unacceptable”. Table 2 gives results of 54 of the 57 aerial verifications.

Table 2		57 OVERHEAD (AERIAL) Crossings				
Results Considered	Clearance Variances between Staff Model and Petition	Results Considered	Qty Land Crossings	Qty Rail Crossings	Qty Water Crossings	Locations (Staff Zone-Map #)
Excellent	+/- 3ft	Excellent	6	7	25	1-1, 1-4, 1-5, 1-6, 1-7, 1-8, 2-9, 3-14, 3-15, 3-16 3-17, 3-19, 4-20, 4-21, 4-22, 4-23, 4-24
Good	+/- 4ft to 6ft	Good	7	1	4	1-3, 1-7, 3-13, 3-15, 3-16, 3-18, 4-20, 4-21 4-23, 4-24
Adequate <i>if Margin above NESC requirement is 25% more than variance</i>	+/-6 ft to 15 ft	Acceptable	3	0	1	1-3, 1-4, 3-17, 4-20
Inadequate	> 15 ft	Not Acceptable	0	0	0	None
		Subtotal	16	8	30	
			54			3 Rail Crossings not Calculated

For details of the exact clearances and those required by the NESC for overhead crossings within each zone refer to Table 2 within each of the individual recommendations 1 through 4.

In all cases the dominating scenario which yielded the lowest clearance was the situation where 115 kV AC and 345 kV AC conductors were thermally stressed to 285 degrees Fahrenheit while the 320 kV DC were thermally stressed to 130 degrees Fahrenheit.

E1. Overhead Water Crossings

The proposed Connecticut River in Pittsburg crossing may meet the applicable activities that trigger an individual permit or a general programmatic permitting review from the Army Corps of Engineers. The Connecticut River is a navigable river subject to the Army Corps of Engineers jurisdiction. The Staff recommends that NPT notify the Army Corps of Engineers about the project.

All water crossings used the DES official list of public rivers and streams for determination if they were considered public waters. See <http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf>

Water elevations used both the 10 year flood and 100 year flood available information. Only the 10 year flood elevation is suggested by the NESC. Using 100 year flood available information is conservative and would yield a lower clearance result.

DES would consider any other shoreland permits or other water quality related permitting required as part of the overall review of environmental permits required for the entire Northern Pass project. All of these submittals can be found on the Site Evaluation Committee’s website.

E.2. Overhead Land Crossings

For land crossings the largest span typically yielded the largest sags unless there was a steep change in topography. Table 4 listed all the crossings where the largest spans were analyzed. 11 of 15 largest spans yielded the lowest clearances.

Table 4		15 OVERHEAD (AERIAL) Land Crossings					
Land Crossing	Longest Span	Span Used	Zone/Map	NPT/ESE	Circuit	Voltage	Comments
Nash Stream Forest	712.08	712.08	1-3	NPT	3120	320 kV DC	Used Longest Span
Nash Stream Forest	686	506.73	1-3	ESE	O154	115kV AC	Did not Use Longest Span
Percy State Forest	591.52	591.52	1-4	NPT	3120	320 kV DC	Used Longest Span
Percy State Forest	607.97	607.97	1-4	ESE	O154	115kV AC	Used Longest Span
Cape Horn State Forest	762	442.57	1-6	NPT	3120	320 kV DC	Did not Use Longest Span
Cape Horn State Forest	763	481.43	1-6	ESE	D142	115kV AC	Did not Use Longest Span
NH DOT/State Firing Range	601.98	601.98	3-15	NPT	3120	320 kV DC	Used Longest Span
NH DOT/State Firing Range	692.46	692.46	3-15	ESE	E115	115kV AC	Used Longest Span
William H Thomas State Forest	776.8	776.8	3-18	NPT	3120	320 kV DC	Used Longest Span
NH DOT Vacant Land	738.56	738.56	4-20	NPT	3132	345 kV AC	Used Longest Span
NH DOT Vacant Land	503.02	503.02	4-20	ESE	F139	115kV AC	Used Longest Span
NH AG	919	799.56	4-23	NPT	3132	345 kV AC	Did not Use Longest Span Longest Span used with corresponding Soucook River crossing
NH AG	1172.27	1172.27	4-23	ESE	P145	115kV AC	Used Longest Span did include river crossing also
NH AG	1172.27	1172.27	4-23	ESE	C189	115kV AC	Used Longest Span did include river crossing also
Bear Brook State Park	596.3	596.3	4-24	NPT	3132	345 kV AC	Used Longest Span

SAG 10 was able to calculate the lowest clearance point and measured the distance from the nearest structure.

All proposed land crossings were aerial.

There were five discrepancies of State Land Parcels between the petitioner's attachments and PUC generated detailed maps. These discrepancies emanated from the source material used to create maps. This resulted in differing descriptions of the total length of the crossing and may have an impact on the descriptions of the parcel boundaries and the description of the amount of state land crossed that is being granted for a license.

These five discrepancies occurred at Nash Stream Forest, Percy State Forest, Cape Horn State Forest, William H Thomas State Forest and Bear Brook State Park:

a. PUC detailed Map 3 for Nash Stream Forest:

The parcel data from the conservation land layer of NH Granite used by the PUC, the parcel data from NPT, and the verified survey information submitted by DRED all differed. The PUC decided to use the DRED survey data since the source information was thought to be first hand.

- The Staff of the PUC used the DRED survey lines as the actual length of the state land license being sought. The difference resulted from 4,335 feet amount of land license required and NPT seeking approximately 4,097⁵ feet amount of land petitioned, yielding a 238 foot difference. *[actual license needed is 238 feet **more** than requested]*
- This did not affect the amount of poles depicted with the Nash Stream Forest.

b. PUC detailed Map 4 for Percy State Forest:

The parcel data from the conservation land layer of NH Granite used by the PUC, the parcel data from NPT, and the verified survey information submitted by DRED all differed. The PUC decided to use the DRED survey data since the source information was thought to be first hand.

- Here the net results were much closer. The Staff of the PUC used the 1,892 foot dimension from data generated by the DRED survey. The difference resulted from 1,892 feet amount of land license required and NH Granite information seeking 1,796 feet amount of land petitioned, yielding a 98 foot difference. *[actual license needed is 98 feet **more** than requested if using the NH Granite data]*
- Even though the PUC and the NPT used the same NH Granite data, there was a large discrepancy as to where the boundaries of Percy State Forest were.
- This did not affect the amount of poles depicted with the Percy State Forest.

c. PUC detailed Map 6 Cape Horn State Forest:

- The Staff of the PUC used survey data by DRED which matches very well with conservation land of NH Granite. Unfortunately parcel data from NPT does not match well.
- PUC detailed Map 6 shows the white line which represents parcel boundary data submitted by NPT. This indicates that NPT and ESE are seeking license for two additional structures shown within ROW that are not required. Two structures are

identified at northern end (DC-486 and D142-322) that does not really need to be within the license.

- White line is parcel boundary from NPT and ESE and yields a 12,547 and 12,560 ft respective traverse of state land while the PUC generated detailed map says the requirement is 12,609 feet. *[actual license needed is 62 and 49 feet **more** than requested]*

d. PUC detailed Map 18 William H Thomas State Forest:

The parcel data from the conservation land layer of NH Granite agreed very well with verified survey information submitted by DRED in response to the discrepancy. ESE and NPT's depiction of the parcel data does not line up exactly with the DRED survey lines.

- Result is ESE A111 line is located within State land more than identified within the petition. ESE did not plan on relocating the line A111 so the petition for ESE did not seek a license.
- ESE application shows there are 6 structures within State Land while the PUC detailed generated map 18 displays there are 9 structures within the State Lands. The differences are depicted as structures A111-77, A111-76 and A111-72.
- This has no impact on NPT's planned license requirement of 2,954 ft as shown on PUC detailed generated Map 18.

e. PUC detailed Map 24 Bear Brook State Park:

The parcel data from the conservation land layer of NH Granite used by the PUC, the parcel data from NPT, and the verified survey information submitted by DRED all differed. The PUC decided to use the DRED survey data since the source information was thought to be first hand.

- The difference found is from a minor discrepancy at the Eastern boundary.
- This only represents 4,270 foot license requirement if using DRED survey lines compared to 4,272 foot license requirement if using the NH Granite information.
- Even though the PUC and the NPT used the same NH Granite data, there was a large discrepancy as to where the boundaries of Bear Brook State Park were at the Eastern boundary.
- This does place ESE G146-110 and NPT Structure 3132-227 outside the Bear Brook State Park.

E.3 Overhead Rail Crossings

Only state rail crossings require licensing. The licenses for Rail Trail Corridors assume as if the rail were to be replaced when considering clearances.

F. Methodology Used for Evaluating Underground Crossings for Waters

Staff reviewed four of eight underground crossings. Of the four reviewed, three were for underground crossings of rivers with use of directional drill (trenchless technology). The bend radii were comprised of large 1200 ft sweeps that had clearances from the river bottoms varying between 10 and 25 feet. These four underground crossings were all in Zones 1 and 2. Each directional drill had to be separated between 5 ft and 25 ft apart for the positive and negative poles of the DC circuit. The 8 inch nominal diameter conduit will enclose cross linked polyethylene XLPE covered 2500 sq. mm conductors.

There was a single microtunnel proposed at the Gale River that has a 36 inch diameter steel casing with two separate 8 inch diameter high density polyethylene conduits for the DC conductors. Thermal grout will be used to fill the voids between the 8 inch diameter cables and communication cables. Communication cables included are 3 inch diameter conduits within the casing for fiber optic communications, heat sensing cables for finding faults and an empty cable duct.

G. Review of Locations where existing circuits located in the ROW were not previously licensed

As a general condition, Staff believes before a new license is issued for a particular crossing, a review should be made if previous licenses were required for existing circuits located within the same crossing.

In some instances such as land crossings, existing circuits were installed prior to the parcel becoming property of the State. In those instances a license is not required if the circuit is remaining in place and no changes are made to conductors or heights of structures. If the existing circuit is being relocated, structures heightened, communication cables added, conductors replaced or realigned and various other alterations then a new license is issued. The license description or evidence within the docket should provide enough details either within Staff's recommendation or within the petition itself to accurately describe the applicability of the license.

Over the years the public waters definition has expanded and now includes segments of rivers that once were not considered. For many years navigability was a factor applied to public waters. The Commission now relies on the public resource listed in Section D above provided by DES that describes the public waters as it relates to RSA 371:17.

Staff noted some of the references to previous licenses granted by the Commission within the petition were in error and Staff evaluated all the previous licenses as well for applicability.

Staff believes after reviewing the crossings in detail for the Northern Pass Project that licenses should be filed for the following locations that were previously unlicensed by Eversource. Both Staff and Eversource researched respective files to determine if previous licenses existed and neither could produce an applicable license. The following locations should be petitioned by Eversource for licenses by today's standards regardless of whether the Site Evaluation Committee denies or approves the Northern Pass Project. They are:

1. Johns River, Dalton - Q195 Circuit 115kV - PUC detailed map 8
2. Johns River, Dalton - X178 Circuit 115kV - PUC detailed map 8
3. Ammonoosuc River, Bethlehem, - X178 Circuit 115kV - PUC detailed map 9

4. Ammonoosuc River, Bethlehem, - 348 Circuit 34.5kV - PUC detailed map 9
5. Gale River, Franconia - 348X1 Circuit 34.5 kV - PUC detailed map 10
6. Pemigewasset River, Bridgewater - E115 Circuit 115kV - PUC detailed map 13
7. Squam River, Ashland - E115 Circuit 115kV- PUC detailed map 14

H. Rights of Way

Existing Right of Ways varied in width at each of the crossings. They varied from 120 ft to 375 ft. Three of the crossings contained natural gas pipelines that vary in pressure from 200 psig to 1440 psig. One of the Right of ways contained a circuit of New Hampshire Electric Cooperative.

TABLE 3 ROW WIDTH and ENERGY INFRASTRUCTURE WITHIN								
Staff Zone-Map #	Water/ Land Name	Town	NEW	Relocated	Existing Not Relocated	Foreign (Gas)	Totals	ROW
1-1	Halls Stream	Pittsburg	1	0	0	0	1	120
1-2	Connecticut River	Pittsburg	1	0	0	0	1	within DOT ROW
1-3	Nash Stream Forest	Stark	1	1	0	1	3	150
1-4	Percy State Forest	Stark	1	1	0	1	3	150
1-5	Upper Ammonoosuc River	Stark	1	1	0	1	3	150
1-6	Cape Horn Forest	Northumberland	1	1	0	0	2	150
1-7	Otter Brook	Lancaster	1	1	0	0	2	150
1-7	Israel River	Lancaster	1	1	0	0	2	150
1-7	NHDOT RR	Lancaster	1	1	0	0	2	150
1-8	NHDOT RR	Dalton	1	1	2	0	4	275
1-8	Johns River	Dalton	1	1	2	0	4	275
2-9	NHDOT RR	Bethlehem	1	0	2	0	3	265
2-9	Ammonoosuc River	Bethlehem	1	0	2	0	3	265
2-10	Gale River	Franconia	1	0	1	0	2	within DOT ROW
2-11	Moosilauke Brook	Woodstock	1	0	1	1	3	within DOT ROW
2-12	Baker River	Plymouth	1	0	0	0	1	within DOT ROW
3-13	Pemigewasset River	Bridgewater	1	0	1	0	2	225
3-14	Squam River	Ashland	1	0	1	0	2	225
3-15	NHDOT	New Hampton	1	1	0	0	2	150
3-15	Pemigewasset River	New Hampton	1	1	0	0	2	150
3-16	Pemigewasset River	Bristol	1	1	0	0	2	225
3-17	Pemigewasset River	New Hampton	1	1	0	0	2	225
3-18	W.H. Thomas Forest	Hill	1	0	1	0	2	225
3-19	Northern Rail Trail	Franklin	1	2	1	0	4	375
3-19	Chance Pond	Franklin	1	2	1	0	4	375
4-20	Northern Rail Trail	Franklin	1	1	1	0	3	225
4-20	NHDOT Land	Franklin	1	1	1	0	3	225
4-20	Merrimack River	Franklin	1	1	1	0	3	225
4-21	NHDOT RR	Canterbury	1	1	1	0	3	225
4-22	Turtle Pond	Concord	1	2	1	0	4	257.5
4-23	Soucook River	Concord	1	2	0	1	4	265
4-23	NHAG Land	Pembroke	1	2	0	1	4	265
4-24	Suncook River	Pembroke	1	0	1	0	2	150
4-24	Bear Brook Park	Allenstown	1	0	1	0	2	150
= NHEC Circuit								

I. Functional Uses

Staff considered functional uses of state lands to see if it was compatible with overhead crossings. All the state land crossings already had electric transmission facilities currently traversing them. Staff sent out and collected information from DRED, DOT and AJ on uses of land and whether they were existing concerns of ESE's use of the ROWs traversing the lands or future concerns. None of the agencies had any concerns about use being impeded by the crossings. See Attachment B for copies of letters received from the agencies.

Functional uses for state lands considered were:

Identified functional uses for State Rail Corridors are:

- Commercial freight transportation (on active railroads) both seasonally and year round
- Recreational cross country skiing
- Recreational snowmobiling
- Recreational snowshoeing
- Dogs sledding and dog sled training
- Recreational use for bicycling, walking, hiking, running, orienteering.
- Local community events such as 5K races

Identified functional uses for DOT land are:

- Outdoor State Police practice firing range
- Highway buffer and possible future use

Identified functional uses for Adjutant General's land are:

- Land use associated with New Hampshire National Guard Regional Training Institute
- Future 24 foot wide drive to Army National Guard Readiness Center
- Field training exercises

Identified functional uses for New Hampshire Department of Resources and Economic Development land are:

- Traditional hunting and trapping use
- Recreational snowmobiling and cross country skiing
- Timber management
- Walking trails

Staff anticipates no detrimental conditions in regards to functional use as a result of the 61 crossings reviewed.

J. Communication Cables.

While not the primary purpose of the proposed crossings, a communication cable type OPGW will be at the uppermost of each structure. It serves a dual purpose by acting as a shield wire and

communication cable. The communication cable clearances by default will not be the lowest cable on the structures and therefore easily meet the NESC requirements.

NPT intends to use an OPGW (Optical Guide Wire) cable. NPT plans to use a cable that contains 48 fibers for communication. NPT plans on this cable being approximately 0.5” in diameter with a rated breaking strength of approximately 27,000 pounds. The tension for this OGPW will be limited to approximately 5,400 pounds during the NESC Heavy district loading case.

For underground cables, a fiber optic communication cables will be used as well. For directional drill installations these will be attached to the 8 inch diameter conduits so they can be made with a single back pull. For the single microtunnel construction technique they will float within the 24 inch diameter casing.

End Notes

¹ NPT requested licenses at 25 public water locations DE 15-460 (17 overhead, 8 underground)
NPT requested licenses at 14 public lands and railroads DE 15-461 (14 overhead – 8 DRED, 5 DOT, 1 AJ)
ESE requested licenses at 15 public water locations DE 15-462 (9 - 115kv , 2- 34.5kv, 4 new locations overhead
D142 at 2 locations , 348X at one location, P145 at one location)
ESE requested licenses at 13 public land locations DE 15-463 (overhead)

² For review purpose 320 kVolts DC is equivalent to 392 kVolts AC when reviewing clearances

³ Staff's mapped crossing locations may include more than one circuit crossing public waters or lands. In most cases, licenses will be required for each circuit crossing at the identified locations.

⁴ Commission in Order No. 25,953 in DE15-459 found granting NPT public utility status to be in the public good. See Order pg 11 line 17 and pg 12 line 7.

⁵ 4097 ft is estimated from using the NH Granite data which is approximately differed at the east end of the parcel and west end of the parcel by the same amount.

ATTACHMENT A1-Northern Pass Transmission Crossings (Public Waters & State Lands) Master Spreadsheet SORTED BY MAP GEOGRAPHICALLY FROM NORTH TO SOUTH

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2015-06 Vol XIII App 12 Attach B - Master Indx Sub App 1	NA	15-460 App 1	NA	Pittsburg	1	TBD	Halls Stream	DC	DC-HQ-1 / DC-1	NONE	NONE	A-W	Public Water	Y	None	Not Necessary	1	167	A-1/6W/5	8/25/2015	1426	741	attach.
																		168	A-1/6W/2	8/25/2015	1426	738	attach.
2015-06 Vol XIII App 12 Attach B - Master Indx Part B	NA	15-460 Part B	NA	Pittsburg	2	161	Connecticut River	DC	S1 LL 161	NONE	NONE	U-W	Public Water	Y	None	Not Necessary	2	201	A-1/29/2	4/5/2012	1347	448	attach.
																		161 (Water)	/	/	/	/	/
																		162 (Rt. 3)	/	/	/	/	/
																		162.01 (Rt. 3)	/	/	/	/	/
																		400	R7/NA/1	9/8/2011	1338	781	attach.
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App1	2015-06 Vol XIII App 15 Table 1	15-461 App 1	15-463 Table 1 App 1	Stark	3	12519	Nash Stream Forest (DRED) (1988 Purchased)	DC/115kv	DC-403 / DC-394	O-154	O154-50 / O154-41	A-L	State Land	NA	None	Not Necessary	42, 43	12519	406/NA/4	8/27/1946	359	134	1390
																		12516	405/NA/4	5/20/1946	346	341	1438
																		12527	406/NA/3	6/7/1947	354	285	1382
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App2	2015-06 Vol XIII App 15 Table 1	15-461 App 2	15-463 Table 1 App 2	Stark	4	12547	Percy State Forest (DRED) (1988 Purchased)	DC/115kv	DC-420/ DC-415	O-154	O154-67/ O154-62	A-L	State Land	NA	None	Not Necessary	44	12541	204/NA/2	5/22/1946	346	343	1442
																		12547	204/NA/1	5/20/1946	346	341	1438
																		12548	411/NA/2	7/9/1946	346	362	1434
																				5/8/1946	346	354	1430
																				5/12/1946	346	357	1426
2015-06 Vol XIII App 12 Attach B - Master Indx Sub App 2	2015-06 Vol XIII App 14 Table 1	15-460 App 2	15-462 Table 1 App 1	Stark	5	12556	Upper Ammonoosuc River	DC/115kv	DC-434 / DC-435	O-154	O154-81 / O154-82	A-W	Public Water	Y	None	Not Previously Licensed	46	12554	410/NA/5	5/23/1946	346	360	1422
																		12556 (Water)	/	/	/	/	/
																		12557.01 (Lunn Rd)	/	/	/	/	/
																		12557	410/NA/2	7/9/1946	346	355	1418
																				05/07/1946	346	352	1414
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App 3	2015-06 Vol XIII App 15 Table 1	15-461 App 3	15-463 Table 1 App 3	Northumberland	6	2030, 2034, 2037	Cape Horn State Forest (DRED) (1988 Purchased)	DC/115kv	DC-485/ DC-507 Diff. Boundary	D-142	D142-321/ D142-344	A-L	State Land	NA	None	Not Necessary Original Install D-142 predates State Land ownership	51, 52, 53, 54	2026	231/NA/1	7/22/1947	359	317	460
																		2034	247/NA/7	8/27/1947	359	324	480
																		2030	234/NA/17	8/21/1947	359	311	472
																				8/12/1947	368	2	484
																		2035.01 (Page Hill Rd)	/	/	/	/	/
																		2037	247/NA/1	NYA	NYA	NYA	NYA
																		2036.01	247/NA/2(2)	8/12/1947	368	1	476
																		2036.02	247/NA/2(3)	8/12/1947	368	1	476
																		2036.03	247/NA/2(4)	8/12/1947	368	1	476
																		2015-06 Vol XIII App 12 Attach B - Master Indx Sub App 3	2015-06 Vol XIII App 14 Table 1	15-460 App 3	15-462 Table 1 App 2	Lancaster	7
		8/27/1947	359	338	616																		
2234	R11/NA/76	7/29/1947	359	299	524																		
2015-06 Vol XIII App 12 Attach B - Master Indx Sub App 4	2015-06 Vol XIII App 14 Table 1	15-460 App 4	15-462 Table 1 App 3	Lancaster	7	2235	Israel River	DC/115kv	DC-538 / DC-539 flood overlap	D-142	D142-375 / D142-376 (373-376 in docket)	A-W	Public Water	Y	None	Not Previously Licensed	58	2235 (Water)	/	/	/	/	/
																		2234	R11/NA/76	8/22/1947	359	278	532
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App 4	2015-06 Vol XIII App 15 Table 1	15-461 App 4	15-463 Table 1 App 4	Lancaster	7	2236	State of NH Railroad (Groveton Branch) (NH DOT)	DC/115kv	DC-539 / DC-540	D-142	D142-376 / D142-377	A-R	Railroad	NA	None	Not Necessary Original Install D-142 predates State Rail ownership	58	2234	R11/NA/76	8/22/1947	359	278	532
																		2236 (RR)	/	/	/	/	/
																		2237	R17/NA/29	8/22/1947	359	278	532
2015-06 Vol XIII App 12 Attach B - Master Indx Sub App 5	2015-06 Vol XIII App 14 Table 1	15-460 App 5	15-462 Table 1 App 4	Dalton	8	2825, 2826	Johns River	DC/34.5kv	DC-622A/DC-621 flood?	348X	348X-013 / 348X-017 flood zone	A-W	Public Water	Y	Q195-11 / Q195-12 X178- 576 / X178-577	Not Previously Licensed Original install X178 in 1953 & Q195 in 1958 Johns River not on 1947 PW list would need license by today standards	68	2819 (RR)	/	/	/	/	/
																		2825 (Wetland)	413/NA/71	4/9/1953	397	108	1547
																				10/3/1947	359	329	1495
																		2826 (Wetland)	413/NA/66	4/9/1953	397	108	1547
																				10/3/1947	359	329	1495
																		2831	413/NA/67	4/9/1953	397	108	1547
																				10/3/1947	359	329	1495
																		2832	413/NA/68	4/9/1953	397	108	1547
		10/3/1947	359	329	1495																		
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App 5	2015-06 Vol XIII App 15 Table 1	15-461 App 5	15-463 Table 1 App 5	Dalton	8	2819	State of NH Railroad (NH DOT)	DC/34.5kv	DC-620 / DC-621	348X	348X-011 / 348X-012	A-R	Railroad	NA	X178-578 / X178-577 Q195-10 / Q195-11	Not Necessary Original Install X178 in 1953 & Q195 in 1958 predates State Rail ownership of 1999	67	2818	413/NA/75	3/19/1953	398	26	1535
																				5/22/1953	397	204	1549
2015-06 Vol XIII App 12 Attach B - Master Indx Sub App 6	NA	15-460 App 6	NA	Bethlehem	9	3114	Ammonoosuc River	DC	DC-662 / DC-663	NA	NA	A-W	Public Water	Y	X-178, 348 X178-505 / X178-506 348(unknown)	Not Previously Licensed	73	3110 (Rt. 116)	/	/	/	/	/
																		3109 (RR)	/	/	/	/	/
																		3108	406/36/NA	3/05/1953	834	243	1617
																				10/2/1947	773	35	1563
																		3113	406/39/NA	3/05/1953	834	243	1617
		10/2/1947	773	35	1563																		
																	3114 (Water)	/	/	/	/	/	
																		3115	406/37/NA	3/05/1953	834	243	1617
																				10/2/1947	773	35	1563

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2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 6	NA	15-461 App 6	NA	Bethlehem	9	3109	State of NH Railroad (NHDOT)	DC	DC-662 / DC-663	NA	NA	A-R	Railroad	NA	X-178, 348 X178-507 / X178-506 348(unknown structure names)	Not Necessary Original Install X178 in 1953 & 348 in 1969 predates State Rail ownership of 1999	73	3110 (Rt. 116)	/	/	/	/	/
																		3109 (RR)	/	/	/	/	/
																		3108	406/36/NA	3/05/1953	834	243	1617
																		3113	406/39/NA	10/2/1947	773	35	1563
																		3114 (Water)	/	/	/	/	/
																		3115	406/37/NA	3/05/1953	834	243	1617
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Franconia	10	3645.01	Gale River	DC	NONE	NA	U-W	Public Water	Y	348X1 unknown (underground)	Not Previously Licensed on PW1947 list Staff didnt request info of license for 348X1	81	3645.01 (Water)	/	/	/	/	/	
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Woodstock	11	4123.01	Moosilauke Brook Crossing	DC/34.5KV	NONE	NA	U-W	Public Water	N	3126		101	Rt. 3						
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Plymouth	12	5342.01	Baker River	DC	NONE	NONE	U-W	Public Water	Y	None	Not Necessary	119	5340.01 (Rt. 3)	?	?	?	?	?	
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 7	NA	15-460 App 7	NA	Bridgewater	13	5813.01	Pemigewasset River	DC	DC-1099 / DC-1101 flood?	NA	A-W	Public Water	Y	E-115 E115-228 / E115-231	Not Previously Licensed E115 installed in 1953 Pemi on PW 1947 list	124	5812	202/12/NA	NYA	NYA	NYA	NYA	
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 8	NA	15-460 App 8	NA	Ashland	14	5538, 5542	Squam River	DC	DC-1113 / DC-1114	NA	A-W	Public Water	Y	E-115 E115-211 / E115-212	Not Previously Licensed E115 installed in 1953 Squam River not on PW 1947 list	126	5538	3/3/2	9/12/1952	829	237	867	
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 9	2015-06 Vol XIII App 14 Table 1	15-460 App 9	15-462 Table 1 App 5	New Hampton	15	6145.03	Pemigewasset River	DC/115KV	DC-1144 / DC-1145	E-115	A-W	Public Water	Y	None	DE 76-22 12,219 4/21/1976 (76-22-3, pg. 12)	129	6145.02	R16/NA/3	6/23/1932	204	219	29	
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 7	2015-06 Vol XIII App 15 Table 1	15-461 App 7	15-463 Table 1 App 6	New Hampton	15	6145	State of NH Land (NHDOT)	DC/115KV	DC-1141/ DC 1143	E-115	A-L	State Land	NA	None	Not Prev Licensed Original Install E115 in 1953 doesn't predate State DOT ownership of 2/05/1952	129	6143	R16/2/A	10/15/1952	341	481	789	
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 10	2015-06 Vol XIII App 14 Table 1	15-460 App 10	15-462 Table 1 App 6	Bristol	16	6441	Pemigewasset River	DC/115KV	DC-1174 / DC-1175	E-115	A-W	Public Water	Y	None	DE 75-173 12,022 08/04/1975 (75-173-2, pg. 5)	133	6440	222/NA/38	8/21/1975	1254	410	833	
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 11	2015-06 Vol XIII App 14 Table 1	15-460 App 11	15-462 Table 1 App 7	New Hampton	17	6182	Pemigewasset River	DC/115KV	DC-1205 / DC-1206	A-111	A-W	Public Water	Y	None	DE 76-22 12,219 04/21/1976 (76-22-18, pg. 1)	137	6182 (Water)	/	/	/	/	/	
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 8	NA	15-461 App 8	NA	Hill	18	6703, 6704, 6705	William H Thomas State Forest (DRED)	DC	DC-1208 / DC-1214	NA	A-L	State Land	NA	A-111 A111-68 / A111-78 not on map	Not Necessary Original Install A-111 in 1953 predates State Land ownership of 4/21/2003	137	6703	R9/NA/13	7/15/1952	715	470	326	
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 9	2015-06 Vol XIII App 15 Table 1	15-461 App 9	15-463 Table 1 App 7 / 8	Franklin	19	7317.01	Northern Rail Trail (NHDOT)	DC/115KV/115KV	DC-1270/ DC-1271	M-127, F-139	A-R	Railroad	NA	V182 V182-269-268	Original Install of V182 in 1987 predates State Rail Corridor Ownership in 1995	143	7317.01 (RR)	/	/	/	/	/	
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 12	2015-06 Vol XIII App 14 Table 1	15-460 App 12	15-462 Table 1 App 8 / 9	Franklin	19	7315	Chance Pond	DC/115KV/115KV	DC-1271/ DC-1272	M-127, F-139	A-W	Public Water	N	V182 V182-268-267	M127/F139: DE 87-131 18,782 08/04/1987 (87-131-1, pg. 20) superseded by V182 DE 08-064 24,859 5/30/2008	143	7031.02	77/NA/13	10/3/1949	670	457	1128	

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2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 13	2015-06 Vol XIII App 14 Table 1	15-460 App 13	15-462 Table 1 App 10	Franklin	20	7077	Merrimack River	345kv/115kv	3132-4 / 3132-5	F-139	F139-281 / F139-280	A-W	Public Water	Y	V182 V182-209 / V182-208	DE 76-22 12,219 03/12/1976 (76-22-10, pg. 10)	148	7076	27-C4/NA/401	NYA	NYA	NYA	NYA
																		7074	126(27-C4)/NA/1	12/5/1950	693	44	1261
																		7075 (RR)	/	/	/	/	/
																		7077 (Water)	/	/	/	/	/
																		7402	82-R6/NA/402	NYA	NYA	NYA	NYA
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 10	2015-06 Vol XIII App 15 Table 1	15-461 App 10	15-463 Table 1 App 9	Franklin	20	7075	Northern Rail Trail (NHDOT)	345kv/115kv	3132-4 / 3132-5	F-139	F139-282 / F139-281	A-R	Railroad	NA	V182 V182-210 / V182-209	Original Install of V182 in 1987 and F139 in 1966 predates State Rail Corridor Ownership between 1975 & 1999	148	7070	108(27-B4)/NA/401	12/27/1950	693	120	1313
																		7077 (Water)	/	/	/	/	/
																		7075 (RR)	/	/	/	/	/
																		7402	RO2/NA/3	11/30/1950	693	35	1267
																		7072 (Rt. 3 Road)	/	/	/	/	/
																		7074	126(27-C4)/NA/1	12/5/1950	693	44	1261
																		7076	126(27-C4)/NA/401	NYA	NYA	NYA	NYA
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 11	2015-06 Vol XIII App 15 Table 1	15-461 App 11	15-463 Table 1 App 10	Franklin	20	7076	State of NH Land (NHDOT)	345kv/115kv	3132-4 / 3132-5	F-139	F139-282/ F139-280	A-L	State Land	NA	V-182 V-182-210/ V- 182-208	Original Install of V182 in 1951 and F139 in 1966 predates State DOT Ownership between 7/3/1995	148	7070	108(27-B4)/NA/401	12/27/1950	693	120	1313
																		7072 (Road)	/	/	/	/	/
																		7074	126(27-C4)/NA/1	12/5/1950	693	44	1261
																		7075 (RR)	/	/	/	/	/
																		7076	126(27-C4)/NA/401	NYA	NYA	NYA	NYA
																		7077 (Water)	/	/	/	/	/
																		7402	RO2/NA/3	11/30/1950	693	35	1267
																		7616	236/NA/17	12/1/1950	693	49	1271
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 12	2015-06 Vol XIII App 15 Table 1	15-461 App 12	15-463 Table 1 App 11	Canterbury	21	7616.1	State of NH Railroad (Concord Lincoln Line) (NHDOT)	345kv/115kv	3132-32 / 3132-33	F-139	F139-250 / F139-249	A-R	Railroad	NA	V-182 V-182-176/ V- 182-177	Original Install of V182 in 1951 and F139 in 1966 predates State Rail Corridor Ownership between 1975 & 1999	151, 152	7616.1 (RR)	/	/	/	/	/
																		7617 (93 Road)	/	/	/	/	/
																		7618	237/NA/7	12/1/1950	693	54	1275
																		8048	118F/1/1	9/1/1950	688	248	1185
																		8049	118F/1/5	NYA	NYA	NYA	NYA
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 14	2015-06 Vol XIII App 14 Table 1	15-460 App 14	15-462 Table 1 App 11 / 12	Concord	22	8076	Turtle Pond	345kv/115kv/34.5kv	3132-112 - 3132-117 flood?	P-145, 318	318-52- 318-70 / P145-134 - P145-128	A-W	Public Water	N	C189 C189-81 - C189- 79??(not included.. Do we need to show?)	C189 (formerly V182): DE 08-064 24,859 05/30/2008 (App. C) P145/318: DE 94-272 21,817 09/06/1995 (94-272-11, pg. 31)	159, 160	8048.01 (Oak Hill Rd)	/	/	/	/	/
																		8055	118F/2/11	NYA	NYA	NYA	NYA
																		8062	118F/2/17	10/5/1950	693	99	1307
																		8076 (Water)	/	/	/	/	/
																		8075	118F/2/9	NYA	NYA	NYA	NYA
																		8074.01	118F/2/8	NYA	NYA	NYA	NYA
																		8074	118F/2/55	NYA	NYA	NYA	NYA
																		8073.01	118F/2/31	NYA	NYA	NYA	NYA
																		8073	118F/2/59	NYA	NYA	NYA	NYA
																		8072	118F/2/26	NYA	NYA	NYA	NYA
																		8085	118/2/5	NYA	NYA	NYA	NYA
																		8077	118/2/3	NYA	NYA	NYA	NYA
																		8086	118/2/15	NYA	NYA	NYA	NYA
																		8080 (Appleton St.)	/	/	/	/	/
																		8088	118/1/23	NYA	NYA	NYA	NYA
																		8084	118/1/44	NYA	NYA	NYA	NYA
																		8091	118/1/43	NYA	NYA	NYA	NYA
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 15	2015-06 Vol XIII App 14 Table 1	15-460 App 15	15-462 Table 1 App 13 / 14	Concord	23	8951	Soucook River	345kv/115kv/115kv	3132-159 / 3132-160	C-189, P-145	C189-32 / C189-31 P145-73 / P145-72	A-W	Public Water	Y	None	C189 (formerly V182): DE 08-064 24,859 05/30/2008 (App. C) P145 NOT licensed	163, 164	8241	111G/1/63	NYA	NYA	NYA	NYA
																		8242	110/1/6	9/6/1950	688	258	1149
																		8243	111G/1/1	NYA	NYA	NYA	NYA
																		8951 (Water)	/	/	/	/	/
																		8954	632/NA/18	12/2/1950	693	31	1279
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App 13	2015-06 Vol XIII App 15 Table 1	15-461 App 13	15-463 Table 1 App 12 / 13	Pembroke	23	8954, 8957	State of NH Land (NHAG)	345kv/115kv/115kv	3132-159 / 3132-165	P-145, C-189	P145-73 - P145-66 C189-32 - C189-25(only being relocated 32-30)	A-L	State Land	NA	318 (34.5 kv) dead ends outside both north end and south end of parcel Liberty Utilities 200 psig NG pipeline	Original Install of V182 in 1951 and P145 in 1966 predates State AG Ownership from Riverwood Properties on 10/01/2009	163, 164	8241	111G/1/63	NYA	NYA	NYA	NYA
																		8242	110/1/6	9/6/1950	688	258	1149
																		8243	111G/1/1	NYA	NYA	NYA	NYA
																		8951 (Water)	/	/	/	/	/
																		8954	632/NA/18	12/2/1950	693	31	1279
																		8956 (Riverwood Dr.)	/	/	/	/	/
																		8957	632/NA/18	12/2/1950	693	29	1277
																		8961	632/NA/11	8/26/1950	688	284	1147
8928	868/NA/15(4)	NYA	NYA	NYA	NYA																		
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 14	NA	15-461 App 14	NA	Allentown	24	9300	Bear Brook State Park (DRED) (1946 acquired)	345kv	3132-218 / 3132-228 Diff. boundary	NA	NA	A-L	State Land	NA	G-146 G146-109/ G146-119	Original Install of G- 146 in 1951 predates State DRED Ownership from private landowners. BP 916 was acquired by NH 10/31/1981, BP 975 was acquired by NH 10/31/1956, BP 973 was acquired by NH 7/05/1965	169, 170	8928.01 (Old Buick St. Ext.)	/	/	/	/	/
																		8947	868/NA/12	2/1/1954	745	187	973
																		8950 (Water)	/	/	/	/	/
																		9300	408/NA/1	1/29/1954	745	179	975
																		9301	408/NA/3	02/01/1954	745	209	916
																				2/25/1954	745	379	998
																				2/2/1954	745	177	979
3/4/1954	745	375	914																				
9300.01 (Road)	/	/	/	/	/																		
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 16	NA	15-460 App 16	NA	Pembroke	24	8950	Suncook River	345kv	3132-218 / 3132-220 flood?	NA	NA	A-W	Public Water	Y	G-146 G146-119 / G146-118	Not Previously Licensed G-146 installed in 1951 Suncook River on PW 1947 list	169	8928	868/NA/15(4)	NYA	NYA	NYA	NYA
																		8928.01 (Road)	/	/	/	/	/
																		8947	868/NA/12	2/1/1954	745	187	973
																		8950 (Water)	/	/	/	/	/
																		9300	408/NA/1	1/29/1954	745	179	975
02/01/1954	745	209	916																				

ATTACHMENT A1-Northern Pass Transmission Crossings (Public Waters & State Lands) Master Spreadsheet SORTED BY MAP GEOGRAPHICALLY FROM NORTH TO SOUTH

NPT SEC Docket # NPT SEC Volume # NPT SEC Appendix # NPT SEC Attach# NPT Sub App#	EVSOUCR SEC Docket # EVSOUCR SEC Volume # EVSOUCR SEC Appendix # EVSOUCR SEC Table#	NPT PUC Docket # NPT Appendix#	EVSOUCR PUC Docket # EVSOUCR Table # EVSOUCR Appendix #	City/Town	PUC Map #	NPT/ Eversource Line List #	Water / Land Name	New or Relocated Voltage Lines	Northern Pass Pole ID	Relocated Eversource Circuit	Relocated Eversource Pole ID	Type of Crossing	Crossing Type	IS on State List of Waters	Other Circuit# in ROW	Previously Licensed? Docket #, Order #, Date	Forward NH Map	NPT/Eversource Line List Parcel #(s)	Tax Map/Block/Lot #	Deed Date	Book	Page #	Bates Page #
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 17	2015-06 Vol XIII App 14 Table 1	15-460 App 17	15-462 Table 1 App 15	Deerfield	NA	9702	Lamprey River	345kV/115kV	3132-295 / 3132-296	G-146	G146-27 / G146-26	A-W	Public Water	Y	D-118 D118-29 / D118-28	Not Necessary PW list includes Lamprey upto Nicholas Brook G-146 rebuilt in 2003 and D-118 rebuilt in 2014 is north of this point.	178	9698	210/NA/53	2/15/2013	5412	1616	32
																		9702 (Water)	210/NA/53	/	/	/	/
																		9703	210/NA/47	NYA	NYA	NYA	NYA
																		9702.01 (Mountain Rd)	/	/	/	/	/
																		9707	210/NA/39	12/7/1953	1305	499	1028
9708	210/NA/40	NYA	NYA	NYA	NYA																		
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Easton	NA	3765.01	Ham Branch Crossing	DC/34.5kV	NONE	Unknown	Unknown	U-W	Public Water	N			86	Rt. 116					
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Easton	NA	3805.01	Ham Branch Crossing	DC/34.5kV	NONE	Unknown	Unknown	U-W	Public Water	N			87	Rt. 116					
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Easton	NA	3841.01	Ham Branch Crossing	DC/34.5kV	NONE	Unknown	Unknown	U-W	Public Water	N			89	Rt. 116					
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Woodstock	NA	4483.01	Gordon Pond Brook Crossing	DC/34.5kV	NONE	Unknown	Unknown	U-W	Public Water	N			101	Rt. 112					

ATTACHMENT A2 - Northern Pass Transmission Crossings (Public Waters & State Lands) Master Spreadsheet SORTED BY Town ALPHABETICALLY

NPT SEC Docket # NPT SEC Volume # NPT SEC Appendix # NPT Sub App#	EVSource SEC Docket # EVSource SEC Volume # EVSource SEC Appendix # EVSource SEC Table#	NPT PUC Docket # NPT Appendix#	EVSource PUC Docket # EVSource Table # EVSource Appendix #	City/Town	PUC Map #	NPT/ Eversource Line List #	Water / Land Name	New or Relocated Voltage Lines	Northern Pass Pole ID	Relocated Eversource Circuit	Eversource Pole ID	Type of Crossing	Crossing Type	IS on State List of Waters	Other Circuit# in ROW	Previously Licensed?	Forward NH Map	NPT/Eversource Line List Parcel #(s)	Tax Map/Block/Lot #	Deed Date	Book	Page #	Bates Page #
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 14	NA	15-461 App 14	NA	Allentown	24	9300	Bear Brook State Park (DRED) (1946 acquired)	345kv	3132-218 / 3132-228 Diff. boundary	NA	NA	A-L	State Land	NA	G-146 G146-109/ G146-119	Original Install of G-146 in 1951 predates State DRED Ownership from private landowners. BP 916 was acquired by NH 10/31/1981, BP 975 was acquired by NH 10/31/1956, BP 973 was acquired by NH 7/05/1965	169, 170	8928	868/NA/15(4)	NYA	NYA	NYA	NYA
																		8947	868/NA/12	2/1/1954	745	187	973
																		8950 (Water)	/	/	/	/	/
																		9300	408/NA/1	1/29/1954	745	179	975
																		9301	408/NA/3	02/01/1954	745	209	916
																				2/25/1954	745	379	998
9300.01 (Road)	/	/	/	/	/																		
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 8	NA	15-460 App 8	NA	Ashland	14	5538, 5542	Squam River	DC	DC-1113 / DC-1114	NA	NA	A-W	Public Water	Y	E-115 E115-211 / E115-212	Not Previously Licensed E115 installed in 1953 Squam River not on PW 1947 list	126	5538	3/3/2	9/12/1952	829	237	867
																		5542	3/3/1	9/24/1952	829	363	874
																				8/25/1928	608	459	878
																		3/6/1930	618	64	884		
																						10/15/1952	341
																		9/18/1952	1524	815	786		
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 6	NA	15-460 App 6	NA	Bethlehem	9	3114	Ammonoosuc River	DC	DC-662 / DC-663	NA	NA	A-W	Public Water	Y	X-178, 348 X178-505 / X178-506 348(unknown)	Not Previously Licensed	73	3110 (Rt. 116)	/	/	/	/	/
																		3109 (RR)	/	/	/	/	/
																		3108	406/36/NA	3/05/1953	834	243	1617
																		3113	406/39/NA	10/2/1947	773	35	1563
																				3/05/1953	834	243	1617
																		10/2/1947	773	35	1563		
3114 (Water)	/	/	/	/	/																		
3115	406/37/NA	3/05/1953	834	243	1617																		
10/2/1947	773	35	1563																				
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 6	NA	15-461 App 6	NA	Bethlehem	9	3109	State of NH Railroad (NHDOT)	DC	DC-662 / DC-663	NA	NA	A-R	Railroad	NA	X-178, 348 X178-507 / X178-506 348(unknown structure names)	Not Necessary Original Install X178 in 1953 & 348 in 1969 predates State Rail ownership of 1999	73	3110 (Rt. 116)	/	/	/	/	/
																		3109 (RR)	/	/	/	/	/
																		3108	406/36/NA	3/05/1953	834	243	1617
																		3113	406/39/NA	10/2/1947	773	35	1563
																				3/05/1953	834	243	1617
																		10/2/1947	773	35	1563		
3114 (Water)	/	/	/	/	/																		
3115	406/37/NA	3/05/1953	834	243	1617																		
10/2/1947	773	35	1563																				
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 7	NA	15-460 App 7	NA	Bridgewater	13	5813.01	Pemigewasset River	DC	DC-1099 / DC-1101 flood?	NA	NA	A-W	Public Water	Y	E-115 E115-228 / E115-231	Not Previously Licensed E115 installed in 1953 Pemi on PW 1947 list	124	5812	202/12/NA	NYA	NYA	NYA	NYA
																		5813.01 (Water)	/	/	/	/	/
																		5530	4/1/1	12/2/1965	1029	174	824
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 10	2015-06 Vol XIII App 14 Table 1	15-460 App 10	15-462 Table 1 App 6	Bristol	16	6441	Pemigewasset River	DC/115KV	DC-1174 / DC-1175	E-115	E115-123 / E115-122	A-W	Public Water	Y	None	DE 75-173 12,022 08/04/1975 (75-173-2, pg. 5)	133	6440	222/NA/38	8/21/1975	1254	410	833
																		6441 (Water)	/	/	/	/	/
																		6146	R15/19/NA	09/26/1952	342	261	25
09/01/1928	188	245	124																				
				7616	236/NA/17	12/1/1950	693	49	1271														
7616.1 (RR)	/	/	/	/	/																		
7617 (I93 Road)	/	/	/	/	/																		
7618	237/NA/7	12/1/1950	693	54	1275																		
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 14	2015-06 Vol XIII App 14 Table 1	15-460 App 14	15-462 Table 1 App 11 / 12	Concord	22	8076	Turtle Pond	345kv/115kv/34.5kv	3132-112 - 3132-117 flood?	P-145, 318	318-52- 318-70 / P145-134 - P145-128	A-W	Public Water	N	C189 C189-81 - C189- 79??(not included.. Do we need to show?)	C189 (formerly V182): DE 08-064 24,859 05/30/2008 (App. C) P145/318: DE 94-272 21,817 09/06/1995 (94-272-11, pg. 31)	159, 160	8048	118F/1/1	9/1/1950	688	248	1185
																		8049	118F/1/5	NYA	NYA	NYA	NYA
																		8048.01 (Oak Hill Rd)	/	/	/	/	/
																		8055	118F/2/11	NYA	NYA	NYA	NYA
																		8062	118F/2/17	10/5/1950	693	99	1307
																		8076 (Water)	/	/	/	/	/
																		8075	118F/2/9	NYA	NYA	NYA	NYA
																		8074.01	118F/2/8	NYA	NYA	NYA	NYA
																		8074	118F/2/55	NYA	NYA	NYA	NYA
																		8073.01	118F/2/31	NYA	NYA	NYA	NYA
																		8073	118F/2/59	NYA	NYA	NYA	NYA
																		8072	118F/2/26	NYA	NYA	NYA	NYA
																		8085	118/2/5	NYA	NYA	NYA	NYA
																		8077	118/2/3	NYA	NYA	NYA	NYA
																		8086	118/2/15	NYA	NYA	NYA	NYA
																		8080 (Appleton St.)	/	/	/	/	/
																		8088	118/1/23	NYA	NYA	NYA	NYA
8084	118/1/44	NYA	NYA	NYA	NYA																		
8091	118/1/43	NYA	NYA	NYA	NYA																		
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 15	2015-06 Vol XIII App 14 Table 1	15-460 App 15	15-462 Table 1 App 13 / 14	Concord	23	8951	Soucook River	345kv/115kv/115kv	3132-159 / 3132-160	C-189, P-145	C189-32 / C189-31 P145-73 / P145-72	A-W	Public Water	Y	None	C189 (formerly V182): DE 08-064 24,859 05/30/2008 (App. C) P145 NOT Licensed	163, 164	8241	111G/1/63	NYA	NYA	NYA	NYA
																		8242	110/1/6	9/6/1950	688	258	1149
																		8243	111G/1/1	NYA	NYA	NYA	NYA
																		8951 (Water)	/	/	/	/	/
8954	632/NA/18	12/2/1950	693	31	1279																		

ATTACHMENT A2 - Northern Pass Transmission Crossings (Public Waters & State Lands) Master Spreadsheet SORTED BY Town ALPHABETICALLY

NPT SEC Docket # NPT SEC Volume # NPT SEC Attach # NPT Sub App#	EVSOURC SEC Docket # EVSOURC SEC Volume # EVSOURC SEC Appendix # EVSOURC SEC Table#	NPT PUC Docket # NPT Appendix#	EVSOURC PUC Docket # EVSOURC Table # EVSOURC Appendix #	City/Town	PUC Map #	NPT/ Eversource Line List #	Water / Land Name	New or Relocated Voltage Lines	Northern Pass Pole ID	Relocated Eversource Circuit	Eversource Pole ID	Type of Crossing	Crossing Type	IS on State List of Waters	Other Circuit# in ROW	Previously Licensed?	Forward NH Map	NPT/Eversource Line List Parcel #(s)	Tax Map/Block/Lot #	Deed Date	Book	Page #	Bates Page #
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 5	2015-06 Vol XIII App 14 Table 1	15-460 App 5	15-462 Table 1 App 4	Dalton	8	2825, 2826	Johns River	DC/34.5kv	DC-622A/DC-621 flood?	348X	348X-013 / 348X-017 flood zone	A-W	Public Water	Y	Q195-11 / Q195-12 X178- 576 / X178-577	Not Previously Licensed Original install X178 in 1953 & Q195 in 1958 Johns River not on 1947 PW list would need license by today standards	68	2819 (RR)	/	/	/	/	/
																		2825 (Wetland)	413/NA/71	4/9/1953	397	108	1547
																		2826 (Wetland)	413/NA/66	4/9/1953	397	108	1547
																		2831	413/NA/67	10/3/1947	359	329	1495
																		2832	413/NA/68	4/9/1953	397	108	1547
																		2833	413/NA/62	10/3/1947	359	329	1495
																		2833.03 (for ref.)	413/NA/5	9/23/2015	1428	393	1460
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 5	2015-06 Vol XIII App 15 Table 1	15-461 App 5	15-463 Table 1 App 5	Dalton	8	2819	State of NH Railroad (NHDOT)	DC/34.5kv	DC-620 / DC-621	348X	348X-011 / 348X-012	A-R	Railroad	NA	X178-578 / X178-577 Q195-10 / Q195-11	Not Necessary Original Install X178 in 1953 & Q195 in 1958 predates State Rail ownership of 1999	67	2818	413/NA/75	3/19/1953	398	26	1535
																		2819 (RR)	/	/	/	/	/
																		2825	413/NA/71	5/22/1953	397	204	1549
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 17	2015-06 Vol XIII App 14 Table 1	15-460 App 17	15-462 Table 1 App 15	Deerfield	25	9702	Lamprey River	345kv/115kv	3132-295 / 3132-296	G-146	G146-27 / G146-26	A-W	Public Water	Y	D-118 D118-29 / D118-28	I-E8322 6,217 09/01/1953	178	9698	210/NA/53	2/15/2013	5412	1616	32
																		9702 (Water)	210/NA/53	/	/	/	/
																		9703	210/NA/47	NYA	NYA	NYA	NYA
																		9702.01 (Mountain Rd)	/	/	/	/	/
																		9707	210/NA/39	12/7/1953	1305	499	1028
9708	210/NA/40	NYA	NYA	NYA	NYA																		
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Franconia	10	3645.01	Gale River	DC	NONE	NA	NA	U-W	Public Water	Y	348X1 unknown (underground)	Not Previously Licensed on PW1947 list Staff didnt request info of license for 348X1	81	3645.01 (Water)	/	/	/	/	/
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 13	2015-06 Vol XIII App 14 Table 1	15-460 App 13	15-462 Table 1 App 10	Franklin	20	7077	Merrimack River	345kv/115kv	3132-4 / 3132-5	F-139	F139-281 / F139-280	A-W	Public Water	Y	V182 V182-209 / V182-208	DE 76-22 12,219 03/12/1976 (76-22-10, pg. 10)	148	7076	27-C4/NA/401	NYA	NYA	NYA	NYA
																		7074	126(27-C4)/NA/1	12/5/1950	693	44	1261
																		7075 (RR)	/	/	/	/	/
																		7077 (Water)	/	/	/	/	/
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 9	2015-06 Vol XIII App 15 Table 1	15-461 App 9	15-463 Table 1 App 7 / 8	Franklin	19	7317.01	Northern Rail Trail (NHDOT)	DC/115kv/115kv	DC-1270/ DC-1271	M-127, F-139	M127-1A-1 / F139-343-342	A-R	Railroad	NA	V182 V182-269-268	Original Install of V182 in 1987 predates State Rail Corridor Ownership in 1995	143	7318	76/NA/1	1/31/1976	1,268	283	2
																		7317.01 (RR)	/	/	/	/	/
																		7316	76/NA/5	5/8/1964	942	223	1114
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 12	2015-06 Vol XIII App 14 Table 1	15-460 App 12	15-462 Table 1 App 8 / 9	Franklin	19	7315	Chance Pond	DC/115kv/115kv	DC-1271/ DC-1272	M-127, F-139	M127-1 - 2 / F139-342-341	A-W	Public Water	N	V182 V182-268-267	M127/F139: DE 87-131 18,782 08/04/1987 (87-131-1, pg. 20) superseeded by V182 DE 08-064 24,859 5/30/2008	143	7031.02	77/NA/13	10/3/1949	670	457	1128
																		7031.01	77/NA/12	10/3/1949	670	458	1131
																		7325	77/NA/406	8/14/1962	907	106	1106
																		7326	M6/77/15	NYA	NYA	NYA	NYA
																		7324 (Chance Pond Road)	/	/	/	/	/
																		7315 (Water)	/	/	/	/	/
																		7316	76/NA/5	5/8/1964	942	223	1114
																		7322	77/NA/402	6/2/1951	696	334	1341
																		7322	77/NA/402	12/10/1949	696	97	1124
																		7322	77/NA/402	9/14/1928	502	168	1358
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 10	2015-06 Vol XIII App 15 Table 1	15-461 App 10	15-463 Table 1 App 9	Franklin	20	7075	Northern Rail Trail (NHDOT)	345kv/115kv	3132-4 / 3132-5	F-139	F139-282 / F139-281	A-R	Railroad	NA	V182 V182-210 / V182-209	Original Install of V182 in 1987 and F139 in 1966 predates State Rail Corridor Ownership between 1975 & 1999	148	7070	108(27-B4)/NA/401	12/27/1950	693	120	1313
																		7077 (Water)	/	/	/	/	/
																		7075 (RR)	/	/	/	/	/
																		7402	R02/NA/3	11/30/1950	693	35	1267
																		7072 (Rt. 3 Road)	/	/	/	/	/
																		7074	126(27-C4)/NA/1	12/5/1950	693	44	1261
																		7076	126(27-C4)/NA/401	NYA	NYA	NYA	NYA
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 11	2015-06 Vol XIII App 15 Table 1	15-461 App 11	15-463 Table 1 App 10	Franklin	20	7076	State of NH Land (NHDOT)	345kv/115kv	3132-4 / 3132-5	F-139	F139-282/ F139-280	A-L	State Land	NA	V-182 V-182-210/ V- 182-208	Original Install of V182 in 1951 and F139 in 1966 predates State DOT Ownership between 7/3/1995	148	7070	108(27-B4)/NA/401	12/27/1950	693	120	1313
																		7072 (Road)	/	/	/	/	/
																		7074	126(27-C4)/NA/1	12/5/1950	693	44	1261
																		7075 (RR)	/	/	/	/	/
																		7076	126(27-C4)/NA/401	NYA	NYA	NYA	NYA
																		7077 (Water)	/	/	/	/	/
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 8	NA	15-461 App 8	NA	Hill	18	6703, 6704, 6705	William H Thomas State Forest (DRED)	DC	DC-1208 / DC-1214	NA	NA	A-L	State Land	NA	A-111 A111-68 / A111-78 not on map	Not Necessary Original Install A-111 in 1953 predates State Land ownership of 4/21/2003	137	6703	R9/NA/13	7/15/1952	715	470	326
																		6704	R9/NA/18	8/5/1952	715	468	312
																		6705	R9/NA/25	9/22/1928	502	37	435
																		6705	R9/NA/25	11/28/1952	725	292	338
																		6702	R1/NA/56	9/27/1928	502	206	373
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 3	2015-06 Vol XIII App 14 Table 1	15-460 App 3	15-462 Table 1 App 2	Lancaster	7	2233, 2234	Otter Brook	DC/115kv	DC-536 / DC-537 flood overlap	D-142	D142-373 / D142-374 (373-376 in docket)	A-W	Public Water	Y	None	Not Previously Licensed	57	2233	R11/NA/77	7/29/1947	359	299	524
																		2234	R11/NA/76	8/27/1947	359	338	616
																		2234	R11/NA/76	7/29/1947	359	299	524

ATTACHMENT A2 - Northern Pass Transmission Crossings (Public Waters & State Lands) Master Spreadsheet SORTED BY Town ALPHABETICALLY

NPT SEC Docket # NPT SEC Volume # NPT SEC Appendix # NPT SEC Attach # NPT Sub App#	EVSOURC SEC Docket # EVSOURC SEC Volume # EVSOURC SEC Appendix # EVSOURC SEC Table#	NPT PUC Docket # NPT Appendix#	EVSOURC PUC Docket # EVSOURC Table # EVSOURC Appendix #	City/Town	PUC Map #	NPT/ Eversource Line List #	Water / Land Name	New or Relocated Voltage Lines	Northern Pass Pole ID	Relocated Eversource Circuit	Eversource Pole ID	Type of Crossing	Crossing Type	IS on State List of Waters	Other Circuit# in ROW	Previously Licensed?	Forward NH Map	NPT/Eversource Line List Parcel #(s)	Tax Map/Block/Lot #	Deed Date	Book	Page #	Bates Page #
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 4	2015-06 Vol XIII App 14 Table 1	15-460 App 4	15-462 Table 1 App 3	Lancaster	7	2235	Israel River	DC/115kV	DC-538 / DC-539 flood overlap	D-142	D142-375 / D142-376 (373-376 in docket)	A-W	Public Water	Y	None	Not Previously Licensed	58	2235 (Water)	/	/	/	/	/
																		2234	R11/NA/76	8/22/1947	359	278	532
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 9	2015-06 Vol XIII App 14 Table 1	15-460 App 9	15-462 Table 1 App 5	New Hampton	15	6145.03	Pemigewasset River	DC/115kV	DC-1144 / DC-1145	E-115	E115-168 / E115-167	A-W	Public Water	Y	None	DE 76-22 12,219 4/21/1976 (76-22-3, pg. 12)	129	6145.02	R16/NA/3	6/23/1932	204	219	29
																		6145.03 (Water)	/	/	/	/	/
																		5813	209/NA/11	9/4/1952	829	241	869
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 11	2015-06 Vol XIII App 14 Table 1	15-460 App 11	15-462 Table 1 App 7	New Hampton	17	6182	Pemigewasset River	DC/115kV	DC-1205 / DC-1206	A-111	A111-80A / A111-80	A-W	Public Water	Y	None	DE 76-22 12,219 04/21/1976 (76-22-18, pg. 1)	137	6181	R01/NA/20	7/28/1928	188	242	121
																		6182 (Water)	/	/	/	/	/
																		6702	R1/NA/56	9/21/1928	502	82	340
																		6701	NA	09/21/1928	502	31	409
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 7	2015-06 Vol XIII App 15 Table 1	15-461 App 7	15-463 Table 1 App 6	New Hampton	15	6145	State of NH Land (NHDOT)	DC/115kV	DC-1141/ DC 1143	E-115	E115-171/ E115-169	A-L	State Land	NA	None	Not Prev Licensed Original Install E115 in 1953 doesn't predate State DOT ownership of 2/05/1952	129	6143	R16/2/A	10/15/1952	341	481	789
																		6143.02 (I93 Road)	/	/	/	/	/
																		6145	R16/1/NA	NYA	NYA	NYA	NYA
																		6145.01 (Rt. 132)	/	/	/	/	/
																		6145.02	R16/NA/3	6/23/1932	204	219	29
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 4	2015-06 Vol XIII App 15 Table 1	15-461 App 4	15-463 Table 1 App 4	Lancaster	7	2236	State of NH Railroad (Groveton Branch) (NHDOT)	DC/115kV	DC-539 / DC-540	D-142	D142-376 / D142-377	A-R	Railroad	NA	None	Not Necessary Original Install D-142 predates State Rail ownership	58	2234	R11/NA/76	8/22/1947	359	278	532
																		2236 (RR)	/	/	/	/	/
																		2237	R17/NA/29	8/22/1947	359	278	532
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 3	2015-06 Vol XIII App 15 Table 1	15-461 App 3	15-463 Table 1 App 3	Northumberland	6	2030, 2034, 2037	Cape Horn State Forest (DRED) (1988 Purchased)	DC/115kV	DC-485/ DC-507 Diff. Boundary	D-142	D142-321/ D142-344	A-L	State Land	NA	None	Not Necessary Original Install D-142 predates State Land ownership	51, 52, 53, 54	2026	231/NA/1	7/22/1947	359	317	460
																		2034	247/NA/7	8/27/1947	359	324	480
																		2030	234/NA/17	8/21/1947	359	311	472
																				8/12/1947	368	2	484
																		2035.01 (Page Hill Rd)	/	/	/	/	/
																		2037	247/NA/1	NYA	NYA	NYA	NYA
																		2036.01	247/NA/2(2)	8/12/1947	368	1	476
2036.02	247/NA/2(3)	8/12/1947	368	1	476																		
2036.03	247/NA/2(4)	8/12/1947	368	1	476																		
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 16	NA	15-460 App 16	NA	Pembroke	24	8950	Suncook River	345kV	3132-218 / 3132-220 flood?	NA	NA	A-W	Public Water	Y	G-146 G146-119 / G146-118	Not Previously Licensed G-146 installed in 1951 Suncook River on PW 1947 list	169	8928	868/NA/15(4)	NYA	NYA	NYA	NYA
																		8928.01 (Road)	/	/	/	/	/
																		8947	868/NA/12	2/1/1954	745	187	973
																		8950 (Water)	/	/	/	/	/
																		9300	408/NA/1	1/29/1954	745	179	975
																				02/01/1954	745	209	916
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App 13	2015-06 Vol XIII App 15 Table 1	15-461 App 13	15-463 Table 1 App 12 / 13	Pembroke	23	8954, 8957	State of NH Land (NHAG)	345kV/115kV/115kV	3132-159 / 3132-165	P-145, C-189	P145-73 - P145-66 C189-32 - C189-25(only being relocated 32-30)	A-L	State Land	NA	318 (34.5 kv) dead ends outside both north end and south end of parcel Liberty Utilities 200 psig NG pipeline	Original Install of V182 in 1951 and P145 in 1966 predates State AG Ownership from Riverwood Properties on 10/01/2009	163, 164	8241	111G/1/63	NYA	NYA	NYA	NYA
																		8242	110/1/6	9/6/1950	688	258	1149
																		8243	111G/1/1	NYA	NYA	NYA	NYA
																		8951 (Water)	/	/	/	/	/
																		8954	632/NA/18	12/2/1950	693	31	1279
																		8956 (Riverwood Dr.)	/	/	/	/	/
																		8957	632/NA/18	12/2/1950	693	29	1277
																		8961	632/NA/11	12/2/1950	693	32	1263
		3/10/1951	693	411	1331																		
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 1	NA	15-460 App 1	NA	Pittsburg	1	TBD	Halls Stream	DC	DC-HQ-1 / DC-1	NONE	NONE	A-W	Public Water	Y	None	Not Necessary	1	167	A-1/6W/5	8/25/2015	1426	741	attach.
																		168	A-1/6W/2	8/25/2015	1426	738	attach.
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Pittsburg	2	161	Connecticut River	DC	S1 LL 161	NONE	NONE	U-W	Public Water	Y	None	Not Necessary	2	201	A-1/29/2	4/5/2012	1347	448	attach.
																		161 (Water)	/	/	/	/	/
																		162 (Rt. 3)	/	/	/	/	/
																		162.01 (Rt. 3)	/	/	/	/	/
400	R7/NA/1	9/8/2011	1338	781	attach.																		
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Plymouth	12	5342.01	Baker River	DC	NONE	NONE	NONE	U-W	Public Water	Y	None	Not Necessary	119	5340.01 (Rt. 3)	?	?	?	?	?
																		5342.01 (Water)	/	/	/	/	/
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 2	2015-06 Vol XIII App 14 Table 1	15-460 App 2	15-462 Table 1 App 1	Stark	5	12556	Upper Ammonoosuc River	DC/115kV	DC-434 / DC-435	O-154	O154-81 / O154-82	A-W	Public Water	Y	None	Not Previously Licensed	46	12554	410/NA/5	5/23/1946	346	360	1422
																		12556 (Water)	/	/	/	/	/
																		12557.01 (Lunn Rd)	/	/	/	/	/
																		12557	410/NA/2	7/9/1946	346	355	1418
		05/07/1946	346	352	1414																		
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App1	2015-06 Vol XIII App 15 Table 1	15-461 App 1	15-463 Table 1 App 1	Stark	3	12519	Nash Stream Forest (DRED) (1988 Purchased)	DC/115kV	DC-403 / DC-394	O-154	O154-50 / O154-41	A-L	State Land	NA	None	Not Necessary	42, 43	12519	406/NA/4	8/27/1946	359	134	1390
																		12516	405/NA/4	5/20/1946	346	341	1438
																		12527	406/NA/3	6/7/1947	354	285	1382
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App2	2015-06 Vol XIII App 15 Table 1	15-461 App 2	15-463 Table 1 App 2	Stark	4	12547	Percy State Forest (DRED) (1988 Purchased)	DC/115kV	DC-420/ DC-415	O-154	O154-67/ O154-62	A-L	State Land	NA	None	Not Necessary	44	12541	204/NA/2	5/22/1946	346	343	1442
																		12547	204/NA/1	5/20/1946	346	341	1438
																				7/9/1946	346	362	1434
																				5/8/1946	346	354	1430
																				5/12/1946	346	357	1426
		6/7/1947	354	285	1382																		

ATTACHMENT A2 - Northern Pass Transmission Crossings (Public Waters & State Lands) Master Spreadsheet SORTED BY Town ALPHABETICALLY

NPT SEC Docket # NPT SEC Volume # NPT SEC Attach # NPT Sub App#	EVSOURC SEC Docket # EVSOURC SEC Volume # EVSOURC SEC Appendix # EVSOURC SEC Table#	NPT PUC Docket # NPT Appendix#	EVSOURC PUC Docket # EVSOURC Table # EVSOURC Appendix #	City/Town	PUC Map #	NPT/ Eversource Line List #	Water / Land Name	New or Relocated Voltage Lines	Northern Pass Pole ID	Relocated Eversource Circuit	Eversource Pole ID	Type of Crossing	Crossing Type	IS on State List of Waters	Other Circuit# in ROW	Previously Licensed? Docket #, Order #, Date	Forward NH Map	NPT/Eversource Line List Parcel #(s)	Tax Map/Block/Lot #	Deed Date	Book	Page #	Bates Page #
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Woodstock	11	4123.01	Moosilauke Brook Crossing	DC/34.5kV	NONE	NA	Unknown	U-W	Public Water	N	3126		101	Rt. 3					
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 17	2015-06 Vol XIII App 14 Table 1	15-460 App 17	15-462 Table 1 App 15	Deerfield	25	9702	Lamprey River	345kV/115kV	3132-295 / 3132-296	G-146	G146-27 / G146-26	A-W	Public Water	Y	D-118 D118-29 / D118-28	I-E8322 6,217 09/01/1953	178	9698	210/NA/53	2/15/2013	5412	1616	32
																		9702 (Water)	210/NA/53	/	/	/	/
																		9703	210/NA/47	NYA	NYA	NYA	NYA
																		9702.01 (Mountain Rd)	/	/	/	/	/
																		9707	210/NA/39	12/7/1953	1305	499	1028
9708	210/NA/40	NYA	NYA	NYA	NYA																		
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Easton	NA	3765.01	Ham Branch Crossing	DC/34.5kV	NONE	Unknown	Unknown	U-W	Public Water	N			86	Rt. 116					
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Easton	NA	3805.01	Ham Branch Crossing	DC/34.5kV	NONE	Unknown	Unknown	U-W	Public Water	N			87	Rt. 116					
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Easton	NA	3841.01	Ham Branch Crossing	DC/34.5kV	NONE	Unknown	Unknown	U-W	Public Water	N			89	Rt. 116					
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Woodstock	NA	4483.01	Gordon Pond Brook Crossing	DC/34.5kV	NONE	Unknown	Unknown	U-W	Public Water	N			101	Rt. 112					

ATTACHMENT A3-Northern Pass Transmission Crossings (Public Waters & State Lands) Master Spreadsheet SORTED BY ZONE AND MAP GEOGRAPHICALLY FROM NORTH TO SOUTH																																									
NPT SEC Docket # NPT SEC Volume # NPT SEC Appendix # NPT SEC Attach# NPT Sub App#	EVSource SEC Docket # EVSource SEC Volume # EVSource SEC Appendix # EVSource SEC Table#	NPT PUC Docket # NPT Appendix#	EVSource PUC Docket # EVSource Table # EVSource Appendix #	City/Town	PUC Map #	NPT/ Eversource Line List #	Water / Land Name	New or Relocated Voltage Lines	Northern Pass Pole ID	Relocated Eversource Circuit	Eversource Pole ID	Type of Crossing	Crossing Type	IS on State List of Waters	Other Circuit# in ROW	Previously Licensed? Docket #, Order #, Date	Forward NH Map	NPT/Eversource Line List Parcel #(s)	Tax Map/Block/Lot #	Deed Date	Book	Page #	Bates Page #																		
Staff Recommendation Zone 1																																									
2015-06 Vol XIII App 12 Attach B - Master Indx Sub App 1	NA	15-460 App 1	NA	Pittsburg	1	TBD	Halls Stream	DC	DC-HQ-1 / DC-1	NONE	NONE	A-W	Public Water	Y	None	Not Necessary	1	167	A-1/6W/5	8/25/2015	1426	741	attach.																		
																		168	A-1/6W/2	8/25/2015	1426	738	attach.																		
2015-06 Vol XIII App 12 Attach B - Master Indx Part B	NA	15-460 Part B	NA	Pittsburg	2	161	Connecticut River	DC	S1 LL 161	NONE	NONE	U-W	Public Water	Y	None	Not Necessary	2	201	A-1/29/2	4/5/2012	1347	448	attach.																		
																		161 (Water)	/	/	/	/	/																		
																		162 (Rt. 3)	/	/	/	/	/																		
																		162.01 (Rt. 3)	/	/	/	/	/																		
400	R7/NA/1	9/8/2011	1338	781	attach.																																				
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App1	2015-06 Vol XIII App 15 Table 1	15-461 App 1	15-463 Table 1 App 1	Stark	3	12519	Nash Stream Forest (DRED) (1988 Purchased)	DC/115kv	DC-403 / DC-394	O-154	O154-50 / O154-41	A-L	State Land	NA	None	Not Necessary	42, 43	12519	406/NA/4	8/27/1946	359	134	1390																		
																		12516	405/NA/4	5/20/1946	346	341	1438																		
																		12527	406/NA/3	6/7/1947	354	285	1382																		
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App2	2015-06 Vol XIII App 15 Table 1	15-461 App 2	15-463 Table 1 App 2	Stark	4	12547	Percy State Forest (DRED) (1988 Purchased)	DC/115kv	DC-420/ DC-415	O-154	O154-67/ O154-62	A-L	State Land	NA	None	Not Necessary	44	12541	204/NA/2	5/22/1946	346	343	1442																		
																		12547	204/NA/1	5/20/1946	346	341	1438																		
																		12548	411/NA/2	7/9/1946	346	362	1434																		
																				5/8/1946	346	354	1430																		
																				5/12/1946	346	357	1426																		
6/7/1947	354	285	1382																																						
2015-06 Vol XIII App 12 Attach B - Master Indx Sub App 2	2015-06 Vol XIII App 14 Table 1	15-460 App 2	15-462 Table 1 App 1	Stark	5	12556	Upper Ammonoosuc River	DC/115kv	DC-434 / DC-435	O-154	O154-81 / O154-82	A-W	Public Water	Y	None	Not Previously Licensed	46	12554	410/NA/5	5/23/1946	346	360	1422																		
																		12556 (Water)	/	/	/	/	/																		
																		12557.01 (Lunn Rd)	/	/	/	/	/																		
																		7/9/1946	346	355	1418																				
12557	410/NA/2	05/07/1946	346	352	1414																																				
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App 3	2015-06 Vol XIII App 15 Table 1	15-461 App 3	15-463 Table 1 App 3	Northumberland	6	2030, 2034, 2037	Cape Horn State Forest (DRED) (1988 Purchased)	DC/115kv	DC-485/ DC-507 Diff. Boundary	D-142	D142-321/ D142-344	A-L	State Land	NA	None	Not Necessary Original Install D-142 predates State Land ownership	51, 52, 53, 54	2026	231/NA/1	7/22/1947	359	317	460																		
																		2034	247/NA/7	8/27/1947	359	324	480																		
																		2030	234/NA/17	8/21/1947	359	311	472																		
																		2035.01 (Page Hill Rd)	/	/	/	/	/																		
																		2037	247/NA/1	NYA	NYA	NYA	NYA																		
																		2036.01	247/NA/2(2)	8/12/1947	368	1	476																		
																		2036.02	247/NA/2(3)	8/12/1947	368	1	476																		
																		2036.03	247/NA/2(4)	8/12/1947	368	1	476																		
																		2015-06 Vol XIII App 12 Attach B - Master Indx Sub App 3	2015-06 Vol XIII App 14 Table 1	15-460 App 3	15-462 Table 1 App 2	Lancaster	7	2233, 2234	Otter Brook	DC/115kv	DC-536 / DC-537 flood overlap	D-142	D142-373 / D142-374 (373-376 in docket)	A-W	Public Water	Y	None	Not Previously Licensed	57	2233	R11/NA/77	8/27/1947	359	338	616
																																				2234	R11/NA/76	7/29/1947	359	299	524
8/22/1947	359	278	532																																						
2015-06 Vol XIII App 12 Attach B - Master Indx Sub App 4	2015-06 Vol XIII App 14 Table 1	15-460 App 4	15-462 Table 1 App 3	Lancaster	7	2235	Israel River	DC/115kv	DC-538 / DC-539 flood overlap	D-142	D142-375 / D142-376 (373-376 in docket)	A-W	Public Water	Y	None	Not Previously Licensed	58	2235 (Water)	/	/	/	/	/																		
																		2234	R11/NA/76	8/22/1947	359	278	532																		
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App 4	2015-06 Vol XIII App 15 Table 1	15-461 App 4	15-463 Table 1 App 4	Lancaster	7	2236	State of NH Railroad (Groveton Branch) (NH DOT)	DC/115kv	DC-539 / DC-540	D-142	D142-376 / D142-377	A-R	Railroad	NA	None	Not Necessary Original Install D-142 predates State Rail ownership	58	2234	R11/NA/76	8/22/1947	359	278	532																		
																		2236 (RR)	/	/	/	/	/																		
																		2237	R17/NA/29	8/22/1947	359	278	532																		
2015-06 Vol XIII App 12 Attach B - Master Indx Sub App 5	2015-06 Vol XIII App 14 Table 1	15-460 App 5	15-462 Table 1 App 4	Dalton	8	2825, 2826	Johns River	DC/34.5kv	DC-622A/DC-621 flood?	348X	348X-013 / 348X-017 flood zone	A-W	Public Water	Y	Q195-11 / Q195-12 X178-576 / X178-577	Not Previously Licensed Original Install X178 in 1953 & Q195 in 1958 Johns River not on 1947 PW list would need license by today standards	68	2819 (RR)	/	/	/	/	/																		
																		2825 (Wetland)	413/NA/71	4/9/1953	397	108	1547																		
																		10/3/1947	359	329	1495																				
																		2826 (Wetland)	413/NA/66	4/9/1953	397	108	1547																		
																		10/3/1947	359	329	1495																				
																		2831	413/NA/67	4/9/1953	397	108	1547																		
																		10/3/1947	359	329	1495																				
																		2832	413/NA/68	4/9/1953	397	108	1547																		
10/3/1947	359	329	1495																																						
2833	413/NA/62	4/9/1953	397	108	1547																																				
10/3/1947	359	329	1495																																						
2833.03 (for ref.)	413/NA/5	9/23/2015	1428	393	1460																																				
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App 5	2015-06 Vol XIII App 15 Table 1	15-461 App 5	15-463 Table 1 App 5	Dalton	8	2819	State of NH Railroad (NH DOT)	DC/34.5kv	DC-620 / DC-621	348X	348X-011 / 348X-012	A-R	Railroad	NA	Not Necessary Original Install X178 in 1953 & Q195 in 1958 predates State Rail ownership of 1999	67	2818	413/NA/75	3/19/1953	398	26	1535																			
																	5/22/1953	397	204	1549																					
																	9/17/1947	359	288	1491																					
																	2819 (RR)	/	/	/	/	/																			
2825	413/NA/71	4/9/1953	397	108	1547																																				

Staff Recommendation Zone 2																								
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 6	NA	15-460 App 6	NA	Bethlehem	9	3114	Ammonoosuc River	DC	DC-662 / DC-663	NA	NA	A-W	Public Water	Y	X-178, 348 X178-505 / X178-506 348(unknown)	Not Previously Licensed	73	3110 (Rt. 116)	/	/	/	/	/	
																		3109 (RR)	/	/	/	/		
																		3108	406/36/NA	3/05/1953	834	243	1617	
																		3113	406/39/NA	10/2/1947	773	35	1563	
																		3114 (Water)	/	/	/	/		
																		3115	406/37/NA	3/05/1953	834	243	1617	
3110 (Rt. 116)	/	/	/	/																				
3109 (RR)	/	/	/	/																				
3108	406/36/NA	3/05/1953	834	243	1617																			
3113	406/39/NA	10/2/1947	773	35	1563																			
3114 (Water)	/	/	/	/																				
3115	406/37/NA	3/05/1953	834	243	1617																			
3110 (Rt. 116)	/	/	/	/																				
3109 (RR)	/	/	/	/																				
3108	406/36/NA	3/05/1953	834	243	1617																			
3113	406/39/NA	10/2/1947	773	35	1563																			
3114 (Water)	/	/	/	/																				
3115	406/37/NA	3/05/1953	834	243	1617																			
3110 (Rt. 116)	/	/	/	/																				
3109 (RR)	/	/	/	/																				
3108	406/36/NA	3/05/1953	834	243	1617																			
3113	406/39/NA	10/2/1947	773	35	1563																			
3114 (Water)	/	/	/	/																				
3115	406/37/NA	3/05/1953	834	243	1617																			
3110 (Rt. 116)	/	/	/	/																				
3109 (RR)	/	/	/	/																				
3108	406/36/NA	3/05/1953	834	243	1617																			
3113	406/39/NA	10/2/1947	773	35	1563																			
3114 (Water)	/	/	/	/																				
3115	406/37/NA	3/05/1953	834	243	1617																			
3110 (Rt. 116)	/	/	/	/																				
3109 (RR)	/	/	/	/																				
3108	406/36/NA	3/05/1953	834	243	1617																			
3113	406/39/NA	10/2/1947	773	35	1563																			
3114 (Water)	/	/	/	/																				
3115	406/37/NA	3/05/1953	834	243	1617																			
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Franconia	10	3645.01	Gale River	DC	NONE	NA	NA	U-W	Public Water	Y	348X1 unknown (underground)	Not Previously Licensed on PW1947 list Staff didnt request info of license for 348X1	81	3645.01 (Water)	/	/	/	/	/	
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Woodstock	11	4123.01	Moosilauke Brook Crossing	DC/34.5kv	NONE	NA	Unknown	U-W	Public Water	N	3126			101	Rt. 3					
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Plymouth	12	5342.01	Baker River	DC	NONE	NONE	NONE	U-W	Public Water	Y	None	Not Necessary	119	5340.01 (Rt. 3)	?	?	?	?	?	
																			5342.01 (Water)	/	/	/	/	/

Staff Recommendation Zone 3																							
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 7	NA	15-460 App 7	NA	Bridgewater	13	5813.01	Pemigewasset River	DC	DC-1099 / DC-1101 flood?	NA	NA	A-W	Public Water	Y	E-115 E115-228 / E115-231	Not Previously Licensed E115 installed in 1953 Pemi on PW 1947 list	124	5812	202/12/NA	NYA	NYA	NYA	NYA
																		5813.01 (Water)	/	/	/	/	/
																		5530	4/1/1	12/2/1965	1029	174	824
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 8	NA	15-460 App 8	NA	Ashland	14	5538, 5542	Squam River	DC	DC-1113 / DC-1114	NA	NA	A-W	Public Water	Y	E-115 E115-211 / E115-212	Not Previously Licensed E115 installed in 1953 Squam River not on PW 1947 list	126	5538	3/3/2	9/12/1952	829	237	867
																				9/24/1952	829	363	874
																				8/25/1928	608	459	878
																		5542	3/3/1	8/11/1928	610	523	890
																				3/6/1930	618	64	884
																				10/15/1952	341	482	876
9/18/1952	1524	815	786																				
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 9	2015-06 Vol XIII App 14 Table 1	15-460 App 9	15-462 Table 1 App 5	New Hampton	15	6145.03	Pemigewasset River	DC/115KV	DC-1144 / DC-1145	E-115	E115-168 / E115-167	A-W	Public Water	Y	None	DE 76-22 12,219 4/21/1976 (76-22-3, pg. 12)	129	6145.02	R16/NA/3	6/23/1932	204	219	29
																		6145.03 (Water)	/	/	/	/	/
																		5813	209/NA/11	9/4/1952	829	241	869
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 7	2015-06 Vol XIII App 15 Table 1	15-461 App 7	15-463 Table 1 App 6	New Hampton	15	6145	State of NH Land (NHDOT)	DC/115KV	DC-1141 / DC 1143	E-115	E115-171 / E115-169	A-L	State Land	NA	None	Not Prev Licensed Original Install E115 in 1953 doesn't predate State DOT ownership of 2/05/1952	129	6143	R16/2/A	10/15/1952	341	481	789
																		6143.02 (I93 Road)	/	/	/	/	/
																		6145	R16/1/NA	NYA	NYA	NYA	NYA
																		6145.01 (Rt. 132)	/	/	/	/	/
																		6145.02	R16/NA/3	6/23/1932	204	219	29
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 10	2015-06 Vol XIII App 14 Table 1	15-460 App 10	15-462 Table 1 App 6	Bristol	16	6441	Pemigewasset River	DC/115KV	DC-1174 / DC-1175	E-115	E115-123 / E115-122	A-W	Public Water	Y	None	DE 75-173 12,022 08/04/1975 (75-173-2, pg. 5)	133	6440	222/NA/38	8/21/1975	1254	410	833
																		6441 (Water)	/	/	/	/	/
																		6146	R15/19/NA	09/26/1952	342	261	25
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 11	2015-06 Vol XIII App 14 Table 1	15-460 App 11	15-462 Table 1 App 7	New Hampton	17	6182	Pemigewasset River	DC/115KV	DC-1205 / DC-1206	A-111	A111-80A / A111-80	A-W	Public Water	Y	None	DE 76-22 12,219 04/21/1976 (76-22-18, pg. 1)	137	6181	R01/NA/20	7/28/1928	188	242	121
																		6182 (Water)	/	/	/	/	/
																		6702	R1/NA/56	9/21/1928	502	82	340
																		6701	NA	9/27/1928	502	34	367
																		6703	R9/NA/13	7/15/1952	715	470	326
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 8	NA	15-461 App 8	NA	Hill	18	703, 6704, 670	William H Thomas State Forest (DRED)	DC	DC-1208 / DC-1214	NA	NA	A-L	State Land	NA	A-111 A111-68 / A111-78 not on map	Not Necessary Original Install A-111 in 1953 predates State Land ownership of 4/21/2003	137	6704	R9/NA/18	8/5/1952	715	468	312
																		6705	R9/NA/25	11/28/1952	725	292	338
																		6702	R1/NA/56	9/21/1928	502	82	340
																		6703	R9/NA/13	7/15/1952	715	470	326
																		6704	R9/NA/18	8/5/1952	715	468	312
2015-06 Vol XIII App 13 Attach B- Master Indx Sub App 9	2015-06 Vol XIII App 15 Table 1	15-461 App 9	15-463 Table 1 App 7 / 8	Franklin	19	7317.01	Northern Rail Trail (NHDOT)	DC/115KV/115KV	DC-1270 / DC-1271	M-127, F-139	M127-1A-1 / F139-343-342	A-R	Railroad	NA	V182 V182-269- 268	Original Install of V182 in 1987 predates State Rail Corridor Ownership in 1995	143	7318	76/NA/1	1/31/1976	1,268	283	2
																		7317.01 (RR)	/	/	/	/	/
																		7316	76/NA/5	5/8/1964	942	223	1114
																		7322	77/NA/402	6/2/1951	696	334	1341
																		7325	77/NA/406	12/10/1949	696	97	1124
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 12	2015-06 Vol XIII App 14 Table 1	15-460 App 12	15-462 Table 1 App 8 / 9	Franklin	19	7315	Chance Pond	DC/115KV/115KV	DC-1271 / DC-1272	M-127, F-139	M127-1 - 2 / F139-342-341	A-W	Public Water	N	V182 V182-268- 267	M127/F139: DE 87-131 18,782 08/04/1987 (87-131-1, pg. 20) superseeded by V182 DE 08-064 24,859 5/30/2008	143	7031.02	77/NA/13	10/3/1949	670	457	1128
																		7031.01	77/NA/12	10/3/1949	670	458	1131
																		7325	77/NA/406	8/14/1962	907	106	1106
																		7326	M6/77/15	NYA	NYA	NYA	NYA
																		7324 (Chance Pond Road)	/	/	/	/	/
																		7315 (Water)	/	/	/	/	/
																		7316	76/NA/5	5/8/1964	942	223	1114
																		7316	76/NA/5	6/2/1951	696	334	1341
																		7322	77/NA/402	12/10/1949	696	97	1124

Staff Recommendation Zone 4																							
2015-06 Vol XIII App 12 Attach B - Master Indx Sub App 13	2015-06 Vol XIII App 14 Table 1	15-460 App 13	15-462 Table 1 App 10	Franklin	20	7077	Merrimack River	345kV/115kV	3132-4 / 3132-5	F-139	F139-281 / F139-280	A-W	Public Water	Y	V182 V182-209/ V182-208	DE 76-22 12,219 03/12/1976 (76-22-10, pg. 10)	148	7076	27-C4/NA/401	NYA	NYA	NYA	NYA
																		7074	126(27-C4)/NA/1	12/5/1950	693	44	1261
																		7075 (RR)	/	/	/	/	/
																		7077 (Water)	/	/	/	/	/
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App 10	2015-06 Vol XIII App 15 Table 1	15-461 App 10	15-463 Table 1 App 9	Franklin	20	7075	Northern Rail Trail (NHDOT)	345kV/115kV	3132-4 / 3132-5	F-139	F139-282 / F139-281	A-R	Railroad	NA	V182 V182-210/ V182-209	Original Install of V182 in 1987 and F139 in 1966 predates State Rail Corridor Ownership between 1975 & 1999	148	7402	82-R6/NA/402	NYA	NYA	NYA	NYA
																		7070	108(27-B4)/NA/401	12/27/1950	693	120	1313
																		7077 (Water)	/	/	/	/	/
																		7075 (RR)	/	/	/	/	/
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App 11	2015-06 Vol XIII App 15 Table 1	15-461 App 11	15-463 Table 1 App 10	Franklin	20	7076	State of NH Land (NHDOT)	345kV/115kV	3132-4 / 3132-5	F-139	F139-282/ F139-280	A-L	State Land	NA	V-182 V-182-210/ V-182-208	Original Install of V182 in 1951 and F139 in 1966 predates State DOT Ownership between 7/3/1995	148	7402	R02/NA/3	11/30/1950	693	35	1267
																		7070	126(27-C4)/NA/1	12/5/1950	693	44	1261
																		7075 (RR)	/	/	/	/	/
																		7076	126(27-C4)/NA/401	NYA	NYA	NYA	NYA
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App 12	2015-06 Vol XIII App 15 Table 1	15-461 App 12	15-463 Table 1 App 11	Canterbury	21	7616.1	State of NH Railroad (Concord Lincoln Line) (NHDOT)	345kV/115kV	3132-32 / 3132-33	F-139	F139-250 / F139-249	A-R	Railroad	NA	V-182 V-182-176/ V-182-177	Original Install of V182 in 1951 and F139 in 1966 predates State Rail Corridor Ownership between 1975 & 1999	151, 152	7616	236/NA/17	12/1/1950	693	49	1271
																		7616.1 (RR)	/	/	/	/	/
																		7617 (193 Road)	/	/	/	/	/
																		7618	237/NA/7	12/1/1950	693	54	1275
2015-06 Vol XIII App 12 Attach B - Master Indx Sub App 14	2015-06 Vol XIII App 14 Table 1	15-460 App 14	15-462 Table 1 App 11 / 12	Concord	22	8076	Turtle Pond	345kV/115kV/34.5kV	3132-112 - 3132-117 flood?	P-145, 318	318-52- 318-70 / P145-134 - P145-128	A-W	Public Water	N	C189 C189-81 - C189- 797(not included... Do we need to show?)	C189 (formerly V182): DE 08-064 24,859 05/30/2008 (App. C) P145/318: DE 94-272 21,817 09/06/1995 (94-272-11, pg. 31)	159, 160	8048	118F/1/1	9/1/1950	688	248	1185
																		8049	118F/1/5	NYA	NYA	NYA	NYA
																		8048.01 (Oak Hill Rd)	/	/	/	/	/
																		8055	118F/2/11	NYA	NYA	NYA	NYA
																		8062	118F/2/17	10/5/1950	693	99	1307
																		8076 (Water)	/	/	/	/	/
																		8075	118F/2/9	NYA	NYA	NYA	NYA
																		8074.01	118F/2/8	NYA	NYA	NYA	NYA
																		8074	118F/2/55	NYA	NYA	NYA	NYA
																		8073.01	118F/2/31	NYA	NYA	NYA	NYA
																		8073	118F/2/59	NYA	NYA	NYA	NYA
																		8072	118F/2/26	NYA	NYA	NYA	NYA
																		8085	118/2/5	NYA	NYA	NYA	NYA
																		8077	118/2/3	NYA	NYA	NYA	NYA
																		8086	118/2/15	NYA	NYA	NYA	NYA
																		8080 (Appleton St.)	/	/	/	/	/
8088	118/1/23	NYA	NYA	NYA	NYA																		
8084	118/1/44	NYA	NYA	NYA	NYA																		
8091	118/1/43	NYA	NYA	NYA	NYA																		
8241	111G/1/63	NYA	NYA	NYA	NYA																		
2015-06 Vol XIII App 12 Attach B - Master Indx Sub App 15	2015-06 Vol XIII App 14 Table 1	15-460 App 15	15-462 Table 1 App 13 / 14	Concord	23	8951	Soucook River	345kV/115kV/115kV	3132-159 / 3132-160	C-189, P-145	C189-32 / C189-31 P145-73 / P145-72	A-W	Public Water	Y	None	C189 (formerly V182): DE 08-064 24,859 05/30/2008 (App. C) P145 NOT Licensed	163, 164	8242	110/1/6	9/6/1950	688	258	1149
																		8243	111G/1/1	NYA	NYA	NYA	NYA
																		8951 (Water)	/	/	/	/	/
																		8954	632/NA/18	12/2/1950	693	31	1279
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App 13	2015-06 Vol XIII App 15 Table 1	15-461 App 13	15-463 Table 1 App 12 / 13	Pembroke	23	8954, 8957	State of NH Land (NHAG)	345kV/115kV/115kV	3132-159 / 3132-165	P-145, C-189	P145-73 - P145-66 C189-32 - C189-25(only being relocated 32-30)	A-L	State Land	NA	318 (34.5 kv) dead ends outside both north end and south end of parcel Liberty Utilities 200 psig NG	Original Install of V182 in 1951 and P145 in 1966 predates State AG Ownership from Riverwood Properties on 10/01/2009	163, 164	8241	111G/1/63	NYA	NYA	NYA	NYA
																		8242	110/1/6	9/6/1950	688	258	1149
																		8243	111G/1/1	NYA	NYA	NYA	NYA
																		8951 (Water)	/	/	/	/	/
																		8954	632/NA/18	12/2/1950	693	31	1279
																		8956 (Riverwood Dr.)	/	/	/	/	/
2015-06 Vol XIII App 13 Attach B - Master Indx Sub App 14	NA	15-461 App 14	NA	Allentown	24	9300	Bear Brook State Park (DRED) (1946 acquired)	345kV	3132-218 / 3132-228 Diff. boundary	NA	NA	A-L	State Land	NA	G-146 G146-109/ G146-119	Original Install of G- 146 in 1951 predates State DRED Ownership from private landowners. BP 916 was acquired by NH 10/31/1981, BP 975 was acquired by NH 10/31/1956, BP 973 was acquired by NH 7/05/1965	169, 170	8928.01 (Old Buick St. Ext.)	/	/	/	/	/
																		8947	868/NA/12	2/1/1954	745	187	973
																		8950 (Water)	/	/	/	/	/
																		9300	408/NA/1	1/29/1954	745	179	975
																		9301	408/NA/3	02/01/1954	745	209	916
																				2/25/1954	745	379	998
																		9300.01 (Road)	/	2/2/1954	745	177	979
																				3/4/1954	745	375	914
2015-06 Vol XIII App 12 Attach B - Master Indx Sub App 16	NA	15-460 App 16	NA	Pembroke	24	8950	Suncook River	345kV	3132-218 / 3132-220 flood?	NA	NA	A-W	Public Water	Y	G-146 G146-119/ G146-118	Not Previously Licensed G-146 installed in 1951 Suncook River on PW 1947 list	169	8928	868/NA/15(4)	NYA	NYA	NYA	NYA
																		8928.01 (Road)	/	/	/	/	/
																		8947	868/NA/12	2/1/1954	745	187	973
																		8950 (Water)	/	/	/	/	/
9300	408/NA/1	1/29/1954	745	179	975																		
		02/01/1954	745	209	916																		

Non-Crossings																							
2015-06 Vol XIII App 12 Attach B- Master Indx Sub App 17	2015-06 Vol XIII App 14 Table 1	15-460 App 17	15-462 Table 1 App 15	Deerfield	25	9702	Lamprey River	345kV/115kV	3132-295 / 3132-296	G-146	G146-27 / G146-26	A-W	Public Water	Y	D-118 D118-29 / D118-28	I-E8322 6,217 09/01/1953	178	9698	210/NA/53	2/15/2013	5412	1616	32
																		9702 (Water)	210/NA/53	/	/	/	/
																		9703	210/NA/47	NYA	NYA	NYA	NYA
																		9702.01 (Mountain Rd)	/	/	/	/	/
																		9707	210/NA/39	12/7/1953	1305	499	1028
9708	210/NA/40	NYA	NYA	NYA	NYA																		
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Easton	NA	3765.01	Ham Branch Crossing	DC/34.5kV	NONE	Unknown	Unknown	U-W	Public Water	N			86	Rt. 116					
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Easton	NA	3805.01	Ham Branch Crossing	DC/34.5kV	NONE	Unknown	Unknown	U-W	Public Water	N			87	Rt. 116					
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Easton	NA	3841.01	Ham Branch Crossing	DC/34.5kV	NONE	Unknown	Unknown	U-W	Public Water	N			89	Rt. 116					
2015-06 Vol XIII App 12 Attach B- Master Indx Part B	NA	15-460 Part B	NA	Woodstock	NA	4483.01	Gordon Pond Brook Crossing	DC/34.5kV	NONE	Unknown	Unknown	U-W	Public Water	N			101	Rt. 112					

From: [Spoerl, Robert](#)
To: [Gilpatric, Kerri-Lyn](#)
Cc: [Carson, Trisha](#)
Subject: RE: response to Knepper letter of Oct 21
Date: Monday, February 27, 2017 10:53:52 AM
Attachments: [SEC request.docx](#)

Here is what I found in the file. It is a compilation of responses to the Director Knepper letter of Oct 21, 2016 from the involved foresters.

Bob

From: Gilpatric, Kerri-Lyn
Sent: Monday, February 27, 2017 9:45 AM
To: Spoerl, Robert
Cc: Knepper, Randy
Subject: FW: response to Knepper letter of Oct 21

Good morning Bob-

I am just checking in to see if you were able to find out anything else regarding this matter?

Once again, I appreciate your help with this!

Thank you,

Kerri-Lyn Gilpatric
Program Assistant II
New Hampshire Public Utilities Commission
Safety Division
21 S. Fruit Street, Suite 10
Concord, NH 03301-2429
603-271-6027

From: Gilpatric, Kerri-Lyn
Sent: Friday, February 24, 2017 3:29 PM
To: Spoerl, Robert
Cc: Knepper, Randy
Subject: RE: response to Knepper letter of Oct 21

Bob-

Thank you very much for your assistance with this. Enjoy your weekend!

Thank you,

Kerri-Lyn Gilpatric
Program Assistant II
New Hampshire Public Utilities Commission

Safety Division
21 S. Fruit Street, Suite 10
Concord, NH 03301-2429
603-271-6027

From: Spoerl, Robert
Sent: Friday, February 24, 2017 3:27 PM
To: Gilpatric, Kerri-Lyn
Subject: response to Knepper letter of Oct 21

Kerri

I found a draft copy of responses to Randy's letter however I cannot dis cover if it was in fact sent. The Commissioner's assistant is not in today but is expected Monday...I will follow up with her on Monday.

Bob

Robert Spoerl
Land Agent
Div of Forests and Lands
603.271.2214
robert.spoerl@dred.nh.gov

Attachment 1

Nash Stream State Forest

1) Please describe the ways in which the *Nash Stream State Forest* is used by the public, business, and other private entities. In particular focus on the portions of the Forest in which the existing easements and power lines coexist.

Nash Stream is the largest state owned property and is used by the public in many ways. There are recreation trails of all kinds, including hiking, snowmobiling and ATV trails on the property. The public enjoys the property in other ways as well through hunting, fishing, etc. Where the power lines currently exist on the property contains the portions of the Cohos Trail, which is a through hiking trail system. There are also many other hiking trails in the vicinity coming from Christine Lake, which access Percy Peaks, Bald Mt., Victor Head and other local sites. There is also a snowmobile trail corridor that runs through this southeast corner of Nash Stream. There are no businesses or private entities that utilize this portion of the property. A small section of the railroad goes through the property nearby to the utility ROW.

2) Have you noticed any negative impacts from the existing Eversource Energy circuits crossing *Nash Stream State Forest* Land?

No, I have not noticed any negative impacts from the existing power line ROW. However, we have not had any forest management activities in this portion of the property in a while.

3) Has Eversource Energy been a good steward of the property in the past and been cooperative in terms of scheduling, communicating, and implementing activities for maintenance purposes?

I have had very little communication from Eversource. If they are doing maintenance or any work on the line they have not let me know. Perhaps they are contacting our central office, but not the local office.

4) Do you foresee any negative impacts in the future if the existing power line will be relocated within the existing easement? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, in what way?

No, I do not foresee any negative impacts if the existing power line is relocated within the easement area.

5) Do you anticipate any negative impacts to the *Nash Stream State Forest* from the construction of the Northern Pass Transmission Line? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, in what way?

A possible negative impact from the construction would be an access issue. If there were any restrictions on bringing large equipment near or underneath the power lines that could affect the areas that we now have access to for forest management and timber harvesting.

In the area of Nash Stream where the existing transmission lines are located has both snowmobile trails and the Cohos Trail. It would be important to retain access for these user groups but also consider the visual impact increased power lines would have aesthetically.

Attachment 2 Percy State Forest

- 1) Please describe the ways in which the Percy State Forest is used by the public, business, and other private entities. In particular focus on the portions of the Forest in which the existing easements and power lines coexist.

Percy State Forest is a small parcel and utilized mostly by locals. The power line easement runs right through the middle of the property dissecting it.

- 2) Have you noticed any negative impacts from the existing Eversource Energy circuits crossing Percy State Forest Land?

No, I have not noticed any negative impacts from the existing power line ROW. However, we have not had any forest management activities in this portion of the property in a while.

- 3) Has Eversource Energy been a good steward of the property in the past and been cooperative in terms of scheduling, communicating, and implementing activities for maintenance purposes?

I have had very little communication from Eversource. If they are doing maintenance or any work on the line they have not let me know. Perhaps they are contacting our central office, but not the local office.

- 4) Do you foresee any negative impacts in the future if the existing power line will be relocated within the existing easement? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, in what way?

No, I do not foresee any negative impacts if the existing power line is relocated.

- 5) Do you anticipate any negative impacts to the Percy State Forest from the construction of the Northern Pass Transmission Line? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, in what way?

A possible negative impact from the construction would be an access issue. If there were any restrictions on bringing large equipment near or underneath the power lines that could affect the areas that we now have access to for forest management and timber harvesting. We are planning a timber harvest on this parcel in the next 1-3 years, if construction of Northern Pass restricted our access during this time that would affect our budgeting.

Attachment 3 Cape Horn State Forest

- 1) Please describe the ways in which the Cape Horn State Forest is used by the public, business, and other private entities. In particular focus on the portions of the Forest in which the existing easements and power lines coexist.

Cape Horn is a unique piece of property with a distinct geological feature, a partial ring dyke, which contains globally rare plants. There are many people that climb up to the top of the "horn" despite there being no trail. You have to cross the utility ROW to access the "horn." There are also snowmobile trails that cross the power line and portions of trail that are shared with the power line. The property is also utilized for forest and wildlife management. The property is used for hunting and general enjoyment by locals as well.

- 2) Have you noticed any negative impacts from the existing Eversource Energy circuits crossing Cape Horn State Forest land?

Forest and Lands has to cross under the power lines to access parts of the property. In the past, there was concern from the utility company about forestry equipment crossing under the power lines.

- 3) Has Eversource Energy been a good steward of the property in the past and been cooperative in terms of scheduling, communicating, and implementing activities for maintenance purposes?

Yes, they have been a good steward of the property and have been cooperative.

- 4) Do you foresee any negative impacts in the future if the existing power line will be relocated within the existing easement? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, in what way?

As long as the state can still retain access for people and large equipment, I do not foresee any negative impacts.

There are both rare plants and exemplary communities within close proximity to the utility easement, however, not within the existing ROW. If the impacts should expand beyond the current footprint, there may be cause for concern regarding these plants and communities.

- 5) Do you anticipate any negative impacts to the Cape Horn State Forest from the construction of the Northern Pass Transmission Line? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, in what way?

A possible negative impact from the construction would be an access issue. If there were any restrictions on bringing large equipment near or underneath the power lines that could affect the areas that we now have access to for forest management and timber harvesting.

There are both rare plants and exemplary communities within close proximity to the utility easement, however, not within the existing ROW. If the impacts should expand beyond the current footprint, there may be cause for concern regarding these plants and communities.

It would be important to retain access for these user groups but also consider the visual impact increased power lines would have aesthetically.



THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION



Victoria F. Sheehan
Commissioner

William Cass, P.E.
Assistant Commissioner

November 22, 2016

Mr. Randy Knepper
Director, Safety Division
New Hampshire Public Utilities Commission
21 South Fruit Street
Concord, NH 03301



Re: New Hampshire Site Evaluation Committee-Docket No. 2015-06
Joint Application of Northern Pass Transmission LLC ("NPT") and Public Service
Company of New Hampshire d/b/a Eversource Energy ("Eversource") for a
Certificate of Site and Facility for the Construction of a new 1,090 MW Electric
Transmission Line

Dear Director Knepper:

The New Hampshire Department of Transportation has received your letter of October 21, 2016 regarding Eversource Energy's existing easements on certain properties administered by the Department of Transportation, Bureau of Rail and Transit. Enclosed for your use, are responses to the questions posed by the PUC Safety Division as requested in your letter.

If you have any questions or need further information, please contact Patrick Herlihy, Director of Aeronautics, Rail and Transit at 271-2449 or by email at patrick.herlihy@dot.nh.gov.

Sincerely,

Victoria Sheehan
Commissioner

Attachment 1: Northern Rail Trail near Webster Substation

1. Please describe the way in which the **Northern Rail Trail near Webster Substation** is used by the public, businesses, and other private entities. In particular, focus on the portion of the Trail in which the existing easements and power lines coexist.

The Northern Rail Trail connects Boscawen and Lebanon via a 60-mile stone dust surface trail. The New Hampshire Department of Resources and Economic Development (DRED) has managed the Trail on the railroad corridor property at the subject location for over 10 years. The Friends of the Northern Rail Trail have since developed a high-quality stone dust surface rail trail along the railroad corridor. Snowmobilers continue to use the Trail as a main New Hampshire snowmobile corridor trail during times of adequate snow-cover. Other seasonal Trail uses include cross country skiing, snowshoeing, dogsledding, dog sled training with wheeled vehicles, bicycling, walking, running, hiking and orienteering. Local communities occasionally run events such as 5k benefit races along the Trail.

2. Have you noticed any negative impacts from the existing Eversource Energy circuits crossing the **Northern Rail Trail near Webster Substation**?

We have noticed no negative impacts to the functionality of the Trail resulting from the existing Eversource Energy circuits. As with any electric power transmission lines, the Eversource Energy circuits over the property include aesthetic impacts that are typically associated with any aerial electric power transmission lines.

3. Has Eversource Energy been a good steward of the property in the past and been cooperative in terms of scheduling, communicating, and implementing activities for maintenance purposes?

Yes, Eversource Energy has been very cooperative and restored property after maintenance work on its facilities.

4. Do you foresee any negative impacts in the future if the existing power line bill be relocated within the existing easement? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, in what way?

No, we don't foresee any negative impacts nor do we anticipate that the relocation will affect the rights of the public in using the land.

5. Do you anticipate any negative impacts to the **Northern Rail Trail near Webster Substation** from the construction of the Northern Pass Transmission Line? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, and in what way?

No, we don't foresee any negative impacts nor do we anticipate that the relocation will affect the rights of the public in using the land.

Attachment 2: Northern Rail Trail near South Main Street in Franklin

1. Please describe the way in which the **Northern Rail Trail near South Main Street in Franklin** is used by the public, businesses, and other private entities. In particular, focus on the portion of the Trail in which the existing easements and power lines coexist.

The Northern Rail Trail connects Boscawen and Lebanon via a 60-mile stone dust surface trail. The New Hampshire Department of Resources and Economic Development (DRED) DRED has managed the Trail on the railroad corridor property at the subject location for over 10 years. The Friends of the Northern Rail Trail have since developed a high-quality stone dust surface rail trail along the railroad corridor. Snowmobilers continue to use the Trail as a main New Hampshire snowmobile corridor trail during times of adequate snow-cover. Other seasonal Trail uses include cross country skiing, snowshoeing, dogsledding, dog sled training with wheeled vehicles, bicycling, walking, running, hiking and orienteering. Local communities occasionally run events such as 5k benefit races along the trail.

2. Have you noticed any negative impacts from the existing Eversource Energy circuits crossing the **Northern Rail Trail near South Main Street in Franklin**?

We have noticed no negative impacts to the functionality of the Trail resulting from the existing Eversource Energy circuits. As with any electric power transmission lines, the Eversource Energy circuits over the property include aesthetic impacts that are typically associated with any aerial electric power transmission lines.

3. Has Eversource Energy been a good steward of the property in the past and been cooperative in terms of scheduling, communicating, and implementing activities for maintenance purposes?

Yes, Eversource Energy has been very cooperative and restored property after maintenance work on its facilities.

4. Do you foresee any negative impacts in the future if the existing power line bill be relocated within the existing easement? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, in what way?

No, we don't foresee any negative impacts nor do we anticipate that the relocation will affect the rights of the public in using the land.

5. Do you anticipate any negative impacts to the **Northern Rail Trail near South Main Street in Franklin** from the construction of the Northern Pass Transmission Line? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, and in what way?

No, we don't foresee any negative impacts nor do we anticipate that the relocation will affect the rights of the public in using the land.

Attachment 3: NH Rail-Concord/Lincoln Line

1. Please describe the way in which the **NH Rail-Concord/Lincoln Line** is used by the public, businesses, and other private entities. In particular, focus on the portion of the Rail in which the existing easements and power lines coexist.

The Concord-Lincoln Railroad Line is seasonally active with freight rail (General Merchandise, which includes clay between Concord and Tilton). Winter (only) use includes snowmobiling (primarily), snowshoeing, cross country skiing, dogsledding and is managed by the New Hampshire Department of Resources and Economic Development (DRED).

2. Have you noticed any negative impacts from the existing Eversource Energy circuits crossing the **NH Rail-Concord/Lincoln Line**?

No

3. Has Eversource Energy been a good steward of the property in the past and been cooperative in terms of scheduling, communicating, and implementing activities for maintenance purposes?

Yes, Eversource Energy has been very cooperative and restored property after maintenance work on its facilities.

4. Do you foresee any negative impacts in the future if the existing power line bill be relocated within the existing easement? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, in what way?

No, we don't foresee any negative impacts nor do we anticipate that the relocation will affect the rights of the public in using the land.

5. Do you anticipate any negative impacts to the **NH Rail-Concord/Lincoln Line** from the construction of the Northern Pass Transmission Line? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, and in what way?

No, we don't foresee any negative impacts nor do we anticipate that the relocation will affect the rights of the public in using the land.

Attachment 4: NH Central Rail-Groveton Branch in Bethlehem

1. Please describe the way in which the **NH Central Rail-Groveton Branch in Bethlehem** is used by the public, businesses, and other private entities. In particular, focus on the portion of the Rail in which the existing easements and power lines coexist.

The railroad is only seasonally active with freight rail (General Merchandise) in Bethlehem. Winter (only) recreational use in Bethlehem includes cross country skiing, snowshoeing and dogsledding as managed by the New Hampshire Department of Resources and Economic Development (DRED).

2. Have you noticed any negative impacts from the existing Eversource Energy circuits crossing the **NH Central Rail-Groveton Branch in Bethlehem**?

No.

3. Has Eversource Energy been a good steward of the property in the past and been cooperative in terms of scheduling, communicating, and implementing activities for maintenance purposes?

Yes, Eversource Energy has been very cooperative and restored property after maintenance work on its facilities.

4. Do you foresee any negative impacts in the future if the existing power line bill be relocated within the existing easement? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, in what way?

No, we don't foresee any negative impacts nor do we anticipate that the relocation will affect the rights of the public in using the land.

5. Do you anticipate any negative impacts to the **NH Central Rail-Groveton Branch in Bethlehem** from the construction of the Northern Pass Transmission Line? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, and in what way?

No, we don't foresee any negative impacts nor do we anticipate that the relocation will affect the rights of the public in using the land.

Attachment 5: NH Central Rail-Groveton Branch in Lancaster

1. Please describe the way in which the **NH Central Rail-Groveton Branch in Lancaster** is used by the public, businesses, and other private entities. In particular, focus on the portion of the Rail in which the existing easements and power lines coexist.

The railroad is active year-round with freight rail (General Merchandise) in Lancaster.

2. Have you noticed any negative impacts from the existing Eversource Energy circuits crossing the **NH Central Rail-Groveton Branch in Lancaster**?

No.

3. Has Eversource Energy been a good steward of the property in the past and been cooperative in terms of scheduling, communicating, and implementing activities for maintenance purposes?

Yes, Eversource Energy has been very cooperative and restored property after maintenance work on its facilities.

4. Do you foresee any negative impacts in the future if the existing power line will be relocated within the existing easement? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, in what way?

No, we don't foresee any negative impacts nor do we anticipate that the relocation will affect the rights of the public in using the land.

5. Do you anticipate any negative impacts to the **NH Central Rail-Groveton Branch in Lancaster** from the construction of the Northern Pass Transmission Line? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, and in what way?

No, we don't foresee any negative impacts nor do we anticipate that the relocation will affect the rights of the public in using the land.

Attachment 6: NH Central Rail-Groveton Branch in Dalton

1. Please describe the way in which the **NH Central Rail-Groveton Branch in Dalton** is used by the public, businesses, and other private entities. In particular, focus on the portion of the Rail in which the existing easements and power lines coexist.

Please note that in Dalton, the railroad line is called the Mountain Division Railroad Line, not the NH Central Rail-Groveton Branch. Regardless, this section of the Mountain Division Railroad Line in Dalton is currently out of service, but the Department anticipates that in the coming year it may be approached by the New Hampshire Department of Resources and Economic Development (DRED) to seek permission to utilize this section for recreational purposes, likely for winter only.

2. Have you noticed any negative impacts from the existing Eversource Energy circuits crossing the **NH Central Rail-Groveton Branch in Dalton**?

No.

3. Has Eversource Energy been a good steward of the property in the past and been cooperative in terms of scheduling, communicating, and implementing activities for maintenance purposes?

Yes, Eversource Energy has been very cooperative and restored property after maintenance work on its facilities.

4. Do you foresee any negative impacts in the future if the existing power line bill be relocated within the existing easement? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, in what way?

No, we don't foresee any negative impacts nor do we anticipate that the relocation will affect the rights of the public in using the land.

5. Do you anticipate any negative impacts to the **NH Central Rail-Groveton Branch in Dalton** from the construction of the Northern Pass Transmission Line? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, and in what way?

No, we don't foresee any negative impacts nor do we anticipate that the relocation will affect the rights of the public in using the land.



William N. Reddel III, Major General
The Adjutant General

STATE OF NEW HAMPSHIRE
OFFICE OF THE ADJUTANT GENERAL
STATE MILITARY RESERVATION, 1 MINUTEMAN WAY
CONCORD, NEW HAMPSHIRE 03301-5607

ATT B
Pg 13 of 14

Phone: 603-225-1200
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TDD Access: 1-800-735-2964

January 3, 2017

Randy Knepper
Director, Safety Division
New Hampshire Public Utilities Commission
21 South Fruit Street
Concord, NH 03301

Re: New Hampshire Site Evaluation Committee-Dockets No. 2015-06, Joint Application of Northern Pass Transmission LLC ("NPT") and Public Service Company of New Hampshire, d/b/a Eversource Energy ("Eversource"), for a Certificate of Site and Facility for the Construction of a New 1090 MW Electric Transmission Line

Dear Mr. Knepper:

I am responding to your request for comment regarding NPT and Eversource (jointly, the "Applicants") Application with the Site Evaluation Committee ("SEC") for a Certificate of Site and Facility to construct a 192-mile high voltage electric transmission line from Pittsburg, New Hampshire to Deerfield, New Hampshire ("Northern Pass Project"). As part of its Application to the SEC, NPT and Eversource filed petitions with the Public Utilities Commission ("PUC") to cross land owned by the state, pursuant to RSA 371:17 and particularly to cross state land of the Adjutant General's Department in Pembroke, New Hampshire.

Response to the request for comment are provided below.

1. Please describe the ways in which the property referred to as State Land-Riverwood Drive & Sheep Davis Road is used by the public, business, and other private entities. In particular, focus on the portions of the State Land in which the existing easements and powerlines coexist. - The state land, which is located at Riverwood Drive and Sheep Davis Road, Pembroke NH, is the location of the New Hampshire National Guard Regional Training Institute. The property is known to contain a number of rare, threatened and endangered species for which we are conducting land management activities to sustain those species. The National Guard is also proposing to construct an Army National Guard Readiness Center on the property. The property is also expected to provide opportunities for various field training activities. The primary use of the utility easement area is to cross from the road-accessible eastern portion of the property to the western road-inaccessible portion of the property. Currently, a number of dirt two-track paths and one class 6 town road provide the means to cross the utility easement. The proposed Army National Guard Readiness Center will require the construction of a 24-foot wide bituminous road for permanent access for military, personnel and delivery vehicles. Coordination with the Applicants on the location of this road is on-going and expected to provide the necessary crossing.

The existing easement and powerline corridor provide public access to interior portions of the state land that have not been previously restricted. This has been primarily for unsanctioned All-terrain vehicle usage within the easement area.

2. Have you noticed any negative impacts from the existing Eversource Energy circuits crossing the property referred to as State Land-Riverwood Drive & Sheep Davis Road? There are currently no known negative impacts from the existing Eversource energy circuits.

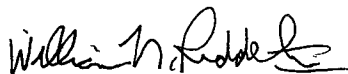
3. Has Eversource Energy been a good steward of the property in the past and been cooperative in terms of scheduling, communicating, and implementing activities for maintenance purposes? Eversource has been a good steward of the property and, for the most part, cooperative in terms of scheduling maintenance. They have contacted us in the past and removed dumped debris to aid in maintenance. However, there have been some occasions where we were not notified.

4. Do you foresee any negative impacts in the future if the existing power line will be relocated within the existing easement? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, in what way? We do not foresee any additional negative impacts from relocating the existing power line in the existing easement. We do not anticipate the relocation will affect the rights, if any, of the public to use the land.

5. Do you anticipate any negative impacts to the property referred to as State Land-Riverwood Drive & Sheep Davis Road from the construction of the Northern Pass Transmission Line? Do you anticipate that the relocation will affect the rights of the public in using the land? If yes, in what way? We do not foresee any additional negative impacts from construction of the Northern Pass Transmission Line within the existing easement. We do not anticipate the construction of Northern Pass Transmission Line will affect the rights, if any, of the public to use the land.

The point of contact for this letter is Zachary Boyajian, State Environmental Supervisor, at 603-227-1439.

Respectfully,



William N. Reddel, III
Major General, NHNG
The Adjutant General