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December 30, 2016

STATE OF NEW HAMPSHIRE SITE EVALUATION COMMITTEE

RE: Joint Application of Northern Pass Transmission, LLC)
and Public Service Company of New Hampshire)
d/b/a Eversource Energy for a Certificate of Site and Facility)

PRE-FILED DIRECT TESTIMONY OF
BRADLEY J. THOMPSON, ON BEHALF OF THE
ABUTTERS AND NON-ABUTTERS, GROUP I NORTH
OF PITTSBURG, CLARKSVILLE, STEWARTSTOWN
REGARDING UNDERGROUND CONSTRUCTION

Q: Please state your name and home address.

A: Bradley J. Thompson, 599 Noyes Road, Stewartstown, NH 03576

Q: Briefly summarize your educational background and work experience.

I hold a Bachelor of Science Degree from the University of New Hampshire, with a Business Administration major from the Whittemore School. I entered UNH as a civil engineer major, but due to changing interests, turned to business in my sophomore year.

After graduating from UNH in January of 1968, and after an eight- month period of working on Wall Street in New York City, I returned to New Hampshire and began a 45-year career of self-employment in the construction industry. In 1970 the B.J. Thompson Form Co, Inc. was formed, a poured concrete foundation and floor/flatwork company, which grew to employ 50 plus workers in the late 1980s.

In 1992 I helped develop and became sole owner of Northern Design Precast, Inc., an architectural precast manufacturing company, based in Loudon, New Hampshire. NDP was sold to my son, Jesse Thompson, last year, 2015. I am now retired.

1 During these 45 years of self-employment, I self-started or partnered several other
2 businesses:

- 3
- 4 • Sawyer Meadows Boat Bunkhouse, with winter storage for up to 220 boats from
5 Lake Winnepesaukee; we started in 1982, and sold the company in 1999.
- 6 • Atlantic Concrete Pumping Company, partnered with Baybutt Foundation Co of
7 Tamworth, NH. We started in 1985, and sold the business in 1991.
- 8 • Beans and Greens Farm Stand, in Gilford, NH. I developed this business with
9 Andrew Howe in the 1980s, and was a 50% owner, until I sold out to Andy after five
10 years. It is still a thriving business today.
- 11 • R.E. Williams Construction, begun in 1983, partnered with Roger Williams; we were
12 a sub-contractor to the old New England Telephone Company, and we performed
13 underground utility work. The work included setting concrete splice pits, burying
14 underground conduit and cables, building Slick Sites, paving and restoration. Pipe-
15 Jacking was commonly requested by the N.E. Tel & Tel. I owned a pipe-jacking
16 machine and performed dozens of jacks around central and northern New
17 Hampshire. This work often required working with NH DOT and municipal town
18 authorities, performing our daily work to NH DOT construction standards. At its
19 peak, RE Williams Construction had three full-time crews working at different sites
20 around New Hampshire.

21
22 I was an original incorporator and a 24-year Director of Village Bank and Trust, Gilford, NH,
23 a commercial bank started by eight Gilford residents in 1982. Village Bank was sold to
24 Bank of New Hampshire in 2006.

25
26 I am also a former 2-year President of the Architectural Precast Association, a national
27 trade organization, representing the precast concrete and cast-stone industry.

28
29
30
31 **Q: For whom are you presenting this testimony?**

32
33 A: This testimony is presented on behalf of two groups of intervenors, identified in the SEC
34 intervention order of May 20, 2016 as the Abutting Property Owners, Group I, in Pittsburg,
35 Clarksville and Stewartstown and the Non-Abutting Property Owners, Group I, in
36 Clarksville and Stewartstown. A subsequent order of the SEC formally established that the
37 two groups could merge, for the purposes of presenting pre-filed testimony and
38 representing ourselves in the Northern Pass docket.

39 The Abutting Property Owners include nine individual intervenors:

- 1 • Charles and Donna Jordan of Clarksville (West Road & Route 145) Mailing address:
2 647 West Road Clarksville NH 03592 NP LL Number of impacted land: 429 (sheet 5
3 of 189)
- 4 • Sally Zankowski of Stewartstown (land on Route 145 in Clarksville) Mailing
5 address: PO Box 135 Colebrook NH 03576 NP LL Number of impacted land: 424.01
6 (sheet 5 of 189)
- 7 • Jon and Lori Levesque of Stewartstown (on Bear Rock Road) Mailing address:
8 107 Oak Street, Gonic NH 03839 NP LL Number of impacted land: 742.01, 10644.03
9 (sheet 9 of 189)
- 10 • Roderick and Donna McAllaster of Stewartstown (on Bear Rock Road) Mailing
11 address: 380 McAllaster Road Stewartstown NH 03576 NP LL Number of impacted
12 land: 10673 (sheet 11 of 189)
- 13 • Lynne Placey of Stewartstown (land on Bear Rock Road) Mailing address: 1043
14 South Hill Road Stewartstown, NH 03576
- 15 • Arlene Placey of Stewartstown (land on Bear Rock Road) Mailing address: 944 Bear
16 Rock Road Stewartstown, NH 03576 NP LL Number of impacted land: 10656 (sheet
17 11 of 189)
- 18 • Brad and Daryl Thompson of Stewartstown (land on Bear Rock Road) Mailing
19 address: 599 Noyes Road, Stewartstown, NH 03576 NP LL Number of impacted
20 land: 10676 (sheet 11 of 189)
- 21 • David A. Schrier of Exeter (land on Old County Road, Stewartstown) Mailing
22 address: 188 High Street, Exeter, NH 03833 NP LL Number of impacted land: 704
23 (sheet 6 of 189)
- 24 • Nancy Dodge of Stewartstown (land on Old County Road) Mailing address: 157
25 Creampoke Road, Stewartstown, NH 03576 NP LL Number of impacted land: 711.01
26 (sheet 7 of 189) NP LL Number of impacted land: 10649 (sheet 9 of 189)

27 The Non-Abutting Property Owners include three separate property owners as
28 intervenors:

- 29 • Robert Martin of Clarksville
- 30 • Roderick C. Moore, Jr., Joseph John Dunlap, Shawn Patrick Brady and Christopher
31 Thompson, owners together of one property in Stewartstown
32

- E. Martin Kaufman, Bradley J. Thompson, and John Petrofsky, on behalf of 44 residents of Stewartstown and East Colebrook (*Dixville Notch-Harvey Swell Location*)

Q: What is the purpose of your testimony?

I believe that the construction of this project does not serve the public good; it will have harsh negative impacts on the orderly development of our region; the health and safety of the residents of our three towns will not and cannot be protected.

In addition, Northern Pass's upper level officials have not proven to me that they have a solid knowledge of and background experience at constructing underground utility burial in dirt roads, nor have they proven they have ever constructed a Transition Station.

Q: Do you feel your private property rights are being threatened?

A: Yes. We purchased our property in 2007, after looking at many parcels in the North Country. We found this 100-acre pasture, surrounded by gently rolling hills and farmlands, offering a peaceful setting and scenic views. We added on an additional 266-acres of forest and mountains behind us. We also granted a conservation easement, to protect our property from underground and/or overhead transmission lines. Our property runs to the middle of the road, and now that road is being threatened by this for-profit transmission line, that will offer no benefit to the immediate neighborhood. The land we own under the road is encumbered by the terms of the easement, exactly as is the entire parcel.

Q: Do you feel that the value of your property will be affected if this proposed transition line goes down Bear Rock Road?

A: Yes, our property value would be greatly diminished. Instead of the scenic view that we are surrounded by now—which is the essence of the property value here at Bear Rock—we would be looking at a 3-acre Transition Station (#4), directly across from us, on the other side of our road, from our living room windows.

We would not consider purchasing property across from a Transition Station. And our extended views, if this transmission line were to go through, would be littered with large, latticed towers. We will have lost the majesty of the landscape that we now enjoy.

We had hoped to leave a legacy to our children and grandchildren and future generations here at Bear Rock Road. If this transmission line project were to be approved, that hope for future generations is lost.

TRANSITION STATIONS

Q: Do you feel the selected geographical location of Transition Station #4 is a good one?

No. It is a terrible location. It is highly visible from the neighbors' properties around Bear Rock and from vehicle traffic driving up Heath Road or Bear Rock Road. It couldn't be located any closer to Heath Road or Bear Rock Road.

Please be reminded that Renewable Properties, Inc. owns somewhere around 5,000 acres and much of this property is in the Bear Rock area. Station #4 could easily be located up Heath Road, less than one-quarter mile, to where it would be totally hidden from eyesight. The site there is level, meaning it would require much less dirt work activity.

Hiding and camouflaging these Transition Stations as much as possible is critical, as they are visually offensive. Transition Station #4 encompasses 3.18 acres, and includes massive steel structures, eight-foot fences, barbed-wire protected screening, huge gates, and multiple video cameras.

Q: Is there surveillance lighting at each Transition Station?

This question was asked at the construction team's technical session in September of 2016. The answer was no. I'd like to see this *no night lighting* statement included on the construction documents. The daytime unsightliness will be hard to bear—a night-time direct view with spotlights, will add insult to injury. One needs to spend a few minutes on our front deck on a dark, or a moonlit night, to appreciate these statements.

Q: Have you reviewed Eversource's Maintenance Manual (TMPM)?

A: Yes.

Q: Do you have any thoughts?

A: Yes. Proper signage and plenty of it should be clearly displayed on all four sides of the eight-foot woven wire fence of each Transition Station. Equipment stored inside this fence is very dangerous, even deadly.

Also, the mention of transition stations is missing in this manual. This would lead me to deduce that Eversource and the old Public Service Company of New Hampshire had never, until now, had any dealings with transition stations. I'm concerned about possible lack of knowledge and experience here.

Q: What approach should be taken concerning extensive blasting at Transition Station #4 and its effect on the Glacial Spring Wells at Bear Rock Beverages?

A: This is a very serious issue. If long-term damage occurs, there is no remedy. This water source would be gone forever. My Pre-filed testimony and my response to the Applicants' data requests, clearly provide steps that need to be taken, including a pre-construction meeting to discuss and create a plan for restitution, as suggested at last fall's construction hearing in Concord, by Mr. Kenneth Bowes.

The *DES Drinking Water Source Protection Program*, prepared by Brandon Kernen, and its Appendix A, go into detail about *Best Management Practices* (BPM), especially if more than 5,000 c.f. of bedrock is excavated.

BURIED TRANSMISSION LINES

Q: Do you feel that these transmission cables are buried deep enough?

A: No. First, I cannot get good information on how much heat is given off by the cables, and how this heat will affect surrounding soils, without creating uneven thaw in the soil and road bases. The cables are buried no more than 48" deep. Typical frost levels in northern New Hampshire dirt roads easily reach four feet.

Second, once this project is completed, there is zero chance of moving these transmission cables to accommodate any new underground utilities. These new utilities must work around the Northern Pass lines. If the Northern Pass transmission lines were to be buried 8 feet deep, then there would be plenty of room for future expansion of local utilities.

Third, upon completion, this burial will use a quarter to a third of the width of the Clarksville and Stewartstown's very narrow, rural roads. Costs will be added to any future development, which ultimately leads to devaluation of property. This impact is caused by restrictions placed on abutting properties, due to the location of Northern Pass's construction in local roads.

Q: What about the heat given off by the 3"-diameter transmission line cables?

A: Who knows? Geotherm USA of Livermore, California, was commissioned by PAR Electric, to perform a review and present a summary concerning, "suggested thermal resistivity values for design trench thermal resistivity studies—Northern Pass Transmission Line Project." Geotherm USA admitted they did not perform a thermal survey.

1 Mr. Robert Andrews stated at a September 6, 2016 technical session in Concord, NH, that
2 there would be up to 100 degrees F. at the cable, if extra load is added. This kind of
3 temperature in the 8"-diamter plastic conduits, in the 24" steel pipe-jack casings, and the
4 34 foot 2" long by 7' 10" wide by 6'4" tall splice pits, begs many questions concerning frost
5 levels, in dirt roads. It is impossible to know how this heat will build up in these confined
6 areas, or how it will affect the location of the thermal break between frozen ground and a
7 buried heat source.

8 **Q: How can we be assured that this buried line will perform as engineered?**

9 A: As suggested at one of the technical sessions last fall, a pre-construction model should be
10 built. We agree. The Northern Pass Project needs to construct a model that would include
11 burying a splice pit, burying a 500' section of 2- 8" conduits, and performing a 300' pipe-
12 jack, using a 24"- diameter steel casing.

13 After this model is built, some sort of heat tape needs to be installed, that emits the
14 maximum heat that is predicted to come from the two transmission line cables.

15 This model should then be observed for a full winter season. Probably the largest
16 exposures will be in November and early December during the freezing period, and March
17 and April during the thawing season. Be reminded this model must be built in the
18 Clarksville-Stewartstown area, to experience the typical weather and temperature
19 conditions.

20 It also needs to be constructed in a dirt road that receives the same kind of vehicle traffic as
21 the final project will experience. This model would also allow all involved to test Northern
22 Pass's very questionable and confusing traffic control plan.

23 NH DOT and all towns and cities affected by burial will be interested in the results of this
24 test. Without it, we have no idea what the outcome will be of burying 1090 megawatts in a
25 dirt road. If this test fails, removal of this small section, versus the whole 8 miles of
26 proposed burial, will be a lot less costly.

27 This mock-up test should be performed in advance of the Site Evaluation Committee
28 making its final decision. We need to be sure that the Applicant has adequate technical
29 capability to assure successful burial of the underground transmission lines. Northern Pass
30 has yet to bring forward any evidence of having experience at burial in a dirt road.

31 **Q: What is your opinion about a For-Profit Stock-Held Corporation taking control and**
32 **digging up the municipal town roads of Clarksville and Stewartstown, for their**
33 **financial gain?**

1 A: I don't like it. This was not the intended use of these town roads when they were created
2 for ox-carts and buggies, many decades ago. The New Hampshire Municipal Association
3 uses the words, "Viatic Use" when referring to use of the underlying land of an easement.
4 "Viatic Use" means, "any use reasonably incidental to the purpose of traveling on local town
5 roads." This use refers to any utilities servicing the dwellings the town roads lead to.

6 I agree, the town roads are open to the public and are available for the public's use. Is a
7 For-Profit Corporation, digging up a town road, to place a transmission line that carries
8 electricity hundreds of miles south, to benefit other states, defined as a *Public Use*? I do not
9 believe so!

10 This argument can all be reviewed in depth, by reading Chapter 1, (pages 17-30), of the
11 book "A Hard Road to Travel," originally written by H. Bernard Waugh.

12
13 **Q: How do you feel about Northern Pass claiming that the Site Evaluation Committee**
14 **overrides each town Select Board in the permitting process, for work performed**
15 **under, across, or over, town roads?**

16 A: I do not agree. The referenced *Town of Hampton vs. Public Service of NH, 1980*, Superior
17 Court Case, is totally irrelevant to the existing cable-burial situation. Clearly, Northern Pass
18 Transmission is reaching hard on this issue; they have no better argument to justify their
19 claim on permitting construction in town roads. Let's let the petition for Declaratory
20 Ruling resolve this issue.

21 **Q: How do you feel about the restoration of the paved section of Bear Rock Road, as**
22 **proposed?**

23 A: It is ridiculous, and will not work. Northern Pass proposed to perform the following:

- 24 • They will pave half of Bear Rock Road where direct burial has occurred—
25 meaning, one lane. The other half (lane) will not be touched.
- 26 • They will pave the complete road where they have excavated and placed a
27 splice kit. They will pave a section at each end of a pipe-jack or at each HDD
28 jack.
- 29 • They will do nothing where the actual pipe-jack or HDD occurs underground.

30 With this proposal, the plus or minus two miles of paved Bear Rock Road, will be a
31 complete patch-work, destined for failure.

32 The only answer is completely new pavement from North Hill Road to where the dirt road

1 begins. Additionally, the total paved road needs to be prepped with gravel, per NH DOT
2 specifications, at a minimum.

3 **Q: How do you respond to Northern Pass's statement that they will locate staging,**
4 **laydown and storage areas, when construction begins?**

5 A: This is unacceptable. Potential staging areas need to be sizable, probably requiring 5 to
6 10 acres or more. The location of these areas must be determined before construction
7 begins. NH DES should review, as a minimum, each pre-determined site.

8
9 **SPLICE PITS**

10 **Q: What do you think about the size of the splice pits?**

11 A: I am bewildered as to why they are 34' 2" long. There must be a reason, and I'd like to
12 hear about it.

13 **Q: While reviewing Eversource's Maintenance Manual, (TMPM), did you develop any**
14 **questions concerning periodic inspections of Splice Pits?**

15 A: Yes, at page 85, the manual mentions that as part of the underground periodic
16 inspections, a vault inspection will occur every five years. Its purpose, as written, is to
17 "monitor the condition of the vault, including, but not limited to, covers, ladders, ceilings,
18 walls, floors, cables and pipes." This would lead one to believe that manholes and manhole
19 covers are part of each splice pit.

20
21 Then, on page 86, the manual says that splice boxes are used on the 1607 line. What is a
22 1607 line? The boxes are buried and inaccessible. These boxes are maintained on an *as*
23 *needed* basis. These statements are confusing and beg many questions. Manholes and
24 covers, or not? Will Northern Pass dig up every manhole every five years for a vault
25 inspection? There are approximately 175 splice pits along the proposed 60-miles of burial.
26

27 This concludes my testimony.
28
29