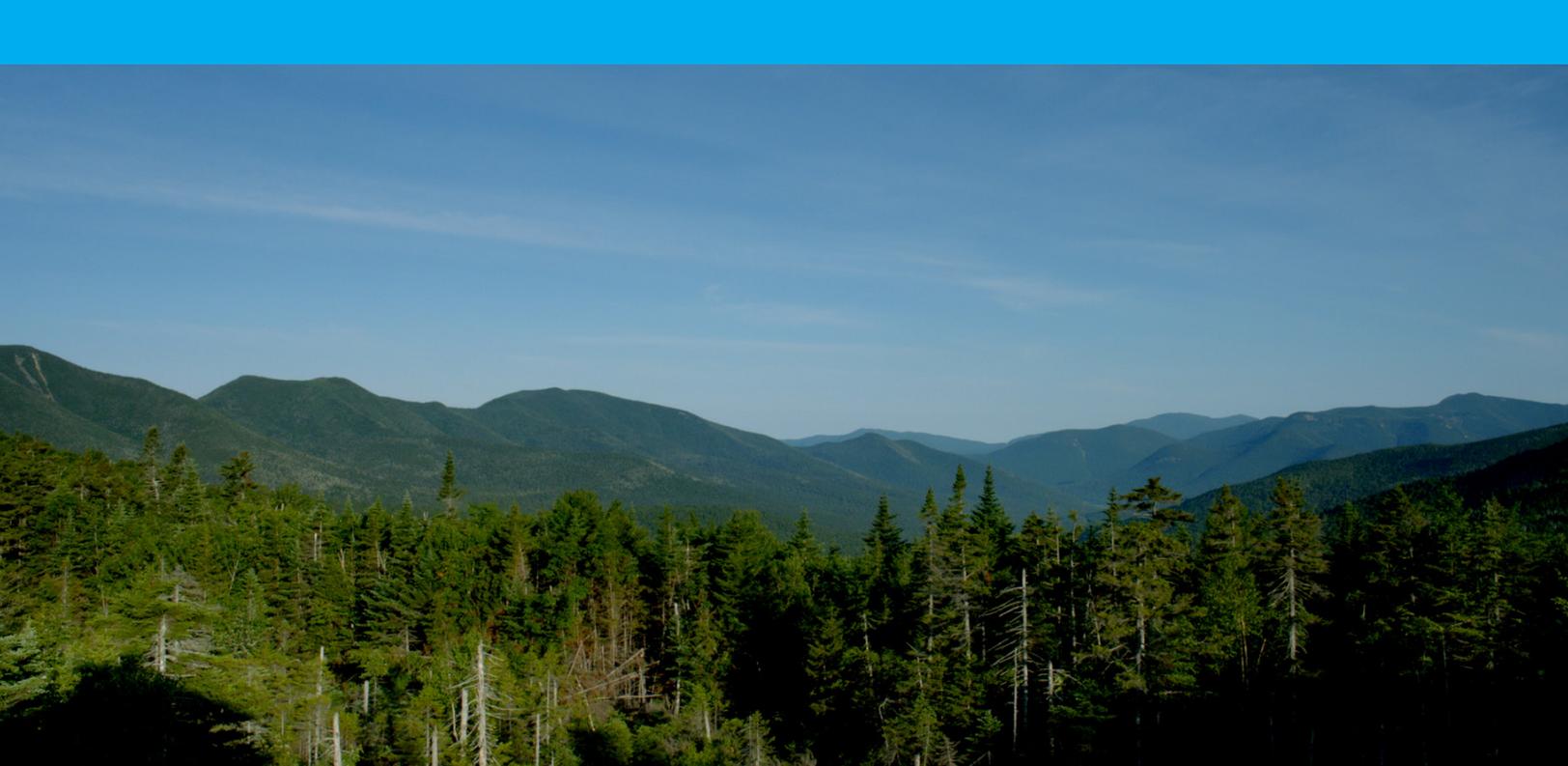


# EXECUTIVE SUMMARY



## **NORTHERN PASS TRANSMISSION PROJECT**





## PROJECT BENEFITS OVERVIEW

The Northern Pass Transmission Project (“Northern Pass” or the “Project”) as proposed by Northern Pass Transmission LLC (“NPT”) will deliver 1,090 MW of clean, renewable electricity to New England and New Hampshire, and create a rare combination of economic, environmental and other benefits. Northern Pass will provide \$3.8 billion in economic stimulus in the State, reduce the electricity costs of New Hampshire customers by more than \$80 million annually, create more than 2,600 New Hampshire jobs at the peak of construction, generate an estimated \$600 million in local, county and State tax revenues over the first 20 years of operation, and provide \$200 million in funding for community betterment, economic development, clean energy and tourism. Simultaneously, the Project will reduce regional greenhouse gas emissions by more than 3.3 million tons per year. That reduction will help New Hampshire achieve the goals of the NH Climate Action Plan and the Regional Greenhouse Gas Initiative. These benefits will be accomplished at no cost to New Hampshire customers and with no demand on government services.

This Executive Summary provides an overview of the Project as detailed in the accompanying Application for a Certificate of Site and Facility (“Application”) to the New Hampshire Site Evaluation Committee (“SEC”). As demonstrated here, and in the Application, the Project advances New Hampshire’s energy objectives, provides significant economic benefits to the State and host communities, and surpasses regulatory siting requirements — all with minimal impacts to scenic and historic resources and to the environment.

## THE PROJECT

Northern Pass will deliver 1,090 MW<sup>1</sup> of clean, renewable electricity through a transmission line (and related facilities) consisting of a single circuit 320kV high voltage direct current (“HVDC”) transmission line linked to a 345 kV alternating current (“AC”) transmission line via an HVDC/AC converter terminal located in Franklin, New Hampshire. The entire line extends approximately 192 miles from the international border between Canada and Pittsburg, New Hampshire to Deerfield, New Hampshire. NPT has partnered with Hydro-Québec (“HQ”), a well-established producer of clean, renewable power that has been reliably supplying energy to New England since the mid-1980s. Together, NPT and HQ have developed the necessary project elements on each side of the U.S./Canadian border to ensure a viable solution for meeting our energy and environmental needs. Siting for the line supporting the Canadian portion is currently underway.

## THE APPLICANTS

The Project proponents are NPT<sup>2</sup>, a New Hampshire company, and Public Service Company of New Hampshire d/b/a Eversource Energy (“PSNH”), (the “Applicants”). The Applicants are wholly owned subsidiaries of Eversource Energy, New England’s largest utility system serving more than 3.6 million electric and natural gas customers in Connecticut, Massachusetts and New Hampshire.<sup>3</sup>

## THE CASE FOR NORTHERN PASS

In 2014, the New England governors acknowledged that the region is facing an imminent energy crisis. More recently, the President and CEO of ISO New England (“ISO-NE”) projected potential supply shortages for the region and identified the need for new infrastructure investment.<sup>4</sup> New England electricity prices are among the highest and most volatile in the nation because of seasonal constraints with gas supply and an over-dependence on natural gas generation.<sup>5</sup> To address this problem, all of the New England governors have announced their support for the construction of additional interstate natural gas transmission lines into New England as well as for the increased opportunity for hydroelectric power transmission from Canada.<sup>6</sup>

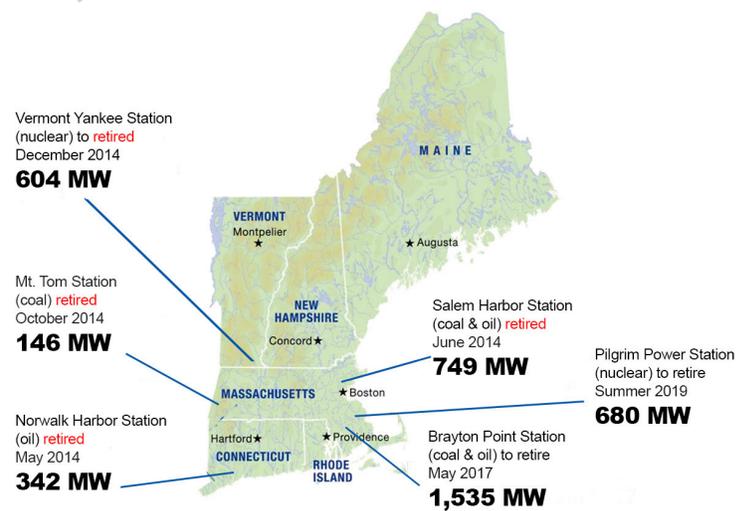
According to ISO-NE’s 2014 *Regional System Plan*, more than 45 percent of the region’s electric generating capacity consists of natural gas-fired power plants. As a result, the region relies too heavily on natural gas for power generation. That over-reliance causes severe price volatility and reliability problems when the gas transmission system cannot keep pace with overall demand, particularly in winter when there is increased need for natural gas for home heating.<sup>7</sup>

According to ISO-NE, “there is no longer any uncertainty about the existence of reliability problems as a direct result of gas dependence.”<sup>8</sup> Compounding this over-dependence, power plants using other fuels have either retired or are scheduled to retire. Furthermore, New England does not have the infrastructure in place to provide a sufficient supply of natural gas to meet demand. Consequently,

## Region is Losing Non-Gas Power Plants

According to ISO-NE’s Regional System Plan 2014, more than 45 percent of the region’s electric generating capacity consists of natural gas-fired power plants, and New England and New Hampshire have therefore become over-dependent on natural gas for power generation. At the same time, power plants that use other fuels have either shut down or are scheduled to shut down, a trend that promises to exacerbate this overdependence on natural gas.

Source: Van Welie, Gordon. "State of the Grid: Managing A System in Transition." ISO On Background. Massachusetts, Holyoke. 21 Jan. 2015. ISO-NE.



<sup>1</sup>Since the 1,000 MW Project was announced on August 18, 2015, NPT and HQ have confirmed with the manufacturer that the technology will allow the Project to deliver 1,090 MW.

<sup>2</sup>NPT is an indirect subsidiary of Eversource Energy and was formed as a single purpose entity to construct, own and operate the Project in the State of New Hampshire. NPT is a direct subsidiary of Eversource Energy Transmission Ventures, Inc., a direct subsidiary of Eversource Energy created for the purpose of owning transmission related businesses not owned by Eversource’s state-regulated energy subsidiaries.

<sup>3</sup>Eversource engages in electric and gas delivery to businesses and residences throughout the northeast, and owns and operates approximately, 4,270 circuit miles and distribution stations and 449,737 distribution transformers.

<sup>4</sup>Gordon van Welie, *State of the Grid: Managing a System in Transition* (January 21, 2015)

<sup>5</sup>FERC, *Winter 2014-15 Energy Market Assessment*, 1, 13 (Oct. 16, 2014), available at <https://www.ferc.gov/market-oversight/reports-analyses/mkt-views/2014/10-16-14-A-3.pdf>.

<sup>6</sup>Allie Morris, *New England energy officials warn of possible power crisis; governors infrastructure initiative could be the solution*, Concord Monitor (July 2, 2014) available at <http://www.concordmonitor.com/home/12596728-95/new-england-energy-officials-warn-of-possible-power-crisis-governors-infrastructure-initiative-could>.

<sup>7</sup>For example, during the winter of 2014, natural gas-generated energy, which normally costs \$30-\$40 a megawatt hour, reached prices of \$800 a megawatt hour on the spot market. Peter Kelly-Detwiler, *Volatility in Early January Power Markets: The Vexing Polar Vortex*, Forbes (January 16, 2014), available at <http://www.forbes.com/sites/peterdetwiler/2014/01/16/volatility-in-early-january-power-markets-the-vexing-polar-vortex/>.

<sup>8</sup>*Addressing Gas Dependence*, Discussion Draft, at 17 (July 30, 2012), available at <https://mitei.mit.edu/system/files/20130416-brandien.pdf>.

New England and New Hampshire will continue to face the risks of fuel supply disruptions and dramatic price volatility. The clearest recent example of how this problem affects consumers and businesses is the 2013-2014 heating season. During that time, customers in New England paid \$3 billion more in energy costs than they would have paid if adequate infrastructure had been available to supply natural gas in New England.<sup>9</sup>

Northern Pass will help diversify the region’s energy mix and ease the volatility experienced in recent years. The availability of this

power will also help offset more expensive energy sources, many of which run on fossil fuels. Northern Pass will lower energy costs for the region as a whole and for New Hampshire in particular. PSNH will enter into a power purchase agreement (“PPA”) with HQ for approximately 100 MW of reliable, clean hydroelectric power. The PPA will provide competitive pricing and price stability to help insulate PSNH customers from the volatile power markets.

## The Best States for Business and Careers

In a 2015 ranking by Forbes magazine of the best states in which to do business, New Hampshire ranked 35th (in the 2009 ranking, New Hampshire was 19th in the nation, and 1st in New England). Although the state got high marks for its quality of life, the magazine said high electricity costs, which are a problem throughout New England, were partly to blame for the ranking. In the chart below, you can see how New Hampshire stacks up to its fellow New England states.

Top 5 States								
Rank	State	Business Cost Rank	Labor Supply Rank	Regulatory Environment Rank	Economic Climate Rank	Growth Prospects Rank	Quality of Life Rank	Population
1	Utah	5	4	9	6	10	16	2,923,000
2	North Dakota	9	9	18	4	2	24	733,200
3	North Carolina	4	7	2	24	9	31	9,901,400
4	Virginia	24	2	1	12	33	5	8,292,700
5	Colorado	35	1	13	8	4	9	5,307,800
New England States								
13	Massachusetts	49	3	9	11	16	1	6,719,000
<b>35</b>	<b>New Hampshire</b>	<b>43</b>	<b>19</b>	<b>46</b>	<b>33</b>	<b>24</b>	<b>6</b>	<b>1,325,000</b>
36	Connecticut	47	20	37	44	28	3	3,596,700
43	Vermont	44	24	47	19	47	18	625,000
46	Rhode Island	36	35	49	39	35	20	1,052,200
49	Maine	40	36	45	48	48	27	1,307,800

Source: [www.forbes.com/best-states-for-states-business/list/](http://www.forbes.com/best-states-for-states-business/list/)

<sup>9</sup>During a forum held at Saint Anselm College, Gordon van Welie, president and CEO of ISO-NE, stated that New England paid \$3 billion more than it should have for energy during this period because of a lack of infrastructure. D. Solomon, *No relief from New England energy costs in near future*, The New Hampshire Union Leader (June 30, 2014), available at <http://www.unionleader.com/apps/pbcs.dll/article?AID=/20140701/NEWS06/140709999/0/ANNOUNCEMENTS>

## Improved Route

- No view impacts in White Mountain National Forest, Appalachian Trail and Franconia Notch areas
- Over 80% of line underground or next to existing lines
- Smaller project with fewer and lower structures
- State-of-the-art cable technology with streamlined poles in scenic areas
- Commitment to address individual landowners' concerns

 Proposed Overhead Route (132 miles)

 Proposed Underground Route (60 miles)

Total miles: 192 miles



## PUBLIC INTEREST

While the provision of 1,090 MW of clean, competitively priced, renewable hydropower to customers in New Hampshire and the rest of New England is the most direct benefit of the Project, Northern Pass provides other significant public benefits as well. The Project is the enabling element of the Forward New Hampshire Plan (“Forward NH” or “Plan”), an initiative that will provide approximately \$3.8 billion in benefits to the State, including more than \$80 million annually in lower energy costs, a \$2.2 billion increase in Gross Domestic Product, the creation of more than 2,600 jobs, an estimated \$600 million in tax revenues over the first 20 years of operation, more than 3.3 million tons per year in reduced carbon emissions, a more diversified regional power supply and enhanced electric system reliability, while moving the State closer to achieving its energy and environmental objectives. The specific benefits of Forward NH include the following:

- 1. Design modifications.** Modification of the Project design to include an additional 52 miles of underground construction, for a total of over 60 miles. This additional underground construction avoids or minimizes potential visual impacts to the most sensitive scenic resources in the State, including areas in and around the White Mountain National Forest, Franconia Notch area, the Rocks Estate area, and along the Appalachian Trail. Alternative structure designs have also been incorporated to minimize potential effects along the overhead parts of the Project route.
- 2. No Cost to New Hampshire Customers.** All costs of siting and constructing Northern Pass will be paid by the Project, at no cost to New Hampshire customers.
- 3. Power Purchase Agreement.** As described above, the PPA will permit the delivery to New Hampshire of approximately 100 MW of firm, on-peak, renewable hydroelectric power together with the potential environmental attributes, and will provide greater price stability at estimated customer cost savings totaling \$100 million over 20 years.



- 4. Energy Cost Suppression.** Delivery of 1,090 MW of energy will suppress wholesale energy prices leading to estimated annual savings greater than \$80 million for New Hampshire businesses and residential customers who are currently subject to some of the highest energy rates in the country.
- 5. Forward NH Fund.** Commitment of \$200 million to fund important New Hampshire priorities — controlled by an advisory board structure — that will include community betterment, clean energy innovation, economic development and tourism with emphasis on the host communities and the North Country in particular.
- 6. Coös Loop Transmission Upgrade.** A transmission upgrade of the Coös Loop, which will relieve existing constraints and unlock up to 100 MW of renewable generation.
- 7. New Hampshire First.** A commitment to a “New Hampshire first” approach to hiring construction workers for the Project. This approach will help create more than 2,600 direct and indirect jobs, both union and non-union, during peak construction. This element of the Plan also includes the establishment of an innovative partnership with the International Brotherhood of Electrical Workers (IBEW), and National Electrical Contractors Association (NECA) and national contractors to create highly desirable career training and job opportunities for New Hampshire residents.
- 8. Natural Resource Preservation and Tourism.** Dedication of approximately 5,000 acres in existing land holdings to natural resource preservation, recreational activities and additional mixed uses that are important to the North Country’s future.
- 9. North Country Jobs Creation Fund.** Sponsorship of the \$7.5 million North Country Jobs Creation Fund, which will be directed by local individuals and dedicated to important economic development and job creation opportunities in the region.
- 10. Increased Property Tax Revenue.** Northern Pass will, on average, generate approximately \$30 million per year in local, county and State property tax revenues, or \$600 million over the first 20 years of operation.
- 11. NFWF Partnership.** Establishment of a \$3 million partnership with the National Fish and Wildlife Foundation (“NFWF”) to pursue environmental conservation and research activities in New Hampshire through collaboration with environmental organizations, government agencies and research universities, including the University of New Hampshire.
- 12. Economic Growth.** Create a significant increase in New Hampshire’s Gross Domestic Product, estimated to be \$2.2 billion over the Project’s construction period and in the first 10 years of operation.
- 13. Reduced CO<sub>2</sub> Emissions.** Reduction of carbon dioxide emissions in New England by more than 3.3 million tons annually. This reduction will support the goals of the New Hampshire Climate Action Plan, the Regional Greenhouse Gas Initiative (“RGGI”) and the New England Governors’ Renewable Energy Blueprint.

## PROJECT ELEMENTS

The HVDC portion of the Project will run 158.3 miles from the international border between Canada and Pittsborough, New Hampshire to Franklin, New Hampshire, where the electricity will be converted to alternating current (“AC”) by a HVDC converter terminal. The power will then flow over a 345 kV AC line extending 33.7 miles before interconnecting with the transmission system at the existing substation at Deerfield, New Hampshire. The Project expects to upgrade the Deerfield substation and the Scobie Pond substation in Londonderry, each of which is owned and operated by PSNH, and will upgrade an anticipated ten structures between those substations.<sup>10</sup>

More than 83 percent of the proposed route will be along existing transmission corridors or will be buried under public roadways, thus resulting in reduced potential environmental and visual effects. The overhead portion of the HVDC line will be 97.8 miles long, consisting of a 32 mile section, where property rights for a new Right-of-Way (ROW) were purchased from willing landowners, and 65.8 miles installed in existing PSNH ROWs. Where necessary, portions of the existing transmission and distribution lines will be relocated to allow room for the HVDC line construction.

The underground portion of the line will be installed in three sections for a total length of 60.5 miles: (1) a 0.7 mile segment in the towns of Pittsborough and Clarksville in the vicinity of the Route 3 bridge crossing of the Connecticut River; (2) a 7.5 mile segment in the towns of Clarksville and Stewartstown; and (3) a 52.3 mile segment starting in the Town of Bethlehem at Route 302, following Routes 302, 18, 116, 112 and 3 and ending at the intersection of the transmission ROW and Route 3 in Bridgewater. At the six locations where the overhead line transitions between the overhead line and cable, a 75' by 130' transition station will be installed.

When the Project is commissioned and ready for commercial operation, ISO-NE will assume operational control pursuant to the terms of a FERC-approved Transmission Operating Agreement between NPT and ISO-NE.

More than 83 percent of the proposed route will be along existing transmission corridors or will be buried under public roadways, thus resulting in reduced potential environmental and visual effects.



NPT performed extensive outreach along the proposed Project route and throughout New Hampshire to ensure that residents received detailed information about the Project and its benefits, and had an opportunity to share their concerns and receive answers to their questions.

## SOLICITATION AND RESPONSE TO PUBLIC COMMENT

NPT performed extensive outreach along the proposed Project route and throughout New Hampshire to ensure that residents received detailed information about the Project and its benefits, and had an opportunity to share their concerns and receive answers to their questions. As a result of this outreach, substantial elements of the Project were modified. Most notably, NPT now proposes to build nearly one-third of the Project underground, in public highways, in and around the White Mountain National Forest, Franconia Notch area, the Rocks Estate area, and along the Appalachian Trail. In addition, the Project has substituted additional streamlined monopole structures in place of lattice structures at a variety of locations.

Communication with landowners closest to the proposed route has been and continues to be a top priority. Project outreach specialists communicated with all abutting landowners by mail and invited them to contact the Project team with comments or questions. All landowners were offered one-on-one site visits with Project representatives to gain a better understanding of the Project and the possible effect on their land. Regular Project newsletters were sent to keep landowners and stakeholders up-to-date on the permitting schedule, technical details, opportunities for input, and community outreach efforts. The Northern Pass website also provides a thorough description of the Project including, among other information, town-by-town overviews, route maps, permit applications, and Project news. The “Contact Us” icon on the Project’s website allows individuals to reach Project representatives through email or by phone. As of the date of this filing, more than 3,700 inquiries have been addressed.

<sup>10</sup> The northern HVDC converter terminal will be constructed by HQ at the Des Cantons substation in the Province of Québec, Canada; it will be connected to an HVDC line that will run southward in Québec for approximately 47 miles, where it will connect to the Northern Pass line at the U.S. and Canadian border in Pittsborough, New Hampshire.

NPT also hosted or participated in a variety of public meetings and open houses, each of which provided the public with an opportunity to meet Project representatives, ask questions and submit comments. Fifteen open houses were held in 2013 in communities along the proposed route and were well attended. Project staff also attended each of the U.S. Department of Energy's public hearings in 2011 and 2013. Pre-application public information sessions were held in September 2015 in each of the five counties (Coös, Grafton, Belknap, Merrimack and Rockingham) where the Project is proposed to be located. Open houses were held in conjunction with each of these sessions.

NPT has kept municipal officials informed of the latest developments via in-person meetings, phone calls, letters and e-mails

Representatives of the Project have met with elected officials at the State and local levels upon request, and provided regular updates to those officials via in-person visits, letters and e-mail. Project representatives have also met with hundreds of community groups and organizations, including Chambers of Commerce, Rotary and Kiwanis Clubs, labor organizations, conservation groups and business groups. Through these presentations and Q&A sessions, NPT sought to keep local groups informed while affording them an opportunity to speak directly with Project representatives.

In sum, NPT has conducted extensive outreach with the public and stakeholders and intends to continue this process throughout the permitting and construction phases of the Project.

## Open House

Prior to filing its application this year, the Project hosted pre-application public information sessions in each of the five counties in which the Project is proposed to be located: Coös, Grafton, Belknap, Merrimack and Rockingham. Open houses were held in conjunction with each of the public information sessions. These open houses were in the same location as the public information sessions, occurred in the hours before and during those sessions, so that attendees had further opportunity for questions and comments.





## POTENTIAL IMPACTS AND PROPOSED MITIGATION MEASURES

NPT has commissioned studies and has been the subject of a number of studies for the purpose of understanding, evaluating and addressing the potential economic, visual, environmental, historic and cultural effects of the Project. These include the following:

**Aesthetics.** Terrence J. DeWan, an expert in evaluating visual effects, conducted a visual assessment of the Project in each of the host communities along its entire 192 mile route, including 889 square miles and an additional 26 adjacent towns where the Project might be viewed from scenic resources. Mr. DeWan used widely accepted visual assessment methodologies to analyze both the existing conditions and how changes to the visible landscape might result from the Project.

With input from this expert, NPT has taken significant steps to reduce visual effects by:

- Locating significant portions of the Project underground in public roads
- Co-locating a majority of the Project in existing transmission corridors
- Co-locating new transmission structures in proximity to existing structures to maintain spacing and avoid irregular linear patterns
- Using the same materials as other existing structures in a corridor to minimize contrasts in color and texture
- Designing transmission structures with relatively narrow profiles
- Replacing existing 115 kV lines with narrower transmission structures
- Maintaining or restoring vegetation of road crossings and river and stream crossings, and planting native tree and shrub species to restore landscapes disturbed by construction, particularly along the underground segments

Based on these modifications to the Project, the visual impact assessment concludes that Northern Pass will not have an unreasonable adverse effect on aesthetics. Although Northern Pass will be visible from some scenic resources, the effects will be minimal.

**Archeological Resources.** Victoria Bunker, Inc., a New Hampshire archeological consulting firm, assessed the potential effect of the Project on archeological resources. The consultant conducted substantial resource identification through Phase I-A (field and document reviews) and Phase I-B (test pit digging) surveys. The U.S. Department of Energy (“DOE”) also completed a Phase I-A survey for the Project route.

In addition to the SEC’s review, the Project’s potential effects will be thoroughly reviewed by DOE and the New Hampshire Division of Historical Resources (“DHR”) pursuant to Section 106 of the National Historic Preservation Act. The Section 106 process will provide a framework for additional identification of any effects and determination of appropriate avoidance, minimization or mitigation, most likely through a Programmatic Agreement and cultural resources management plan. Based on the vast amount of archeology survey work that has been done to date, and with the assurance of DOE’s and DHR’s continuing vigorous oversight, the consultant concluded that the Project will not have an unreasonable adverse effect on archeological resources.

**Historic Resources.** Cheryl Widell of Widell Preservation Services, LLC, an historic preservation consulting firm, assessed the Project’s potential effect on historic resources. Ms. Widell worked closely with Preservation Company of Kensington, New Hampshire. They mapped and catalogued 1,284 properties within the Project’s Area of Potential Effect for the overhead portion of the route. One hundred and ninety-four of those 1,284 properties were then subject to more intense analysis because they met the National Historic Preservation Act age eligibility criterion and are potentially in view of the Project. Of these 194 properties, Ms. Widell concluded the following:

(1) 12 properties may experience an indirect adverse visual effect from the Project; (2) the Project will not create an adverse effect in the setting of a National Historic Landmark; and (3) the indirect visual effects on one property that is already listed on the National Register of Historic Places (the Weeks Estate) will not cause it to be removed from the Register because of a loss of integrity.

Where potential visual effects from the Project impact historic sites, the Project has been designed to substantially avoid and minimize these impacts. Locating a large portion of the line in existing transmission ROWs and burying another 60 miles of line are effective ways of reducing or eliminating such impacts. The Project has also changed originally planned structure heights, designs and locations for this purpose.

Based on the historical resources survey results, the Project's avoidance and minimization efforts and the continuing involvement of the DHR, the actual adverse effects from the Project will be minimal. To address any such effects, NPT will undertake all mitigation measures as required by the SEC and DOE (in consultation with DHR) in the Section 106 process.

**Natural Environment.** Normandeau Associates, Inc., an environmental consulting firm, conducted an extensive study of environmental resources along the Project route and consulted with state and federal regulatory agencies to ensure the Project avoids and minimizes environmental effects. The Applicants are proposing various best management practices that, when implemented, will achieve this result. Unavoidable impacts will be mitigated in accordance with state and federal regulations and guidance.

Northern Pass addresses a vital State, regional and national air quality policy goal by reducing greenhouse gas emissions in New England by more than 3.3 million tons of CO<sub>2</sub> annually. This goal is accomplished with minimal impact on water quality and the natural environment. The Project has avoided all but a small amount (less than 3 acres) of wetlands and vernal pools by carefully analyzing the resources and designing around them. Any unavoidable impact is more than addressed in the Project's comprehensive mitigation proposal which provides for an estimated payment of approximately \$3 million to New Hampshire Department of Environmental Services Aquatic Resources Mitigation Fund, and the preservation of some 1,668 acres for wetlands and wildlife mitigation, all in satisfaction of state and federal wetlands permitting requirements.

Northern Pass has been designed to effectively avoid and reduce impacts to wildlife and to plant and aquatic species. Normandeau's studies concluded that aquatic impacts are expected to be minimal. Given the minor nature of expected impacts to cold-water fisheries and essential fish habitat, the commitment to best management practices, and the absence of in-channel work associated with the Project, the Project will not have a significant effect on aquatic resources.

The Project will also not have significant effects on wildlife or wildlife habitats. In the new ROW, the amount of habitat being converted from forest to shrub cover is small, given the amount of forest that is available in the surrounding landscapes. The wildlife species observed or likely to occur in this Project area are adapted to conditions currently present in the surrounding landscape affected by historic and on-going logging. The impacts associated with construction and operations are expected to have an insignificant effect on the habitat value of this part of the Project area for the wildlife species known or likely to be present. The habitat conversion will create a small benefit for shrub land species.

In the existing ROW, the incremental widening in some locations will convert a minimal amount of forest to shrub habitat, but the effect on either shrub land species using the existing ROW, or forest species using the adjacent habitat will be negligible. Periodic mowing and selective cutting will continue to maintain the ROW as shrub land, maintaining suitable conditions for shrub land species that currently use the ROW. The Project will implement an agency-approved avoidance, minimization and mitigation plan for two previously identified key species — the Karner blue butterfly and the Northern Long-eared Bat.



## PUBLIC HEALTH AND SAFETY

The Project will be constructed and operated in a safe manner and will adhere to all applicable safety and electrical codes, including the National Electric Safety Code and all Eversource transmission line design standards. Before construction, NPT will develop a project safety plan to be followed by all employees and contractors, and will retain qualified project management and staff who are experienced with managing and executing similar projects. During construction, NPT will follow all applicable safety regulations and confirm that each person on-site has adequate training to ensure the Project is constructed safely.

Exponent, Inc., an engineering and consulting firm, assessed extreme low frequency electric and magnetic fields (“EMF”) associated with the Project. Exponent modeled the existing and expected EMFs under certain average and peak load conditions. This assessment found levels of EMFs to be well below exposure thresholds developed by the International Commission on Non-Ionizing Radiation Protection and the International Committee for Electromagnetic Safety. Exponent concluded that there will be no unreasonable adverse effects on public health and safety as a result of Project-related EMF.

## ORDERLY DEVELOPMENT OF THE REGION

Northern Pass will not interfere with the orderly development of the region. Any potential effect on land use will be minimal, and the Project will have positive effects on the local economy and jobs.

**Land Use.** There will be no changes to prevailing land uses after construction of the Project. The Project will have no effect on local land uses along the approximately 100 miles of the route that follow existing transmission corridors. Only 32 miles of the 192-mile transmission line is on new ROW. Twenty-four of those 32 miles in a working forest, and forest management within this entire area will continue uninterrupted after construction. Also, the operation of the line will not place any new demands on local or regional services or facilities. By using existing roadways and transmission corridors for more than 83 percent of the route and locating substantial portions of the Project underground, the Project is consistent with local patterns of development. Siting a new transmission line in already-developed roadway and transmission corridors is a sound planning and environmental principle because it reinforces local patterns of development and minimizes environmental impacts.

**Property Values.** Chalmers & Associates, LLC (“Chalmers”), an expert on property valuation issues, reviewed published research and developed New Hampshire-specific research regarding the effects of high voltage transmission lines on property values and real estate markets. The results of this work are reported in Chalmers’ study, titled *High Voltage Transmission Lines and Real Estate Markets in New Hampshire: A Research Report, June 30, 2015*. Drawing on his substantial research and analysis, Dr. Chalmers concludes that there is no basis in the published literature or in the New Hampshire

research to expect that the Project would have a discernible effect on property values or marketing times in local or regional real estate markets.

**Tourism.** Mitch Nichols of Nichols Tourism Group, an expert on tourism, assessed the relationship between Northern Pass and the tourism industry in New Hampshire. Noting that transmission lines in general do not, and that Northern Pass will not, affect travel demand, Mr. Nichols concluded that Northern Pass would not have a measurable effect on the New Hampshire tourism industry.

## FINANCIAL, TECHNICAL AND MANAGERIAL EXPERTISE

Eversource Energy and its subsidiaries have extensive experience in planning, designing, constructing and operating electric transmission infrastructure projects. Eversource is the recipient of an Edison Award for outstanding development and construction of four critical projects. Eversource has been working on a significant number of other transmission projects including the Greater Springfield Reliability Project, the Interstate Reliability Project, and the Central Connecticut Reliability Project, which are three of the four major projects that are part of the \$1.2 billion New England East-West Solution. Eversource enjoys an investment grade rating with a stable outlook from each of the three major credit rating agencies. As of December 31, 2014, Eversource held transmission assets in excess of \$7.6 billion and has plans to invest an additional \$3.9 billion in new transmission infrastructure over the next four years.

NPT will recover the costs of constructing the Project from Hydro Renewable Energy Inc. (HRE), an indirect, wholly owned U.S. subsidiary of Hydro-Québec, under a Transmission Service Agreement (TSA) approved by the Federal Energy Regulatory Commission (FERC).

The HVDC facilities located on the Canadian side of the border will be owned and operated by Hydro-Québec TransÉnergie, a division of Hydro-Québec. The TSA allocates transmission capacity over the Project to HRE on the U.S. side of the border in exchange for transmission service payments that cover the costs of the investment made by NPT in the Project.

Eversource Energy and its subsidiaries have extensive experience in planning, designing, constructing and operating electric transmission infrastructure projects.

## CONCLUSION

Northern Pass will deliver much needed clean, competitively-priced, renewable hydropower to New Hampshire and the New England region at no cost to New Hampshire customers and with minimal impact to the State. At a time when the region is searching for ways to reduce energy costs and develop cleaner sources of electricity, Northern Pass provides a rare opportunity to achieve both goals.

The Project also delivers significant benefits that are unique to New Hampshire. Forward NH provides the State with approximately \$3.8 billion in economic stimulus. New Hampshire is already receiving the benefit of \$200,000 of the total \$7.5 million commitment for the creation of jobs in the North Country and \$500,000 of the total \$3 million commitment to fund important environmental studies as part of the NFWF initiative. More significant benefits begin during the construction phase with the creation of direct and indirect jobs and a commitment to hire New Hampshire workers and contractors first. Once complete, the Project will substantially increase property tax revenues and provide a new source of energy that will reduce New Hampshire's electricity costs while also providing greater energy price stability throughout New England. Finally, Forward NH includes a \$200 million fund that will offer grants to communities, organizations and businesses. These grants are focused on community betterment, clean energy innovation, and economic stimulus.

In a manner that is respectful to the voices of New Hampshire residents, NPT has taken very meaningful steps to reduce the Project's potential impact to the State's natural and cultural resources, all while accomplishing the vital goal of bringing clean, affordable power to the State and region, and offering unique and substantial economic benefits to New Hampshire.