

Northern Pass Field Work Highlights: GEOTECHNICAL

Throughout 2016, Northern Pass and its contractors conducted engineering, or geotechnical, field investigations along the underground portions of the proposed project route. Geotechnical work is a required step in the permitting process to support the progression of a project's design.

Geotechnical field investigations began in several locations following the completion of a thorough survey of the underground route and the acquisition of required permits.

Work was located in the shoulder, or just off the shoulder, of the roadways of Route 3, Route 112, Route 116, Route 18, and Route 302 and involved a series of drilled holes three inches in diameter, located approximately every 1,000 feet. Holes varied in depth from 15 feet to 65 feet, and core samples were taken at various intervals to document sub-surface conditions. After each hole was complete, they were returned to pre-work conditions in compliance with state permitting requirements. The same process was used at each proposed transition station, converter terminal, and at the Deerfield Substation.

While work was occurring, crews utilized project flaggers and, where necessary, police officers to ensure traffic moved smoothly and safely past project work zones.



Northern Pass Submits Designs and Traffic Control Plans to State

As part of our ongoing permitting process, Northern Pass recently submitted an advanced design to the NH Department of Transportation (NHDOT) for the portions of the project that will be buried under or adjacent to the roadway in the northern section of the proposed route. The design includes a traffic control plan for the underground construction phase of the project to ensure all local traffic will have access to residences and businesses, and that the safety of workers and the traveling public is considered.

Northern Pass is committed to working together with the host communities to minimize potential impact and traveler delay. We have contacted town officials and landowners along the underground route about the traffic control plan and will continue to communicate with them. The project will hold meetings with local officials, business owners, residents and other stakeholders before construction work begins to go over the construction process and expected timeline. Northern Pass will also have a team on the ground to work one-one-one with people along the underground route to individually address the specific needs of each business and resident.

The advanced design and traffic control plan will be reviewed by the NH DOT as part of the permitting process and we anticipate it will be posted on the agency's website: www.nh.gov/dot/media/northern-pass/index.htm.



NH Manufacturers Warn of the Impact of High Energy Costs

This holiday season, chances are you'll find some Lindt & Sprungli in your stocking or at your neighbor's Christmas party. The Swiss chocolate company has a strong New Hampshire connection, operating a plant in Stratham which employs around 1,500 people. But future growth in the state is threatened. The facility pays more than \$5 million a year for electricity, a cost the company expects to rise by another half-million in 2017.

"The concerning part for us is that we are at this point, the company is not willing to grow any more in New Hampshire," said Robert Michalski, vice president of operations at Lindt & Sprungli in a *New Hampshire Union Leader* article. "The only way that we're going to be able to grow in New Hampshire further is by finding ways to reduce our energy, our energy costs in this state."

The *Union Leader* reported there were a number of manufacturing leaders who shared the same concern at the recent NH Business and Industry Association's 2016 energy symposium in Manchester, including Jeff Chierepko, Sig Sauer's director of facilities. Sig Sauer employs 1,400 in New Hampshire but opted to build a new 70,000-square-foot plant in Arkansas for its most recent expansion. Arkansas' energy costs, which are roughly half of that in New Hampshire, were cited as a reason for the decision.

"Our first option was in New Hampshire, but if you look at energy costs and all the other things I mentioned, there's not even a starting point there," said Chierepko. "We were pursued by a lot of different states and a lot of them happen to be where

RANKINGS: Average Retail Price of Electricity to residential Sector, September 2016 (cents/kWh)

Rank	State	Average Retail Price of Electricity to Residential Sector (cents/kWh)
1	Hawaii	27.84
2	Alaska	20.85
3	Rhode Island	20.49
4	Massachusetts	19.47
5	Connecticut	18.97
6	New York	18.38
7	New Hampshire	18.35
8	California	18.22
9	Vermont	17.53
10	Maine	16.28

energy costs are half. We'd like them all to be in New Hampshire," he said. "Our energy costs are through the roof."

The retirement of power plants and New England's constrained natural gas pipelines during winter months are contributing to high prices. Increasing the supply of diverse sources of new energy to the grid with projects like Northern Pass will help lower energy costs not just for these manufacturers, but for the people who live in New Hampshire as well.

Doing Something about Rates



Franklin City Councilor Tony Giunta says he had heard from constituents about the need to do something about New Hampshire's high energy prices. When businesses can get lower rates in other states, it puts local businesses at a disadvantage, he said. "What I'm saying is, I'm worried," said Giunta.

He believes lowering costs is important to keeping local businesses here in New Hampshire and can be done through new energy projects like Northern Pass. To hear more of what Giunta said, go to www.northernpass.us/multimedia.

ABOUT NORTHERN PASS

Northern Pass is a 192-mile electric transmission line project that will provide New Hampshire and New England up to 1,090 megawatts of clean hydropower. This reliable and competitively-priced power will also bring a range of benefits to New Hampshire, including hundreds of millions of dollars in energy cost savings, additional tax revenue, and thousands of jobs during construction and beyond. To learn more about Northern Pass, go to www.northernpass.us. You can also email questions to info@northernpass.us or call **1-800-286-7305**.