

**STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN**

CONFERENCE REPORT

PROJECT: Northern Pass Transmission

DATE OF CONFERENCE: December 5, 2017

LOCATION OF CONFERENCE: 7 Hazen B34 211 Kancamagus Conference Room

ATTENDED BY: DEPARTMENT OF TRANSPORTATION

David Rodrigue – Director of Operations
Michael Servetas – Assistant Director of Operations
Melodie Esterberg – Chief of Design Services
Alan Hanscom – District 3 Maintenance Engineer
Philip Beaulieu – District 1 Maintenance Engineer
Lennart Suther – Utilities Engineer, Design Services
Matthew Powers – Utility Coordinator, Design Services
Louis Barker – Railroad Planner, Bureau of Rail and Transit

NORTHERN PASS TRANSMISSION (NPT)

Jerry Fortier – Eversource Energy
Ken Bowes – Eversource Energy
Sam Johnson – Burns & McDonnell Engineering
Matthew Mahon – PAR Electric
Mark Hodgdon – Hodgdon Law
Tim Higginson - Louis Berger
Ken Clinton – Meridian Land Services, Inc.
Peter Clary – VHB

See Attached List of Attendees for the Presentation

SUBJECT: Site Evaluation Committee (SEC) Application Process and Design Update

NOTES ON CONFERENCE:

See attached Agenda.

NPT presented an overview of the project, Eversource's experience with underground transmission facilities and the project decommissioning plan. The presentation included details of the typical trench alignment and section, splice vault construction with associated communication cable splice boxes and grounding boxes, and trenchless installations being horizontal directional drills, jack and bores and micro-tunneling. NPT also presented conditions they thought should be included in the Use & Occupancy Agreement.

NPT has been recognized as an independent energy company by the New Hampshire Public Utilities Commission (NHPUC) provided they receive approval for the project from the Site Evaluation Committee. NPT will be a subsidiary of Eversource. As a recognized independent energy company they will need to comply with all the NHPUC regulations including being a member of the DigSafe system. As-built plans will be provided to Eversource's marking contractor to designate NPT facilities when requested through DigSafe.

The project involves construction of 192 miles of new transmission facilities of which 158 miles is a 320kV direct current facility from the Quebec, Canada and New Hampshire border to Franklin and then 34 miles of 345kV alternating current facility to Deerfield. Approximately 60 miles of the direct current facilities are underground with 52 miles in NHDOT roadways. Eversource, who is the parent company to NPT, has experience with underground transmission facilities as 10% of their current facilities are underground. In addition to the cable and conduit the underground segments contain 6' high by 30' long by 10' wide splice vaults, fiber communication boxes and grounding boxes. At this time splice vaults will be open for future inspection of the cable during the warranty period being the first 5 years of operation. Splice vaults were originally proposed to be filled. The Department requested updated typical trench and splice vault details.

NPT provided an overview of the Decommissioning Plan required by the NH Site Evaluation Committee (SEC). The expected life of the facilities are at least 40 years with upgrades anticipated as technology is further developed which could extend the life. Underground facilities within NHDOT and local roadways will be decommissioned by removing the cables, capping conduits and removing structures to at least 48" below grade.

Mr. Dusseault asked if there will be markers identifying the existence of underground electric facilities similar to underground telephone and gas lime markers. Currently Eversource does not install markers along their underground electric facilities. There was discussion regarding marking out the extent of the splice vaults.

There was discussion regarding the replacement of Fluidized Thermal Backfill (FTB) when removed by State activities. It is the Department's understanding that NPT would supply the material, but unsure who would perform the installation. Mr. Rodrigue asked whether the NHDOT would be allowed to replace excavated FTB with roadway backfill material and NPT come back later to replace with FTB. With the FTB being installed for the thermal protection of the cable, the Department questioned the potential impact to the thermal protection if guardrail posts, drainage pipe and other items intrude into the material or roadway backfill temporarily replaced the FTB. NPT indicated that they would need to evaluate the individual impact, specific location and length of time to determine the effects.

The Department expressed concern regarding the potential of someone being electrocuted by accidentally digging into or driving a post into the cable. NPT note that the cable is designed with layers of material that grounds the cable when impacted prior to reaching the core conductor. In 33 years is only aware of one instance where a contractor in Stamford, Connecticut hit a cable and they did not follow the protocols to obtain cable locations.

Several items were discussed during NPT's presentation on notification protocols between the NHDOT and NPT. NPT requested 3 years notification of a project that would require relocation of their facilities. The shortest time to relocate between splice vaults would be 6 months but need to schedule 1 year in advance because of being part of the regional transmission grid and cable availability. NPT request the NHDOT notify NPT 1 week prior of anyone proposing to excavate near their facility. Mr. Beaulieu noted that there are occasions that NHDOT is not notified prior to an excavation, so NHDOT would not be able to notify NPT. The Department noted that the NHDOT does not notify other parties of the submittal of an excavation permit request and seems to be overreaching to require NHDOT to coordinate that effort. Notification of proposed excavations through DigSafe would provide the

notification to NPT. Any excavation to access splice vaults will require an excavation permit for each location.

There was a question about who pays for a NPT relocation required by a municipal project within a NHDOT roadway? For a Federal Aid or State Aid Local Program Assistance project in a NHDOT maintained roadway NPT would be responsible for the relocation. The Department indicated the need to research whether NPT or the municipality, a municipal utility or a village district (precinct) would be responsible for the relocation of NPT on a municipally funded project in a NHDOT maintained roadway.

NPT requested the opportunity to discuss design alternatives on DOT projects to avoid costly relocations. Mr. Rodrigue asked if relocations were appearing necessary would NPT be interested in helping with the engineering design and construction of alternatives to avoid multimillion dollar relocations. NPT definitely expressed interest in working with the NHDOT to obtain the least costly option for both parties. Reducing NPT relocations would also help with the design and construction schedule of NHDOT projects. NPT asked for the potential of annual meetings to review NHDOT projects and keep NPT informed of upcoming projects.

Maintenance work will be performed by Eversource personnel except vegetation control which will be performed by Eversource contractors.

There was a question on the equipment and personnel clearance distance to the aerial cable. NPT noted that the non-qualified distance is 20 feet and the qualified distance is 10 feet.

NPT will provide copies of the summary sheet for the underground cable construction and a sample of the cable.

Mr. Rodrigue noted that the Use and Occupancy for the use of NHDOT right-of-way for the entire project would not be executed until probably the middle of April to allow for inclusion of any conditions from the SEC decision. The draft document should be ready by late March which will need to include prior time for review by the NH Attorney General's office.

The SEC process is nearing completion with the last meeting scheduled for December 22, 2017. NPT, the Interveners and Counsel for the Public are preparing final briefs for the SEC deliberations in February 2018. The written decision is anticipated in March of 2018. The US Department of Energy and US Forest Service have issued the Draft Record of Decision with the Final Record of Decision expected by the December of 2017 to be followed by the Presidential Permit.

NPT will provide proposed revisions to the second paragraph on page 2 of the October 17, 2017 meeting conference report electronically regarding the submittal of plans for obtaining construction permits.

A revised proposed segmental submittal and review schedule of the Right-of-Way Report Addendum, Updated Alignment and Exception Requests, Final Construction documents (including Traffic Management Plans), and Construction Permit applications and Agreements (Excavation and Driveway Permits and Use & Occupancy Agreement) was provided for Department review.

NPT is continuing its outreach to the various emergency services, municipalities and school districts.

The Traffic Control Committee (TCC) has deemed this project to be a significant impact to traffic and will require a Traffic Management Plan. The TCC will need 30 days to review the Traffic Management Plan.

The next scheduled meeting on the third Tuesday of the month, January 16, 2018 will conflict with meetings shifted because of the Monday, January 15th State holiday and will be determined at a later date.

Submitted by:

Lennart Suther
Utilities Engineer

LDS/lDs

NOTED BY: MAE, MAP

cc: Attendees, Christopher Waszczuk, William Cass, James McMahon, Brian Schutt, Shelley Winters