

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

**CONFERENCE REPORT**

**PROJECT:** Northern Pass

**DATE OF CONFERENCE:** September 27, 2016

**LOCATION OF CONFERENCE:** 7 Hazen B18/26 235 Covered Bridge Conf Rm

**ATTENDED BY:** DEPARTMENT OF TRANSPORTATION

Mike Servetas – Assistant Director of Operations

Melodie Esterberg – Chief of Design Services

Lennart Suther – Utilities Engineer, Design Services

Matthew Powers – Utility Coordinator, Design Services

Alan Hanscom – NH DOT District 3 Maintenance Engineer

EVERSOURCE ENERGY

Jerry Fortier – NPT Project Manager, Eversource Energy

Lance Clute – PAR Electric

Mike Pillsbury – Louis Berger Group

Mark Hodgdon – Hodgdon Law

Sam Johnson – Burns & McDonnell Engineering

Frederick Hooper – inTerra (Technology & Product Development)

Angelo Scola – inTerra (National Operations)

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

**NOTES ON CONFERENCE:**

See attached Agenda.

Personnel from inTerra which is providing material details of the fluidized thermal backfill and thermal concrete proposed as trench backfill on the project introduced themselves to the NHDOT personnel.

Eversource is now responding to Data Requests generated during the Technical Session stage of the SEC process.

There only comments and changes to the previous meeting minutes was the spelling correction of Mr. Fortier's name in the last sentence of the third paragraph on page 2 and the last paragraph of the minutes.

Mr. Clute noted that the field geotechnical work on the NHDOT roadways is complete except for a couple locations that may need additional work next year. Field geotechnical work is continuing at transition stations and substation sites. The geotechnical reports for the roadways should be available in a couple weeks.

Mr. Johnson noted that field historic/archeological research necessary along the route is continuing and provided a copy of the monthly schedule (see copy attached).

An updated Engineering Design schedule with tasks for the individual segments in DOT District 1 and DOT District 3 was provided by PAR Electric (see copy attached). The updated schedule showed the submission of one segment (containing roadways in both DOT District 1 and DOT District 3) early as a test/sample submission so any comments/changes/modifications can be incorporated into the future submissions. The sample submission is shown to be provided in the middle of October 2016 with the future submissions scheduled for the beginning to the middle of December 2016; after receipt of the NHDOT comments to the sample submission.

Eversource presented material regarding Fluidized Thermal Backfill (FTB) as an alternative to using the trench excavation as backfill. Eversource asked if there was a process for submittal of alternative material and who to submit such a request. The Department will review the material with its Bureau of Material and Research and determine what, and if, additional information is necessary. Eversource indicated that FTB provides the thermal capability needed to transmit heat away from the electric underground transmission line while also providing a backfill material that can be installed quickly to reduce the construction time their contractor is in the roadway by allowing paving operations on the same day. FTB consists of sand, stone, fluidizing agent, a small amount of cement and water such that the material flows into the trench and around utility conduits, and achieves maximum density in its' initial set, without need for compaction. This is similar to the Department's flowable fill material used to fill pipes. The low cement content creates a low strength hand excavate-able material. FTB is water permeable similar to DOT gravels, does not create water dams, and behaves as a "French drain" in poor soils. Mr. Hanscom noted that the DOT has determined that in situations with poor surrounding soils, it is better to backfill with the existing material so there are not differential reactions during the winter freezing, which can create a dip at the trench. The geotechnical information from the Eversource investigations will be needed as part of the evaluation of the FTB. Eversource noted that the preliminary review of the geotechnical information indicates that some of the existing material does not meet the thermal requirements needed to transmit heat away. Mr. Suther asked if it was possible to use FTB in the lower portion of the trench and backfill the remainder with native material. Eversource indicated that it could be considered but it is not the normal practice, and in areas where the existing material does not meet the thermal requirements the trench width would need to be increased to provide the thermal capability. Mr. Hanscom noted that the Department does not allow jetting as a form of compaction, requiring mechanical compaction to 95 percent.

Eversource presented plans for the aerial crossing of I-393 in Concord for comments from the Department. The current proposal is to construct the proposed direct current (DC) 345 kV

facility (3132 line) between the two existing 115kV transmission facilities (C189 & P145 lines) with the relocation of the P145 line and existing distribution facility (318 line) along the southwest side of the easement to the southwest. The Department reiterated its' concern regarding the ability to perform maintenance on and reconstruction of the I-393 westbound bridge over Portsmouth Avenue with the existing and proposed electric facilities over or immediately adjacent. The use of cranes and excavators adjacent to the high voltage transmission facilities is the issue. Mr. Fortier stated that with residences adjacent to the southwest side of the easement there is no alternative outside the existing easement. Eversource was directed to review and provide details including cost differentials to the Department of the alternatives within the easement. Various options of vertical lines will be looked at including the impact/influence areas around the lines. Mr. Suther requested the operation clearances for cranes and excavators around the lines be provided. Mr. Johnson will look into historical and construction records for possible solutions to this issue.

Ms. Esterberg noted that the Department is putting together a section on the NHDOT website for the public awareness of the Department's role in the process as reviewing documents for the permitting of facilities within the DOT right-of-way. The Department is not evaluating the merits of the project but is ensuring Eversource is following the policies and procedures for facilities within the right-of-way. All conference reports, complaints and responses, and related documents will be posted. Draft or client/lawyer privileged documents will not be posted.

With meetings scheduled for 1:00 pm on the 4<sup>th</sup> Tuesday of the month the next meeting is on October 25, 2016.

Submitted by:

Lennart Suther  
Utilities Engineer

LDS/ljs

NOTED BY: MAE, MCP

cc: Attendees, Christopher Waszczuk, David Rodrigue, Douglas King, Richard Radwanski, Brian Schutt, Philip Beaulieu, Louis Barker, Charles Schmidt, Shelley Winters