Comments on Eversource's Exhibit 11 - X-178 Line Design and Conductor Selection

Eversource states:

"The primary driver of the height increase is Rule 250D of the National Electrical Safety Code. Rule 250D was introduced in 2007 and currently requires that transmission lines in this area of New Hampshire be designed to withstand 1-inch of radial ice with 40 mile-per-hour winds." (p 61)

Rule 250D of the National Electrical Safety Code does not apply to structures less than 60' in height:

Pole Loading

The National Electrical Safety Code (NESC) provides minimum safety loads for a variety of loading conditions. The NESC has requirements for:

- District Loads in Rule 250B, which include combinations of ice and wind loads to which load factors are applied;.
- Extreme Wind Loads in Rule 250C; and
- Extreme Ice and Concurrent Wind Loads in Rule 250D.

The most severe loading condition applies at a particular geographic location. The NESC does not require the designs for structures less than 60 feet in height to consider either the Rule 250 C Extreme Wind or the Rule 250D Extreme Ice and Concurrent Wind loads.

The reason for this is that the very long history of observations of the results of extreme weather events has shown that most damage to distribution structures is associated with secondary damage effects. There is significant debate on this issue, but the NESC itself provides some basis to support the belief that secondary damage effects are the cause of the catastrophic damage often associated with extreme weather events.

Easton:

	Existing	Proposed
Averages	51.44	62.33

Bethlehem:

	Existing	Proposed
Averages	48.07	62.96
Typical	47.50	61.00

Eversource needs to explain how the inapplicability of “the primary driver of the [average] height increase” will alter its proposed structure heights.