

345 kV Line Structure Replacements

Northfield Mountain to Berkshire 312 Line

Northfield Mountain to MA / NH Border 381 Line

Northfield Mountain to Ludlow 354 Line

PAC Presentation

July 7, 2015

Overview – 312 Line – 381 Line – 354 Line

- Eversource performs inspections of all transmission line structures, hardware and conductor on a routine basis. These inspections consist of foot patrols, helicopter patrols, groundline inspection, subsurface inspections, and treatment.
- The 312, 381 and 354 lines run through areas known to be vulnerable to woodpecker damage.

Overview of Findings – 312 Line – 381 Line – 354 Line

- These inspections have identified numerous structures where degradation has occurred due to woodpecker, weather and/or age related conditions.
 - Safety, Reliability and performance concerns
- Steel structures were utilized for replacements.
 - Resistant to environmental degradation
 - Expected longer service life
 - Cost-competitive “wood pole equivalent” (WPE) designs
- A complete line rebuild is currently not required.

Background – 312 Line

- This structure replacement work covers the 345 kV Northfield Mountain to Berkshire 312 Line.
- Transmission Line Maintenance has identified 17 structures of this Western Massachusetts Electric Company Line in need of replacement.
- This work is in addition to the prior Northfield Mountain to Berkshire 312 line work that replaced 28 damaged wood structures with steel structures, and were identified at PAC in June-2011, and also, was reflected on TCA application NU-14-TCA-07, which was previously submitted to ISO-NE in Dec-2014.

Background – 381 Line

- Transmission Line Maintenance had identified 33 structures of this Western Massachusetts Electric Company Line in need of replacement.
- This structure replacement work covers the 345 kV Northfield Mountain to New Hampshire border 381 Line.

Background – 354 Line

- This structure replacement work covers the 345 kV Northfield Mountain to Ludlow 354 Line.
- Transmission Line Maintenance has identified 37 structures of this Western Massachusetts Electric Company Line in need of replacement.
- This work is in addition to the prior Northfield Mountain to Ludlow 354 line work that replaced 52 damaged wood structures with steel structures, and were identified at PAC in June-2011, and also, was reflected on TCA application NU-14-TCA-08, which was previously submitted to ISO-NE in Dec-2014.

WMECo 345 kV Line Structure Replacement Summary

Line Section	Age of Line (yrs)	Total Line length (mi)	Structures Requiring Replacement	Cost
Northfield Mountain to Berkshire 312 Line	45	36.9	17	\$7.9M
Northfield Mountain to MA/NH Border 381 Line	45	9.3	33	\$14.0M
Northfield Mountain to Ludlow 354 Line	45	29.3	37	\$13.5M

312 Line



354 Line



354 Line



354 Line



381 Line

