

345-kV 354 Line Structure Replacements

Planning Advisory Committee Meeting

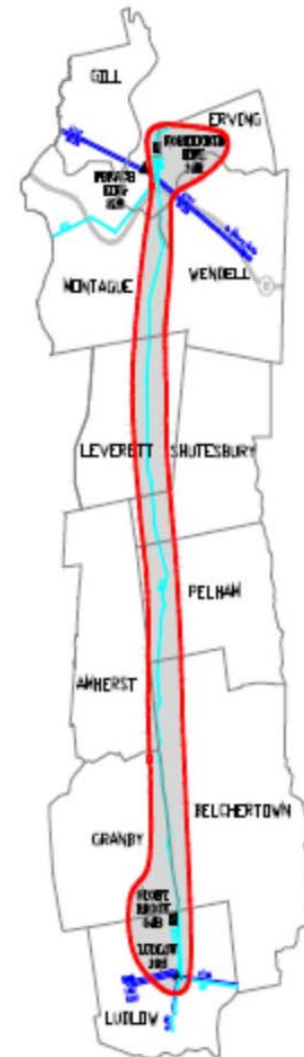
June 21, 2017

Agenda

- Line Characteristics
- Project Driver
- Condition Summary
- Conclusion

354 Line Characteristics

- The 345-kV Northfield to Ludlow 354 line passes through Erving, Wendell, Montague, Leverett, Shutesbury, Pelham, Belchertown, Granby and Ludlow, MA
- Line Characteristics:
 - 262 structures
 - 29.3 miles in length
 - Line conductor is 2-954 ACSR
 - Built in 1970



Project Driver

- The structures were installed in 1970 and are over 45 years old.
- The portion of the line proposed for structure replacements have one or more of the following deficiencies:
 - Woodpecker damage,
 - Rot,
 - Cracks,
 - and/or deteriorated steel mechanical connections.

Line Inspections

- Eversource performs routine inspections to identify any conditions or defects.
 - Where necessary, structures are designated for repair or replacement.
- The structure inspections are coordinated to evaluate and address structural issues for a particular circuit. The goal is to:
 - Maintain system operability and reliability
 - Ensure safety

Asset Condition

- Significant woodpecker damage along the 354 line requires replacement of 54 structures.

Asset Condition (continued)



**Structure 34005: Woodpecker
Damage**



**Structure 34209: Woodpecker
Damage (medium)**

Asset Condition (continued)



**Structure 34038: Woodpecker
Damage (heavy)**



**Structure 34156: Woodpecker
Damage**

Asset Condition (continued)



Degree of Woodpecker Damage (this is not a 354 Line structure)



Depth of Woodpecker Damage

Pictures illustrating the amount of damage woodpeckers can do.

354 Line Structure Replacements

Replacing these structures remediates the potential for structure failures due to asset condition vulnerabilities.

- Remove 45 Single Circuit H-Frame wood structures and replace with light duty weathering steel H-frames.
- Remove three dead end corner wood structures and replace with light duty weathering steel poles.
- Remove two running angle wood structures and replace with light duty weathering steel poles.
- Install new hardware and insulators.

Total estimated cost of this project: \$8M (-25%/+50%)

QUESTIONS?