

# **Eversource 115kV Structure Replacements & OPGW Installation**

**TCA Submittal Presentation  
ES-22-TCA-36 (ACL #367)  
ES-22-TCA-37 (ACL #368)  
ES-22-TCA-39 (ACL #355)**

**NEPOOL Reliability Committee Meeting**

**May 16<sup>th</sup>, 2023**

# Agenda

- Project Backgrounds
- Project Drivers
  - Asset Replacement
  - OPGW
- Project Locations
- Project Summary

# Background

- This presentation covers asset condition projects on CT and NH 115kV Lines that were presented at the [September 21<sup>st</sup>, 2022](#) PAC meeting
- Line 1783 is a 115-kV line that spans 7.14 miles from East New Britain 7L S/S in Newington, CT to Newington 4A S/S in Newington, CT to Farmington 1C S/S in Farmington, CT
  - Line is supported by 82 structures, built in 1952
  - Alumoweld shield wire installed in 2005 from Farmington 1C to Newington 4A S/S and 1952 from Newington 4A to E. New Britain 7L
- Line P106 is a 115-kV line that spans 1.7 miles from Rimmon Substation in Goffstown, NH to Eddy S/S in in Manchester, NH
  - Line is supported by 23 structures, built in 1960
  - Alumoweld shield wire installed in 1960
- Line Q171 is a 115-kV line that spans 10.8 miles from Merrimack Substation in Bow, NH to Greggs Substation in Goffstown, NH
  - Line is supported by 140 structures, built in 1966
  - A mix of Alumoweld and Copperweld shield wire installed in 1966

# Project Drivers – Asset Condition

- Structure Replacements
  - Completed inspections of lines 1783, P106 and Q171 and graded condition of all structures in accordance with Electric Power Research Institute (EPRI) guidelines
  - Asset condition concerns identified via inspections
  - If not addressed, the identified concerns jeopardize the long-term integrity of the transmission system and its continued reliability
- Shield Wire/OPGW
  - Asset condition concerns identified with existing alumoweld and copperweld
  - These materials are prone to failures due to aging and are no longer industry-standard, making replacement hardware is difficult to find
  - OPGW is readily available material and is a comparable cost to a like-for-like shield wire replacement
  - Fiber will not only shield the lines, but increase communication and reliability within the Eversource system

# Project Drivers – Asset Condition Structure Replacements



1783 Structure 16073  
Split pole top,  
woodpecker damage

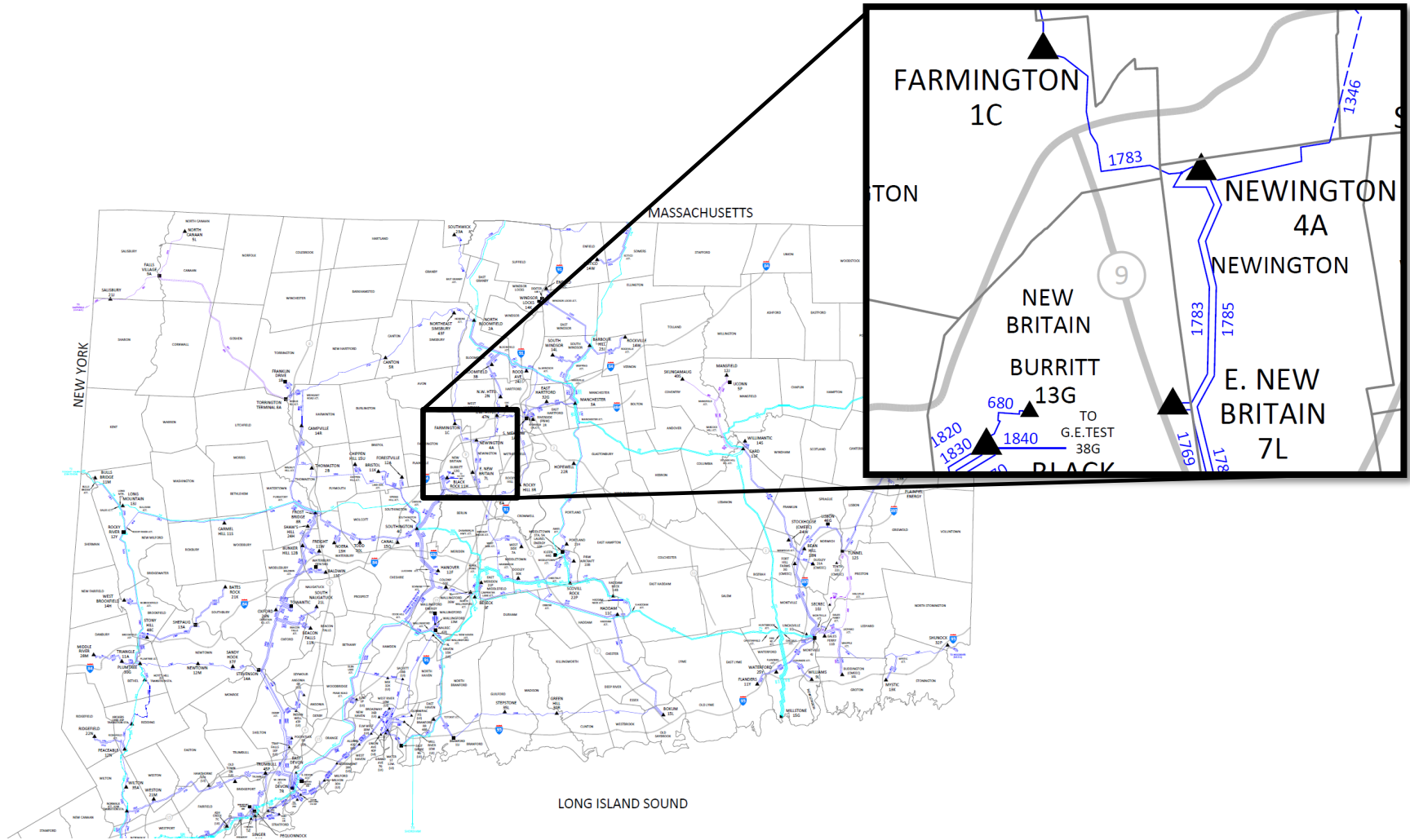


P106 Structure 56  
Pole top rot, chunk  
missing out of pole  
top

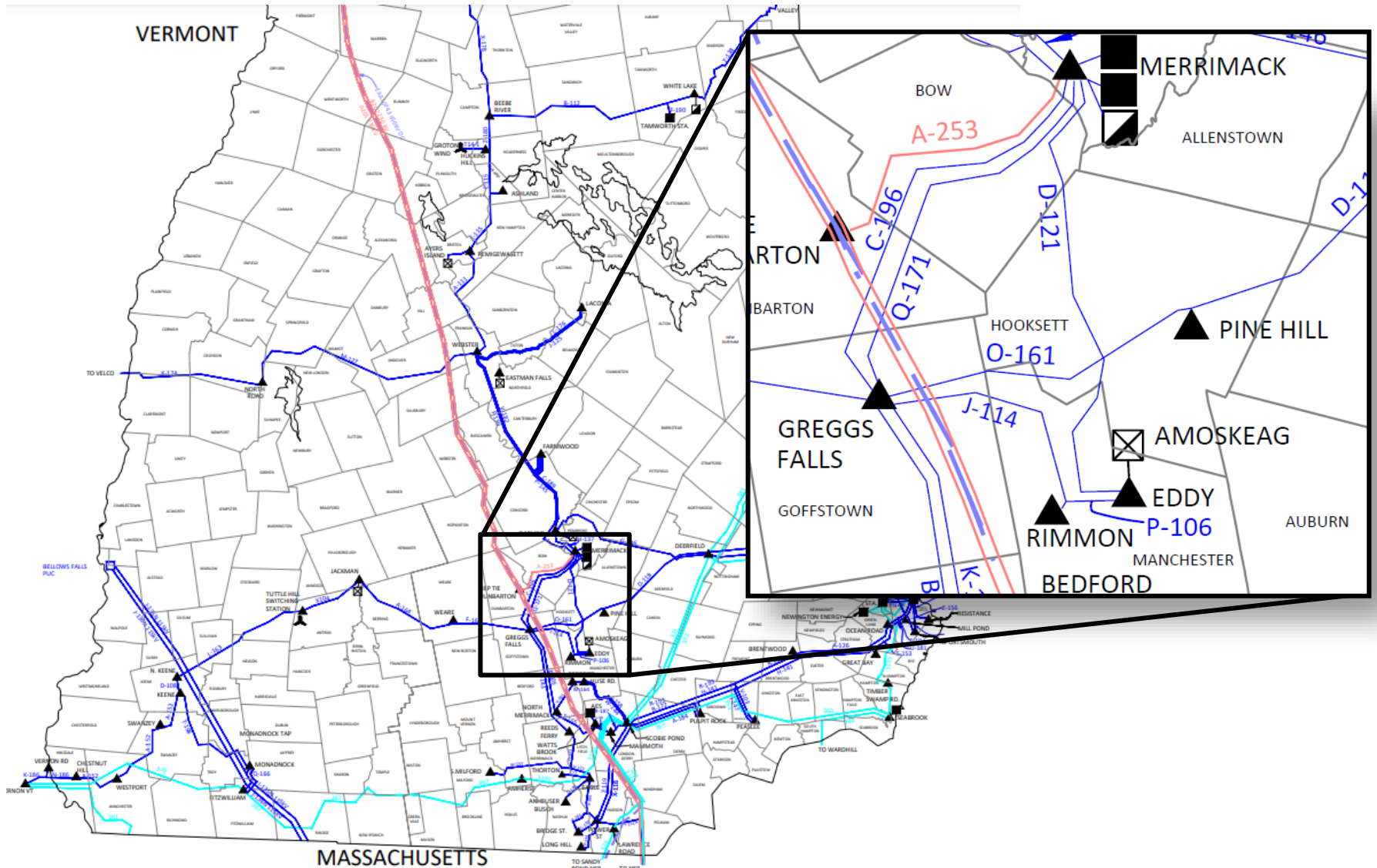


Q171 Structure 34  
cracking, decay, structure  
leaning

# Locations – Connecticut



# Locations – New Hampshire



# NH & CT 115kV Structure Replacements & OPGW Installation - Costs

Location	Line	ISO-NE ACL #	TCA #	Description	TCA Submitted Cost (\$Ms)
CT	1783	355	ES-22-TCA-39	East New Britain substation - Newington substation - Farmington substation	\$ 6.285
NH	P106	367	ES-22-TCA-36	Rimmon substation - Eddy substation	\$ 5.634
NH	Q171	368	ES-22-TCA-37	Merrimack substation - Greggs substation	\$ 14.966
<b>Total</b>					<b>\$ 26.885</b>



# Project Summary

- Line 1783
  - Installation of 7.14 miles of OPGW & 2 structure replacements
  - **Total Estimated PTF Cost: \$6.285M (+/- 10%)**
  - **In-service Date: May 2023**
  
- Line P106
  - Installation of 3.4 miles of OPGW and 16 structure replacements
  - **Total Estimated PTF Cost: \$5.634M (+/- 10%)**
  - **In-service Date: August 2023**
  
- Line Q171
  - Installation of 21.6 miles of OPGW and 44 structure replacements
  - **Total Estimated PTF Cost: \$14.966M (+/- 10%)**
  - **In-service Date: September 2023**

# Questions

