

ISO-NE PAC MEETING

1/27/2026

Belmont #98 Asset Replacements



This document has been reviewed and does not contain Critical Energy/Electric Infrastructure Information (CEII).

national**grid**

Project Summary

Project Drivers

- The existing 1600 A, 115 kV breakers are oil filled circuit breakers (OCBs) installed in 1965.
- The 9801 breaker has a history of oil leaks and air system trouble and noticeable rusting in the housing.
- The 9802 breaker has history of air system trouble and noticeable rusting in the housing.
- Difficult to source spare parts due to model and vintage.

Preferred Alternative

Alternative	Description	Cost Estimate
Base Alternative	<ul style="list-style-type: none">• PTF<ul style="list-style-type: none">• Replace the 115 kV 1600 A 9801 & 9802 OCBs with 2000 A vacuum circuit breakers (VCBs) and relaying.• Replace the breaker isolation disconnect switches (9801-1, 9801-2, 9802-1,9802-2).• Remove the 9801 disconnect switch and the grounding switch attachment 9801-1G.• Non-PTF<ul style="list-style-type: none">• Replace the 98-1 transformer disconnect switch with 115 kV circuit.• Install conduit from control enclosure to the U2 structure for existing OPGW fiber interconnection and tie-in to control enclosure.	\$7.3M PTF (+/-25%) \$1.4 non-PTF (+/-25%)

*No larger needs exist to require further holistic evaluation, per the Asset Condition Process Guide p. 29

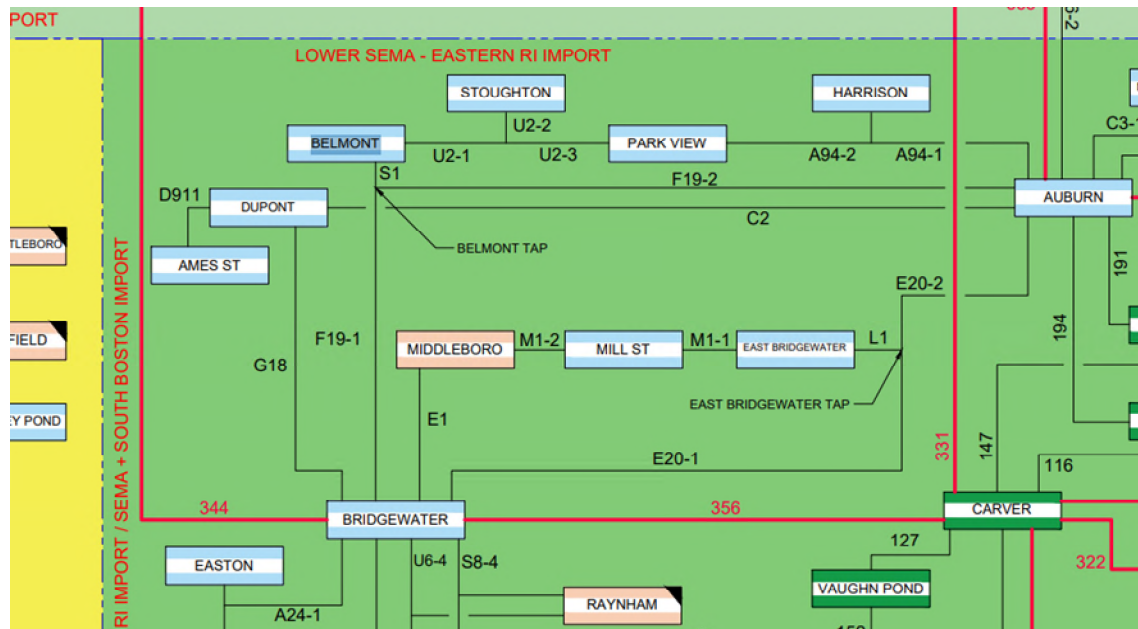
Outline

- Background
- Station Diagrams
- Aerial View
- Project Needs and Drivers
- Review of Relevant Transmission Studies
- Evaluated Solution
- Schedule
- Appendix
- Questions

This document has been reviewed and does not contain Critical Energy/Electric Infrastructure Information (CEII).

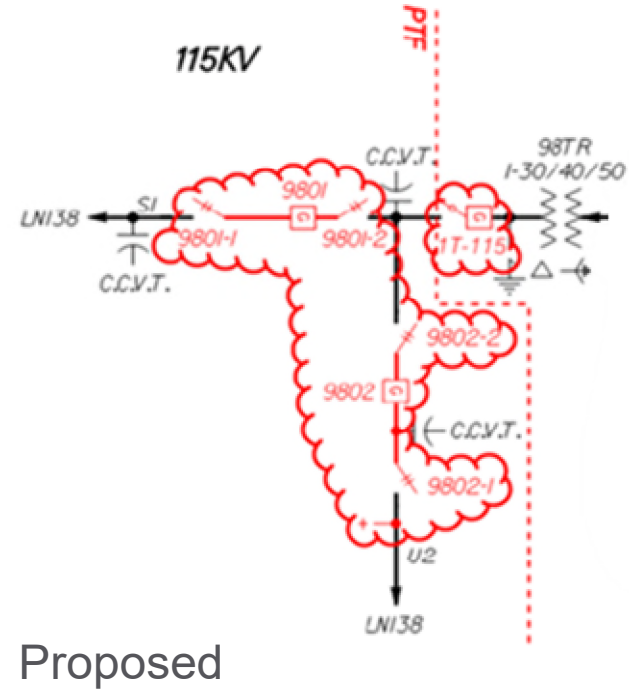
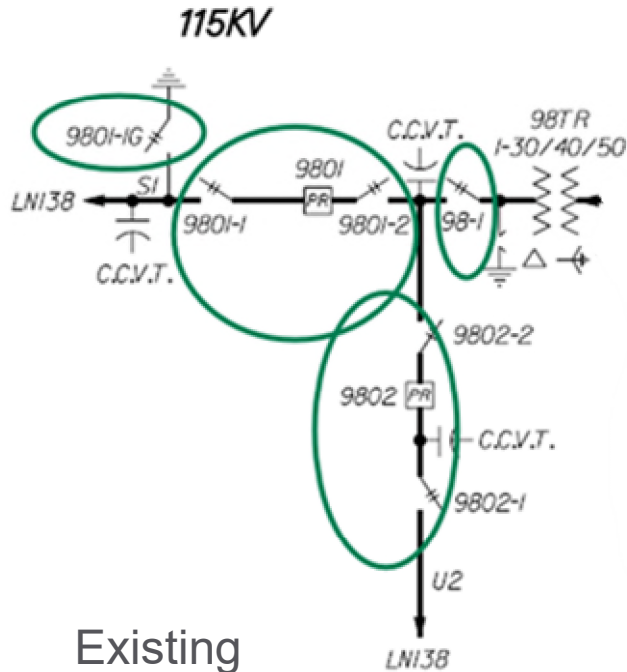
Background

The Belmont #98 substation is located in Brockton, MA. The station was built in the late 1960's and serves six 13.8 kV distribution circuits via two 115 kV PTF lines via a single 115 kV/13.8 kV transformer.



This document has been reviewed and does not contain Critical Energy/Electric Infrastructure Information (CEII).

Station Diagrams



This document has been reviewed and does not contain Critical Energy/Electric Infrastructure Information (CEII).

Aerial View



This document has been reviewed and does not contain Critical Energy/Electric Infrastructure Information (CEII).

National Grid Belmont #98 Asset Replacements - 1/27/2025

Project Needs and Drivers

Asset issues:

- The 9801 breaker has a history of oil leaks and air system trouble and noticeable rusting in the housing.
- The 9802 breaker has history of air system trouble and noticeable rusting in the housing.
- Difficult to source spare parts due to model and vintage.
- Replacing the disconnect switches with motor operated disconnects (MOD) to allow for automatic load restoration after a failed breaker operation.



Signs of oil leak on the B-phase of the 9801 breaker

This document has been reviewed and does not contain Critical Energy/Electric Infrastructure Information (CEII).

Review of Relevant Transmission Studies

Recent Transmission Studies
Were any lines at the station overloaded in recent Attachment K studies (Reliability Needs Assessments, Longer-Term Transmission Studies, etc.) or other recent studies?
<ul style="list-style-type: none">• No line overloads are shown up to 2050.
Have modifications or upgrades to this line been identified as potential solutions in any of those studies?
N/A

This document has been reviewed and does not contain Critical Energy/Electric Infrastructure Information (CEII).

Evaluated Solution

Preferred Alternative	
Description	<ul style="list-style-type: none">• Replace the 115 kV 1600 A 9801 & 9802 OCBs with 2000 A VCBs and relaying.• Replace the breaker isolation disconnect switches (9801-1, 9801-2, 9802-1,9802-2).• Remove the 9801 disconnect switch and the grounding switch attachment 9801-1G.• Replace the 98-1 transformer disconnect switch with 115 kV circuit switcher.• Install conduit from control enclosure to the U2 structure for existing OPGW fiber interconnection and tie-in to control enclosure.
Primary Needs Addressed	Yes
Secondary Needs Addressed	None
Advanced transmission technologies to be considered	None
Cost Estimate and Accuracy	\$7.3 M PTF (+/-25%) , \$1.4 M non-PTF (+/-25%)
Impact on transmission needs or concerns from recent studies	None
Key standards or criteria affecting design if different than current design	Replacement of OCBs with VCBs

This document has been reviewed and does not contain Critical Energy/Electric Infrastructure Information (CEII).

National Grid Belmont #98 Asset Replacements - 1/27/2025

Schedule

Planned Schedule	
Comment Deadline	February 10th, 2026
Contact	National Grid – Rafael Panos: pac.questions@nationalgrid.com ISO-NE: pacmatters@iso-ne.com
Follow-up PAC Presentation	No
Start of Major Construction	June 2026
Project in Service	May 2027

This document has been reviewed and does not contain Critical Energy/Electric Infrastructure Information (CEII).

Questions

Belmont #98 Asset Replacements



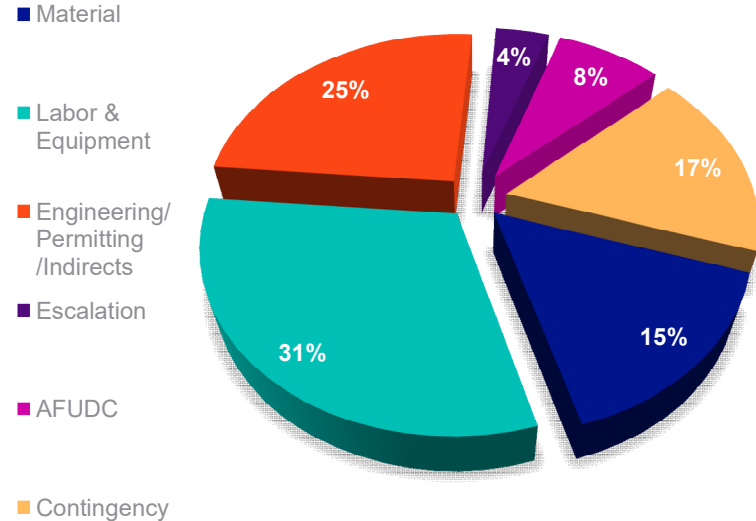
This document has been reviewed and does not contain Critical Energy/Electric Infrastructure Information (CEII).

nationalgrid

Appendix

Additional Cost Detail

Project Cost Summary Belmont #98		
Cost Category	PTF	non-PTF
Material/Handling	\$1.16 M	\$0.2 M
Labor/Equipment	\$2.1 M	\$0.6 M
Right of Way	-	-
Engineering/Permitting/Indirects	\$1.87 M	\$0.3 M
Escalation	\$0.31 M	\$0.05 M
AFUDC	\$0.6 M	\$0.11 M
Contingency	\$1.26 M	\$0.2 M
TOTAL	\$7.3 M	\$1.46 M



This document has been reviewed and does not contain Critical Energy/Electric Infrastructure Information (CEII).

nationalgrid