BOSTON TRANSMISSION SYSTEM RELIABILITY POWER FLOW ASSESSMENT

CLIENT: Jupiter Power, LLC

LOCATION: Everett, Massachusetts

PROJECT DETAILS

RLC Engineering, PLLC was engaged by Jupiter Power LLC to assess the potential benefits of Jupiter's Battery Energy Storage Systems (BESS) projects planned to be interconnected to the ISO-NE transmission system in the Boston Load Pocket. Specifically, the two Jupiter BESS projects considered in the assessment study are:

- QP1110, ±200 MW BESS at the Mystic Substation connected at 115 kV, and
- QP1143, ±500 MW BESS at the Mystic Substation connected at 345 kV

The study evaluated the transmission thermal violations identified in the ISO-NE Boston 2033 Needs Assessment report dated May 2024 and investigated how Jupiter's BESS projects could potentially mitigate the violations. The assessment also compared the positive impacts of Jupiter's BESS projects to other BESS projects planned within and near the Boston area.

"We want to express our appreciation for the excellent work on the recent Trimount/Boston study! Their clear communication and easy collaboration was invaluable! The successful completion of the study is a testament to professionalism and efficiency, and the outcome is greatly appreciated!

We value the partnership and look forward to working together in the future."

- Jupiter Power, LLC

SCOPE OF SERVICES

- Obtain the power flow base cases from the ISO-NE used for the ISO-NE Boston Needs Assessment.
- Add representation of Jupiter's BESS projects and other relevant BESS projects to the base case.
- Review the ISO-NE Boston Needs Assessment study report and summarize the findings including critical N-1-1 contingency conditions and corresponding required transmission upgrades.
- Conduct power flow (flowgate) analysis to demonstrate how dispatch of the BESS projects can mitigate the need for Boston area transmission upgrades.
- Compose a study report that presents the study assumptions and results, highlighting the system reliability and corresponding economic benefits of Jupiter's BESS projects.

Empowering Energy Solutions
for the future...today

RLC ENGINEERING