

Affected System Operator (ASO) Report to Potentially Affected Customers

October 15, 2024

Updates are Noted in Red

This is Eversource's biweekly report to customers who have the potential to be included in a future Affected System Operator (ASO) study. In accordance with the MA DPU Orders D.P.U. 19-55-C, D.P.U. 19-55-D, and the issuance of the *DG Guidelines For Interconnection*, these reports will be issued on the first and fifteenth business day of each month. Eversource's Massachusetts service area in the Greater Boston, Upper Southeastern Massachusetts ("SEMA"), Cape, Springfield and Pittsfield regions have all had ASO studies conducted in the past and these regions will remain consistent for any future ASO study conducted.

New applications in western MA and Greater Boston areas that were eligible for Eversource's 2023 ASO study were reviewed for concurrence of study level determinations with ISO-New England and have been posted on Eversource's ASO website. The 2023 ASO study is in progress in Western MA and Greater Boston.

Eversource continues to explore, to the greatest extent possible, the ability for projects to have Level 0 studies.

Eversource's current data as of this report reflects the following as projects that have been identified as needing a potential ASO study:

Total applications across Massachusetts:

- Western MA:
 - In Level 3 Study Currently – 18 Projects
 - Transitional Study ASO – 34 Projects
 - Level 0/1 - 5 Project
 - Level 3 – 29 Projects
 - Future ASO – 8 Projects
- Eastern MA:
 - In Level 3 Study – SEMA/Cape - 15 Projects
 - Transitional Study ASO – 16 Projects
 - SEMA/Cape - 9 Projects
 - Level 0/1 - 1 Project
 - Level 3 – 7 Projects
 - Greater Boston – 7 Projects
 - Level 0/1 - 5 Projects
 - Level 3 – 2 Projects
 - Future ASO
 - Greater Boston – 1 Project
 - SEMA/Cape - 14 Projects

This total is a combination of new applications that have been submitted and applications that have opted out of a prior ASO study that still require one be completed.

These reports along with general ASO information can be found on the ASO Website:

<https://www.eversource.com/content/ema-c/about/about-us/doing-business-with-us/builders-contractors/interconnections/massachusetts/affected-system-operator-studies>

Please direct questions related to the ASO to your respective Account Executive so that they can be circulated to the appropriate party for response, and if applicable, added to the ASO Website's FAQ section for others to review.

1. What additional information is needed to determine if an ASO study is necessary?

Eversource needs to complete any ASO studies underway in a region prior to assigning new projects in queue a transmission study level and starting a new round of studies. At the start of each new study round, Eversource issues initial ASO Study notifications to potential customers impacted requiring their project be reviewed for study level agreement by ISO-NE for either a Level 0 or a Level

3 ASO study. After there is concurrence on study level for each project between Eversource and ISO-NE, individual projects will be notified of their study level by their Account Executive through Powerclerk and posted on the ASO website.

Factors could impact these preliminary study level determinations, such as queue attrition and project size changes. If a project is initially assigned a Level 0 study, it is possible that during the Level 0 study process, that some projects may be identified as requiring further Level 3 studies and those projects (if any) will add to the final scope of the Level 3 study conducted.

The current status of each active ASO study is reflected below.

Notes for the In Process ASO studies:

SEMA/Cape:

- The 2024 SEMA/Cape ASO study is being performed to complete before October 2024 and get PPA approval at October RC meeting. Steady State Analysis:
 - Eversource is reviewing the steady state simulation results
 - Preliminary results show no adverse impacts
- Stability Analysis
 - Eversource reviewed 1st round of the stability simulation results
 - Eversource identified QP1107's dynamic model provided by ISO-NE had issues, Eversource fixed the model issues and is rerunning all the stability analysis.
 - Some results show system oscillation, Eversource is investigating the issues.
 - ISO-NE sent Eversource the updated QP726 stability model on 10/3 and request stability analysis to be rerun to include the updated MMD model of QP726. All the stability cases need to be updated and rerun. This will cause 1 month delay of the stability analysis completion.
- Electromagnetic Transient (EMT) PSCAD Analysis
 - Eversource is working on preparing the dominant inverters modeling for each substation in the study area.
 - Eversource is working on preparing the generic inverter models for each substation in SEMA/Cape area
 - Eversource is preparing all the relevant FERC QP projects modeling in the EMT analysis
 - Eversource is developing the fault files for the EMT analysis in SEMA.
 - Eversource is running the PSCAD simulation.
 - ISO-NE sent Eversource the updated QP726 stability model on 10/3 and request stability analysis to be rerun to include the updated MMD model of QP726. All the stability cases need to be updated and rerun. This will cause 1 month delay of the stability analysis completion.
- Short Circuit Analysis
 - Eversource is targeting to get the preliminary short circuit analysis result by September 1st.
 - Eversource completed the preliminary short circuit analysis result on September 16th .
 - Eversource is reviewing the results.

Western MA:

Eversource is targeting to get PPA approval for the 2023 WMA ASO study in the August/September RC meeting.

- Steady State Analysis
 - Eversource has addressed the comments and sent a revised draft to ISO-NE on the 19th of August. Eversource is targeting September RC.
 - Eversource received additional comments from ISO-NE on September 5th and 9th, Eversource is working on addressing the comments from ISO-NE, will be completed September by 17 and targeting for the October RC.
 - Eversource has addressed all the comments from ISO-NE and is ready for the PPA presentation in October RC meeting.
- Stability Analysis
 - Eversource has addressed the comments and sent a revised draft to ISO-NE on the 19th of August. Eversource is targeting September RC.
 - Eversource received additional comments from ISO-NE on September 5th and 9th, Eversource is working on addressing the comments from ISO-NE, will be completed September by 17 and targeting for the October RC.
 - Eversource has addressed all the comments from ISO-NE and is ready for the PPA presentation in October RC meeting.
- Electromagnetic Transient (EMT) PSCAD Analysis

- Eversource submitted the study report to ISO-NE for review on July 30th
- Eversource received additional comments from ISO-NE on September 5th and 9th, Eversource is working on addressing the comments from ISO-NE, will be completed September by 17 and targeting for the October RC. Eversource has addressed all the comments from ISO-NE and is ready for the PPA presentation in October RC meeting.
- Short Circuit Analysis
 - Eversource submitted the study report to ISO-NE for review on July 30th
 - Eversource received additional comments from ISO-NE on September 5th and 9th, Eversource is working on addressing the comments from ISO-NE, will be completed September by 17 and targeting for the October RC.
 - Eversource has addressed all the comments from ISO-NE and is ready for the PPA presentation in October RC meeting.

Greater Boston:

- PPA approval Received at July 2024 RC Meeting

Notes for the Transitional ASO studies:

SEMA/Cape:

- 7/11/24 - Custom Kickoff Call occurred – 19 Projects
- 7/11/24 - Opt In / Out Notifications Issued – Due 7/18/24
- 7/18/24 - 8 Projects Opted In
 - Model Validation Phase – Approval Deadline 9/26/24
- 8/15/24 - ISO NE Study Level Determinations Complete and communicated to Participants
 - Level 0/1 - 1 Project
 - Level 3 – 7 Projects

Western MA:

- 7/11/24 - Custom Kickoff Call occurred – 44 Projects
- 7/11/24 - Opt In / Out Notifications Issued – Due 7/18/24
- 7/36/24 - 34 Projects Opted In
 - Model Validation Phase - Approval Deadline 9/26/24
- 8/15/24 - ISO NE Study Level Determinations Complete and communicated to Participants
 - Level 0/1 - 5 Projects
 - Level 3 – 29 Projects

Greater Boston:

- 7/11/24 - Custom Kickoff Call occurred – 6 Projects
- 7/11/24 - Opt In / Out Notifications Issued – Due 7/18/24
- 7/18/24 - 7 Projects Opted In
 - Model Validation Phase - Approval Deadline 9/26/24
- 8/15/24 - ISO NE Study Level Determinations Complete and communicated to Participants
 - Level 0/1 - 5 Projects
 - Level 3 – 2 Projects

Level 3 Study:

- \$60,000 Cost
- Commences once Level 0 studies are complete
- Study Timeframe typically takes up to 12 months, depending on complexity and scope

2. Are there any proposed resolutions that the EDC is exploring to enable some affected DG applicants to proceed with the interconnection process prior to completion of the ASO study?

Eversource is continuing to proceed with distribution-level studies, including distribution Group Studies authorized by D.P.U. 17-164, while ASO transmission-level studies are being conducted. This approach is being utilized to reduce the distribution-level study wait time and increase value to customers.

3. How does the EDC plan to address the situation and minimize delays to interconnection timelines of potentially affected DG applicants?

There are distribution study efficiencies that Eversource has implemented to minimize study timelines for highly congested areas warranting the formation of a Group Study. With distribution Group Studies, there will also be an associated group solution to support cost sharing potential amongst customers. For any future transmission studies, Eversource will be able to utilize load models and DER models aggregated by bus that have been set up for the ASO underway and anticipates the ramp up time for any future ASO study to be shorter, as some preparation work has already been completed.

Eversource has also created technical guidance documentation for customers to utilize to proactively gather modeling data needed for an ASO study; this documentation is available on the ASO website. It is strongly recommended that customers use this documentation to work with their inverter manufacturers and other technical stakeholders early in the process (once an ASO study level is known) to obtain the necessary comprehensive and accurate technical files, all customers will see a benefit to schedule

improvement and study commencement. As discussed in these biweekly reports, all projects regardless of ASO study level, will require PSCAD models for the study.