

Affected System Operator (ASO) Report to Potentially Affected Customers

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, Greater Boston, SEMA and the Cape areas that were eligible for Eversource's 2021 ASO study were reviewed for concurrence of study level determinations with ISO-New England and have been posted on Eversource's ASO website.

For the next ASO study in Greater Boston 16 projects have opted in and 22 have opted into the next study in WMA. All opted in customers now have modeling issues rectified. The Level 3 WMA and Greater Boston studies are anticipated to commence in the January-February 2022 timeframe. The 2021 SEMA/Cape projects are in the process of being migrated into the PowerClerk portal to allow for more efficiencies in the study process. Once the migration is completed, SEMA/Cape customers will be asked to create a PowerClerk account (most projects in this group) and then opt/in out of the study afterwards.

Eversource continues to explore, to the greatest extent possible, the ability for projects to have Level 0 studies. Applications for new projects have continued to come in the queue behind the 2019 ASO projects, creating additional saturation on circuits across these same MA sub-regions. Currently there are 108 applications across these regions that have been identified as needing a potential ASO study with 33 in western MA and 75 in eastern MA. This total is a combination of new applications and applications that have opted out of an 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. Eversource has issued 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 and posted on the ASO website.

For the 2021 ASO studies, the SEMA/Cape study kickoff meeting with customers was held on December 3rd and Eversource is currently migrating these projects into the PowerClerk system to begin the opt in/out and modeling collection process. The Greater Boston and western MA areas have completed their Level 0 studies and are on the December RC meeting agenda for approval. Once approval is received, the Level 3 studies will begin in these two geographic areas.

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.

2. When will the EDC know whether an ASO study is required?

Eversource will be proceeding with a next round of ASO studies in the SEMA and Cape areas (for applications deemed complete through 10/1/21) and the western MA and Greater Boston areas (for applications deemed complete through 6/1/21). Eversource has received concurrence on study levels from ISO-NE for these projects.

For projects that have been submitted in these areas after the cutoff dates, the ASO Impact Screens will continue occurring for these newer projects and at the earliest opportunity the projects will be invited to opt in to a future ASO study. Eversource has added the process diagram for ASO Impact Screens, that it worked to develop with the other MA Electric Distribution Companies (EDCs), to its ASO website as an additional customer reference.

3. What are the potential impacts on interconnection timelines and costs?

At this time for planning purposes, Eversource anticipates 2021 Level 0 studies to cost around \$5,000 for Level 0 No Study projects and around \$10,000 for Level 0 Transfer Limit Analysis (TLA) projects. Level 0 projects typically take around 4 months from study commencement. Level 0 No Study projects still require PPA approvals and PSCAD models to be provided by customers.

Level 3 studies will begin once Level 0 studies are complete so that the applicable transmission and distribution upgrades are known and can be modeled in a Level 3 study. The Level 3 study per ISO-NE PP5-3¹ typically takes up to 12 months, depending on complexity and scope. ASO study costs will be a flat fee based on study level for Level 0 (both types) and Level 3.

Exact costs for 2021 Level 3 studies are unknown at this time due to variables such as the results of the Level 0 studies, potential changes in ISO-NE study requirements, as well as customers who may choose to opt out of the study, thereby increasing the cost to the remaining applicants. However, for planning purposes final costs may range from \$5,000 to \$15,000 per MW.

¹ https://www.iso-ne.com/static-assets/documents/rules_proceeds/isone_plan/pp05_3/pp5_3_final.pdf

4. 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.

5. 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.