

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.

Eversource has completed its ASO Study announced on October 24, 2019 with the exception of 3 remaining projects needing ISO-New England (ISO-NE) Reliability Committee (RC) approval in the Level 3 SEMA and Cape group. These 3 PPAs out of Assonet station required some additional analysis¹ that has been completed and will be presented at the November RC meeting. New applications that have come into the SEMA and Cape areas are being reviewed for study level determinations with ISO-New England. The cutoff for SEMA/Cape applications to be included in this review was October 1, 2021.

Eversource announced in its March 15th biweekly report that western MA (WMA) and Greater Boston would be proceeding with another round of ASO studies. For the upcoming ASO study in WMA and Greater Boston, Eversource has worked with ISO-NE on obtaining preliminary study levels for all projects deemed complete by June 1, 2021. This information has been posted on Eversource's ASO website. All projects identified for the next WMA/Greater Boston ASO have been migrated into the PowerClerk portal to allow for more efficiencies in the study process. On August 26th Eversource sent out the formal customer notices requesting projects to opt in or out of the study, make a study payment and upload their modeling files/technical data. 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 are now working towards getting any modeling issues rectified, as needed. The modeling deadline for these customers to resolve any outstanding technical issues was October 15th. The Level 0 WMA and Greater Boston studies have officially commenced and those customers have started to receive monthly reports.

Eversource continues to explore, to the greatest extent possible, the ability for projects to have Level 0 studies. Since the inception of the current ASO study, applications for new projects have continued to come in the queue behind these projects, creating additional saturation on circuits across these same MA sub-regions. Currently there are 113 applications across these regions that have been identified as needing a potential ASO study with 32 in western MA and 81 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>

¹ An update to the study may be needed to address one of the substations that necessitates re-evaluation.

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 each region prior to assigning new projects in queue a transmission study level. 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.

Projects in the SEMA and Cape areas have begun screening for ASO study level determinations. This screening is reviewing all applications that were deemed complete by October 1, 2021 and Eversource has requested a response from ISO-NE on preliminary study level determinations by November 5th. All eligible projects in the Greater Boston and western MA areas have completed preliminary individual reviews by the transmission team and ISO-NE in support of the study level determinations concurrence process. Factors could impact these preliminary study level determinations, such as queue attrition and project size changes. At this time all study level determinations are completed for this project pool and Eversource held a customer kickoff meeting for the 2021 ASO study in WMA/Greater Boston on August 6th.

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 has recently received the PPA approval letters from ISO-NE for most of the SEMA/Cape 2019 ASO projects and has reviewed new applications in SEMA/Cape that have been deemed complete through October 1st. Eversource will be proceeding with a next round of ASO studies in the SEMA and Cape areas. For the SEMA and Cape projects, Eversource has submitted study levels for ISO-NE's concurrence, requesting a response by November 5th. Upon concurrence of study levels between ISO-NE and Eversource, there will be a SEMA/Cape customer ASO kickoff meeting scheduled. 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 PP5-3² 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 and will be automatically trued up upon completion of the studies.

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.

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 getting ready to be conducted. This is being done 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.

² https://www.iso-ne.com/static-assets/documents/rules_proceeds/isone_plan/pp05_3/pp5_3_final.pdf