

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 remaining ISO-NE Reliability Committee (RC) approvals received at the August 2021 RC meeting for 57 of Level 3 SEMA and Cape customers. There are 3 PPAs out of Assonet station that will require some additional analysis¹ that will be presented at a forthcoming RC meeting. When written approval of this study occurs in the form of letters from ISO-NE, new applications that have come into the SEMA and Cape areas will begin to be reviewed, likely in the September timeframe, for a future potential ASO. For customers who are considering submission of a new application, the cutoff for a potential next ASO study in the Cape and SEMA regions will be for applications deemed complete by 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-New England (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. Eversource held a study kickoff meeting with these customers on August 6th and meeting materials have been posted to the ASO website. All projects identified for the next WMA/Greater Boston ASO will be migrated into the PowerClerk portal to allow for more efficiencies in the study process. Since the kickoff meeting, a small handful of customers who did not have an existing account set up in PowerClerk have been requested to create an account to link their ASO project to a customer email address. With only 1 customer remaining that needs to establish an account, Eversource has sent out the formal customer notice requesting projects to opt in or out of the study, make a study payment and upload their modeling files/technical data within 10 business days. This notice was sent out on August 26th.

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 128 applications across these regions that have been identified as needing a potential ASO study with 32 in western MA and 96 in eastern MA. This total is a combination of new applications and prior applications that opted out of the ASO study announced in October 2019.

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.

All projects in the Greater Boston and western MA areas have completed preliminary individual reviews by the transmission team and have been provided information to ISO-NE in support of the study level determinations and 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.

Projects in the SEMA and Cape areas are targeted to begin screening for their potential ASO study levels in the September 2021 timeframe. For customers who are considering submission of a new application, the cutoff for a potential next ASO study in the Cape and SEMA regions will be for applications deemed complete by October 1, 2021.

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?

As noted above, the ASO studies have recently been completed in the SEMA/Cape areas and have been presented to the RC for approval. Eversource is awaiting approval letters from ISO-NE to begin reviewing new applications in SEMA/Cape and working with ISO to determine the need for a future potential ASO in these two areas. Greater Boston and Western MA projects will be proceeding in a next round of ASO studies and projects in SEMA and Cape will know if an ASO is required by October 2021. 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 reports as well as during the August 6th Greater Boston/western MA customer kickoff meeting, 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