

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. The ASO study underway impacts Eversource's Massachusetts service area in the Greater Boston, Upper Southeastern Massachusetts ("SEMA"), Cape, Springfield and Pittsfield regions and these regions will remain consistent for any future ASO study conducted. 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 the first group of projects presented. These projects have been notified of their study levels by their Account Executives and the information has also been posted on Eversource's website. Eversource will be submitting the second group of projects (remaining applications through June 1st) to ISO-NE for their preliminary study level determinations on Friday July 2nd. After hearing back from ISO-NE on this second group, Eversource will follow the same process of notifying these customers and posting the study levels to the ASO website. Eversource continues to explore, to the greatest extent possible, the ability for projects to have Level 0 studies.

Currently Eversource is in the process of completing its ASO Study announced on October 24, 2019 with the remaining ISO-NE Reliability Committee (RC) approvals expected to occur at the August 2021 RC meeting for the Level 3 SEMA and Cape customers. When completion of this study occurs, new applications that have come into the SEMA and Cape areas will begin to be reviewed for a future potential ASO in the September timeframe.

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 122 applications across these regions that have been identified as needing a potential ASO study with 30 in western MA and 92 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>

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 the current ASO study 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. For a project to be considered in the next Greater Boston and WMA ASO study to commence this year, applications must have been deemed complete by June 1, 2021.

The first group of projects in the Greater Boston and western MA areas have completed preliminary individual reviews by the transmission team for technical data completeness and have provided information to ISO-NE in support of the study level determinations and concurrence process. A meeting was held with ISO-NE to further discuss the methodology of proposed study levels and changes captured during this meeting have been incorporated in preliminary study level determinations for the first batch of projects in WMA/Greater Boston. Factors could impact these preliminary study level determinations, such as queue attrition and project size changes. Eversource has communicated study levels to customers for projects that were in the first batch discussed with ISO-NE and has posted study level information by project on the ASO website.

Eversource has submitted the second group of applications to ISO-NE on July 2nd that contains the newer applications that have come into the queue in these areas through June 1st. This second group of projects is still under review by ISO-NE for study level determinations. Once all study level determinations are completed and the remaining customers are notified, Eversource intends to hold a customer kickoff meeting for the 2021 ASO study in WMA/Greater Boston. The goal is to hold this meeting in the next few weeks. Projects in the SEMA and Cape areas are targeted to begin screening for their ASO study levels in the September 2021 timeframe.

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 still underway in SEMA/Cape need to be completed with RC approval before new projects' study levels can be proposed and finalized with ISO-NE. Pending a project's location, Greater Boston and western MA projects will be proceeding in a next round of ASO studies and projects in SEMA and the Cape will know if an ASO is required by September 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 Level 0 studies to cost around \$500/MW and take around 4 months from study commencement. 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.

Exact costs for 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 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. All projects, regardless of ASO study level, will require a PSCAD model be submitted for the 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.

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