

ASO Study FAQ

I received notification that my project requires an Affected System Operator (ASO) group study. The project's size is less than the minimum requirement described in the email I received. Why does my project require an ASO study?

Your project might be included in an ASO group study for one of two reasons. Either the aggregate impact of all projects in the area at the transmission station is 20 MW or more, or you have multiple smaller projects, which ISO-New England (ISO-NE) considers to be one project for this process.

What is a Level 0 study?

This level of study involves a transfer analysis that will indicate whether grid capacity and reliability will be impacted by interconnecting a project. A transfer limit study is required to ensure there is no degradation of transfer limits on key ISO-NE transmission interfaces. For planning purposes, level 0 studies typically take about 3 months.

What is a Level 3 study?

This level of study involves a steady state load flow, stability simulation, short circuit analysis and/or model validation to determine how a project impacts the transmission system. A level 3 transmission study is required when projects are 5MW or greater or when a project is between 1.01 – 5 MW and is located at a point where the aggregate impact at the transmission station is 20 MW or more. For planning purposes, level 3 studies typically take about 12 months to complete from the time they commence.

What is needed from distributed generation applicants in order to help get the ASO group study underway?

Both the applicant and Eversource need to complete several steps before studies can begin. These steps include:

- The applicant should attend the ASO Study Customer Kickoff Meeting for their project's study area. While attendance is recommended, it is not mandatory.
- Eversource will provide the applicant with the cost to conduct the ASO study.
- After reviewing the study cost, the applicant will opt in or out of the study in the given timeframe.
- Eversource receives payment for the ASO study.
- Additional technical information requested by Eversource is provided by the applicant.
- Each of the above steps needs to be completed by all customers in the ASO study before it will begin.

Will impact studies continue to be conducted during the ASO study process?

Eversource will continue to conduct distribution level studies (including Group Studies) under the guidelines of the tariff as approved by the Department of Public Utilities. The final distribution analysis may be affected by the results of the ASO studies.

Will Eversource continue issuing Interconnection Service Agreements (ISAs) for projects that are part of an ASO study?

No. Projects that are part of any ASO study will not receive an ISA until:

- All applicable distribution and transmission studies have been completed;
- Potential distribution and/or transmission system modifications are determined;
- Associated project costs have been determined.

Eversource will potentially move forward with distribution level studies and potentially issue an ISA for smaller projects 1 MW or less that are not behind any queued project going through an ASO study.

How does the payment timing for an ASO study relate to any results of ongoing Group Distribution Studies?

A Transmission Study or Affected System Operator Study (“ASO Studies”), and the Company’s Group Distribution Studies are administered under separate processes and the timing for payment and completion of each study are independent.

ASO Studies and the Company’ Group Distribution Studies do not always start and stop at the same time nor even have the same participants based on opt in/opt out decisions made by individual developers who were in the same or similar situation. Ultimately, both studies will follow their independent paths. However, both studies must be completed before the Company will issue an Interconnection Service Agreement.

It will be up to the Interconnecting Customer to decide their level of risk and investment that suits their timing.

FAQs From ASO Customer Kickoff Meetings

Is it possible to use the Level 3 results as a constraint for the developers to feed into inverter designs?

Eversource would like to perform the study with the developer design as the input. Based on the results of the studies, recommendations can be made for changes to site designs.

Regarding “Non-Exporting” projects, does this include projects with export prevention (i.e. 32 relay)?

No. Such projects still require operation in parallel with the system. This category is reserved for emergency generators which will only operate upon loss of system power.

If a project which is < 1MW causes reverse power flow at the substation, will it require an ASO study?

No. No projects < 1MW will be included in these current ASO studies (unless co-located together).

For projects that were previously anticipating an ISA in the near future, will they be prioritized in order to finish earlier or in a separate group from the other projects?

No. Eversource believes it is important to study all of the selected projects together. Separating a subset of projects that are ready to receive an ISA, except for the ASO study, could result in system upgrade costs being divided up by a much smaller group of customers.

How does offshore wind affect the ASO study?

Any FERC queued projects take precedent over non-FERC projects and will be incorporated in the base case, including any necessary system upgrades.

Regarding the projects and MW totals on the ASO Overview slides, how are the totals counted?

Totals for each of the Level 0 studies and Level 3 studies are based on the project size categories listed on the slide. For example, if a project is between 1 and 4.99 MW but connected to a station with >20 MW

aggregate generation, it is only applied to the Level 3 total.

Regarding the technical information required by developers for the Level 3 studies, can a project with a current output of >5 MW be derated to <5 MW to allow for the generic DER_A model to be used?

If the total size of a project is >5 MW, a specific PSS/E model is required for the Level 3 studies. If the total project size is derated to <5MW a generic DER_A model can be used for the Level 3 studies. Requirements for data for projects that are less than 5MW are included in the Technical Data Requirements document on the ASO website.

After completion of the Level 3 studies, is there additional time that must be considered for the potential identified upgrades to the system?

The ISA for each project will include all necessary upgrades required prior to allowing the interconnection.

How do these ASO studies affect projects being applied for today?

In general, any projects that did not make it into the ASO study kicking off or underway will not be studied at the transmission level until after the completion of all Level 3 ASO studies in the project's transmission area.

At what point is a PPA submitted to ISO-NE for Level 0 projects in the ASO studies?

The PPAs for all Level 0 ASO projects will be submitted upon completion of the studies, review of the results with ISO-New England and preparation of the PPA packages for the next RC agenda.

Is any consideration being given to the fact that some projects are less mature or less likely to move forward than others?

No. All projects in the study will be modeled as though they will move forward. This should not result in any necessary rework for the Level 0 studies but may require additional analysis during the Level 3 studies if multiple projects are withdrawn.

FAQs on Level 3 Studies

What happens to our project if we opt out of the Level 3 ASO? Does it remain in queue?

Your project will remain in queue but will not be able to receive an ISA until a transmission study is completed. Applications will continue to be processed and studied in the distribution queue. The benefit to opting into a Level 3 study at the first opportunity is the project will secure transmission capacity and be able to receive an ISA once both the Level 3 and the distribution studies are completed.

Are system impact studies proceeding during the ASO study?

Yes.

If a project opts out of the Level 3 ASO, do other projects that opt in that are behind them in the distribution queue get to "leapfrog" ahead of those who have opted out?

Any project that opts into the Level 3 ASO and has their distribution study completed will receive an ISA once both the transmission and distribution upgrade costs are known. If a project opts out of the ASO and completes only a distribution study, they will not receive an ISA until a transmission study is completed.