

Chapter 324 Transmission FAQ

(1) Is there currently DG saturation that is signaling the need for ISO-NE Level 3 studies and how does CMP notify projects of their inclusion in a Level 3 study?

CMP examines each project from the ISO-NE i.3.9 perspective. No project seeking distribution interconnection is immune from potential consideration under Section i.3.9 of the ISO-NE Tariff. Per ISO-NE, if a project exceeds 5 MW (individually or in aggregate with the projects before it), it will be subject to some form of additional scrutiny. ISO-NE is the final authority on what transmission study is required to receive the necessary i.3.9 approval.

In general, projects in aggregate exceeding 5 MW will require some form of short circuit and steady state or transfer analysis submitted to the ISO-NE. A project individually exceeding 5 MW will require some form of short circuit and steady state or transfer analysis as well as testing of its stability model. A project individually or projects in aggregate exceeding 20 MW will require stability analysis and undergo a Level 3 study. CMP will make those projects aware of these triggering thresholds at their scoping meeting and let them know if they are the 5th or 20th MW at that time. One caveat to this, per recent clarification from ISO-NE, the 5 MW and 20 MW individual or aggregate thresholds are determined at a 115 kV level transmission level as opposed to a 34.5 kV transmission level. Projects with scoping meetings held beginning in March 2020 have been informed of this clarification.

CMP will notify participants at the start of each 20 MW and above aggregate Level 3 study that the study has commenced. The notification will include the projects included in the study and any data requests necessary to complete the study.

(2) How do ISO-NE study requirements factor into Ch. 324 timelines?

The timelines for ISO-NE related studies are not factored into the Interconnection Agreement (IA) data filed with the PUC. The i.3.9 process is independent of the Ch. 324 process. CMP sees each project to IA completion in accordance with the Ch. 324 timelines, including the determination of any required distribution system upgrades. This determination will not necessarily include any additional system upgrades that are determined necessary pursuant to an ISO-NE i.3.9 study. If a project has not completed its i.3.9 review or received approval at the Reliability Committee, CMP will enter the following verbiage as an exhibit in their IA:

Additional Utility Study, ISO-NE i.3.9, and Reliability Committee Approval:

Both Parties agree that this Interconnection Agreement is not valid and permission to operate will not be granted by the T&D Utility until the Interconnection Customer has:

1) Completed any T&D Utility required transmission study, including but not limited to noncomprehensive, cluster, or regional studies, and agreed to any resulting upgrades required to interconnect;



2) Completed the ISO-NE i.3.9 process and agreed to any resulting upgrades required to interconnect;

3) Upon completion of the i.3.9 process, received approval at the most immediately available Reliability Committee meeting;

The Interconnection Customer may delay payment for upgrades called for in Chapter 324 until the Interconnection Customer's Small Generator Facility has been approved by the NEPOOL Reliability Committee. Upon Reliability Committee approval, payment shall be made in accordance with Chapter 324 and this Interconnection Agreement.

(3) What are the types of studies performed on the transmission system and what are their timelines?

CMP performs a transmission assessment on all interconnection requests. The Company is required to ensure the reliability of the transmission system. This can be compared to an ISO-NE Level 0 review for no adverse impact. If there are no adverse impacts observed and the project does not trigger an aggregate 5 MW or 20 MW ISO-NE threshold, CMP proceeds with a Level 0 notification form to the ISO-NE.

It is CMP's understanding that "non-comprehensive studies," triggered at the aggregate 5 MW threshold, are not official Level 3 analyses and therefore, vary by transmission company. They serve to support each transmission owner's assertion that the project in question will not adversely impact the reliability of the transmission system. CMP's current "non-comprehensive study" involves a steady-state analysis of the system under peak and shoulder conditions for a selection of generation dispatches depending on the area. Contingencies include both N-1 and N-1-1 and results are assessed per AVANGRID's transmission planning criteria. ISO-NE transfer targets are respected as well. A "non-comprehensive study" can take 4-6 weeks to complete. Delays are typically attributable to preceding studies that must be completed first. This does not include ISO-NE review and approval time.

A Level 3 study is like an Impact Study per Schedule 23 and takes approximately 60 days to complete. Delays are typically attributable to preceding studies that must be completed first as well as the scope of the study and the quality of the models provided. This does not include ISO-NE review and approval time. If a Level 3 study is triggered in an area, projects with prior i.3.9 approval via a Level 0 notification form or use of a "non-comprehensive study" will necessarily be included because they contributed to the 20 MW aggregate. However, they will not be assessed a study cost or a cost of any resulting transmission upgrades. These will be allocated to those projects triggering the Level 3 study need that have not yet secured i.3.9 approvals.

Non-comprehensive studies and Level 3 studies rely, to the extent reasonably practicable, on existing transmission planning assessments performed during a project's Ch. 324 Impact Study. As with restudying a project for a material modification, CMP will not double-charge a developer for study work performed earlier in the Ch. 324 process when completing additional i.3.9 study work.



(4) Why are projects with applications submitted after mine studied first (and why do I have transmission upgrade costs when they do not)?

As projects send in their completed applications, they are assigned a project tracking number (PRJ###).

CMP studies these projects in parallel as each project executes a study agreement. Otherwise, the projects that submitted applications subsequent to the project at issue would have to wait through all of the Ch. 324 timelines until there was an executed IA before commencing and very few projects would complete the Level 4 process for the MPUC procurement deadlines.

Projects are only queued at a substation level. From a distribution perspective, queuing projects at the substation level addresses potential distribution planning criteria violations from the circuit level through the substation transformer.

Example:

Project 1 at Substation A, 4.99 MW Project 2 at Substation B, 4.99 MW Project 3 at Substation A, 4.99 MW, becomes QP 2 at A Project 4 at Substation B, 4.99 MW, becomes QP 2 at B Project 5 at Substation C, 4.99 MW

These five projects enter the Level 4 queue in the order they are numbered. If PRJ1 executes a study agreement immediately, it is studied and network upgrades are identified. PRJ3 must wait until PRJ1 executes its IA before it is studied and may cost share in potential network upgrades if identified or it may trigger its own set of upgrades.

Next, PRJ5 gathers its paperwork and has its scoping meeting and executes its study agreement. Its study and identification of associated network upgrades will be completed before PRJ2 or PRJ4 and potentially PRJ3 depending on timing.

Then, PRJ2 executes its study agreement and proceeds through the Ch. 324 process and timelines. For this example, PRJ2 may trigger a transmission issue because there is now at least 15 MW of DG on the system (PRJ1, PRJ5 and PRJ2 at a minimum). Once PRJ2 executes its IA, PRJ4 will start its study. It will be informed if there are any D or T network upgrades which it could cost share per the latest Ch. 324 requirements.

In addition, each project will be responsible for any additional T costs that are identified from the i.3.9 process. By sharing known transmission results at or near the Ch. 324 Results meeting, projects can make informed decisions as to how they will proceed. As with restudying a project for a material modification, CMP will not double-charge a developer for study work performed earlier in the Ch. 324 process when completing additional i.3.9 study work.

(5) Will other studies (distribution level) be progressed while studies in the Level 3 transmission study process are ongoing?



Yes, the i.3.9 process will not impact the Ch. 324 timeline for any project.

(6) Is there a tracking mechanism of the aggregate projects on a 115 kV substation or electrically close group of 115 kV substations that their Level 3 determination is based on?

Yes, the public Ch. 324 Level 4 project tracker has been updated to include columns indicating type of transmission study required, 115 kV supply substation(s), and i.3.9 approval status.

(7) When a Level 3 aggregate study is initiated, which projects are included in the Level 3 study?

All projects with executed study agreements whose capacity exceeds 20 MW in aggregate at the 115 kV substation(s) and require the Level 3 study for their i.3.9 approvals are included in the Level 3 study when it commences.

(8) Is there a separate transmission study agreement?

No, transmission study work is considered part of the initial study agreement.

(9) How are transmission study costs shared?

Transmission study costs are allocated to each project per the time spent. For those projects in an aggregate Level 3 study, study costs are allocated on a per MW output understudy basis. Transmission study costs will be reconciled with the Distribution study costs upon completion of the transmission study process.

(10) How are transmission upgrade costs shared?

Transmission upgrade costs are allocated to each project that triggered the upgrade need. For those projects in an aggregate study, transmission upgrade costs are allocated to each project on a per MW understudy basis. No costs will be allocated to projects that have already secured i.3.9 approval even if they are included in an aggregated study.

(11) Does Ch. 324 "behind the meter" generation require an ISO-NE transmission study, i.e. Ch. 324 Level 3 generator interconnection applications?

Yes. Per ISO-NE, a Generation Proposed Plan Application and Level 3 analysis is required for a proposed generator that will operate at 5 MW or greater whether it is in the ISO market or not if it will operate in parallel with the transmission owner's system. This includes facilities that are part of a retail transaction or serve as a behind-the-meter load reducer. The TO [transmission owner] at the point of coupling with the generator or load where the generator is connected would submit the Application if the generator owner is not a Market Participant.