



February 6, 2023

To: NYISO System and Resource Planning and NYISO Transmission Planning Advisory Subcommittee
10 Krey Boulevard
Rensselaer, NY 12144
Cc: Kirk Dixon & Thinh Nguyen

Subject: Enel North America's Comments on 2023 Interconnection Queue Reform

Enel North America ("Enel") appreciates the opportunity to provide comments to NYISO and the Transmission Planning Advisory Subcommittee ("TPAS") on NYISO's proposal to continue to improve the Interconnection Process in 2023. Enel agrees that reforms are necessary to enable the state to achieve its ambitious clean energy goals and commends NYISO's effort to seek process efficiencies. Interconnection queue reform has been a priority for our business for the past several years, and we have worked diligently with other RTO's and federal agencies to improve interconnection processes across the country. We provide the following suggestions to NYISO for consideration of procedural changes that should increase the processing speed of the interconnection queue and provide much-needed certainty to interconnection customers earlier in the interconnection process. We believe that developers, utilities, and NYISO must work together to achieve these ambitious targets and look forward to working with the NYISO and other stakeholders on this project in 2023.

As part of the national conversation regarding interconnection reform¹, Enel published a working paper titled "Plugging In: A Roadmap for Modernizing and Integrating Interconnection and Transmission Planning" developed by our transmission and regulatory teams. The paper describes an alternative to the interconnection process that integrates the transmission planning and generation interconnection processes. We believe that this process would effectively consolidate these two processes, offering the region new-found efficiency, and address the root causes of the problems with the transmission planning process today. We have submitted this working paper to NYISO along with these comments and urge NYISO to review and evaluate the merits of such an approach as a means of accelerating the deployment of clean energy in pursuit of the ambitious state goals.

However, we recognize that adopting such a proposal would represent a broader change in the transmission planning process than likely contemplated in the 2023 interconnection reform effort proposed by NYISO at the TPAS. So, in addition to our working paper, Enel also submits the following comments focused solely on the interconnection process which echo the comments that Enel submitted in response to the Federal Energy Regulatory Commission's ("FERC") Notice of Proposed Rulemaking ("NOPR") on "Improvements to Generator Interconnection Procedures and Agreements."² Enel proposes that NYISO consider implementing a three-stage cluster study process similar to the processes recently

¹ See "Building for the Future Through Electric Regional Transmission Planning and Cost Allocation and Generator Interconnection," 176 FERC ¶ 61,024 at P 183 (2021). Available here: <https://www.federalregister.gov/documents/2021/07/27/2021-15512/building-for-the-future-through-electricregional-transmission-planning-and-cost-allocation-and->

² Improvements to Generator Interconnection Procedures and Agreements, 179 FERC ¶ 61,194 (2022).

implemented by SPP, MISO, and PJM³. We have provided a detailed list of key characteristics common to the other three-stage cluster study processes implemented by other RTOs below. We note that MISO, which implemented the three-stage process first, has nearly caught up with their studies. Now, MISO's primary source of delay is waiting for affected system studies from neighboring transmission providers who did not adopt similar changes quickly enough.

From our experience in SPP, we believe that NYISO's current serial SRIS to Class Year study process is unsustainable for developers and eventually will be ineffective for NYISO to facilitate the State's clean energy ambitions. The procedures that were in place in SPP prior to their queue reforms were very similar to the structure of NYISO's process today. SPP continually ran impact studies and restudies of the semi-annual clustered cycles of generation requests. Apart from a refundable security deposit of \$3000 per MW after the initial impact study, no additional security or milestones were required between the time the first impact study was complete and 30 days after execution of the GIA. As no additional commitment was required to proceed, cycles of generation were regularly studied between five and eight times with a couple requests withdrawing after each re-study and with some requests even withdrawing shortly after negotiating and executing the GIA. This triggered additional re-studies that resulted in processing times of multiple years. NYISO's process today faces similar patterns of repetitious restudy resulting from a lack of firm financial commitment associated with each study completion and decision to move forward (notably due to the time gap allowed between the decision to proceed and the payment of security). Multi-year study cycles make development difficult and could create barriers for renewable energy development. SPP is now making significant strides in processing their queue without unnecessary restudy by switching to a phased cluster study approach. But even so, SPP has been hindered because reforms were not implemented until SPP had many years of backlogged cycles of generation, highlighting the importance of making these changes quickly to avoid the compounding effect of delayed reforms.

The three-stage cluster study process implemented by other eastern RTOs is effective in eliminating many inefficiencies of queue processing by balancing commitments from generators with increased certainty in study results. Currently, without knowing the other interconnection requests that a generator will be studied within the Class Year, SRIS results have limited value as they do not provide a complete picture of the upgrade costs a generator must fund in order to interconnect. The three-stage cluster study process brings clustering to the beginning of the study process so that generators know from the start the location and size of other generators that they will be studied with, providing a clear picture early in the study process. Each additional study phase restudies the original results based on cluster attrition and adds additional more detailed studies (such as dynamic stability, facility level cost estimates, and others). In this way, the certainty of results increases throughout the phases and fixed exit points are created. The orderly withdrawal of projects at set decision points prevents lingering in the queue and reduces study volume by NYISO and its transmission owners.

In exchange for the increased certainty in study timing and results under a fixed-cycle cluster approach, we propose that interconnection customers would need to commit to providing a portion of their allocated upgrade costs as security shortly after the conclusion of the initial system impact studies and would need to place prior security deposits "at-risk" of forfeiture to protect other projects that may be harmed by withdrawal. This increases the commitment for generators to stay in the queue, encouraging only projects

³ See the following process documentation for other eastern RTOs outlining their new interconnection processes.
SPP: <https://efis.psc.mo.gov/mpsc/commoncomponents/viewdocument.asp?DocId=936317094>
MISO: <https://cdn.misoenergy.org/GI%20Process%20Flow%20Diagram106549.pdf>
PJM: <https://www.pjm.com/-/media/committees-groups/committees/mc/2022/20220427/20220427-item-01a-1-interconnection-process-reform-presentation.ashx>

that are ready to move forward to remain in the next phase of the study. Other development milestones may also be required at these decision points to further discipline the queue and ensure projects are moving forward in their development, but these need to be thought through carefully to ensure that these milestones are consistent with commercial development timelines.

While these additional commitments are intended to discipline the queue, some flexibility must necessarily be granted to interconnection requests to modify size, change service types, propose technological advancements, and other limited modifications. These changes are necessary not because customers are not ready to enter the queue, but because an efficient three-stage cluster study process should function as an optimization algorithm, allowing projects to optimize their project characteristics in accordance with the other generators in the cluster study and the results of the analysis. Decision points later in the process should offer less flexibility but still allow projects to continue to optimize project size to a lesser degree according to study results. This creates an orderly modification process which can be studied along with any withdrawals which occur, instead of relying on ad-hoc restudies.

Overall, Enel believes that a carefully designed three-phase cluster process provides certainty that is missing from the NYISO interconnection process today. The following is a list of features from the three-stage cluster processes of neighboring RTOs that we have found to be the most successful. Note, this is does not represent an exhaustive list of all best practices.

- One fixed-date annual queue entry window will reduce the volume of requests in each given study cycle and provide more certainty surrounding study entry dates.
- Stepped securities due with notice to proceed at the decision point between each study phase, encouraging only projects ready to proceed to commit to the next phase of study and ensures timely withdrawal decisions at organized off-ramps.
- The amount “at-risk” security increases with each phase of the cluster, creating a larger pool of funds to protect customers harmed by withdrawals.
 - Common practice is \$4000/MW for queue entry, 10% security at end of first study, and 20% security at end of second study. Security due with decisions, though cure periods still apply (we are all human, after all). Existing 100% security due after third and final study completion and before interconnection agreement negotiation. New deposits become at-risk at the subsequent decision point.
- Additional development milestones due with the notice to proceed to commit to the next phase of study to ensure project readiness
 - Partial site control of generator tie lines due at interconnection application, and increasing requirements as studies progress
 - Appropriate acreage requirements for all generation types due at initial interconnection application
 - The RTO or a third-party vendor to validate site control with appropriate restrictions and verification. However, Enel opposes the use of Power Purchase Agreements or other similar forms of project sale arrangements as a milestone for avoiding security payments. Enel believes that the use of commercial agreements to demonstrate readiness to enter the queue will inevitably result in significant interconnection cost and schedule risk being born by either the developer or by the off-taker. This results in unexpected costs, unmet contract obligations, off-take customers missing energy goals, and broken contracts and their associated break fees. It is much better to encourage developers and generation buyers to sign contracts based on known interconnection costs and schedules.

- Simplified phase one studies
 - Power flow only, potentially short circuit ratio (SCR) studies if weak grid conditions may be an issue, to increase the speed of the initial phase while identifying most of the significant upgrade costs. This study should provide information that can be used as a basis for project optimization and withdrawal of uneconomic projects.
- Complete re-studies plus initial facility studies in phase 2
 - Re-study impact studies, add dynamic stability, short circuit and other studies. Complete an initial facility studies (detailed cost estimates) for connection facilities to spread the engineering design work by transmission owners across multiple phases of the study which produces a steadier flow of work.
- Final impact studies plus all facility studies in phase 3
 - Re-study of full cluster impact studies plus facility studies of all final upgrades based on final interconnection customer mix
- Penalty free withdrawal for interconnection requests which experience significant total allocated cost increases (including affected systems) between study phases to encourage timely withdrawal. Without this feature, projects may linger in the queue in hopes of improved results since their funds will be forfeited anyway.
 - Penalty free withdrawal also provides some degree of certainty to an interconnection customer to ensure that their results will remain within a certain tolerance or that they will be allowed to cancel their request without interconnection penalties.
- Designated windows and limits for project size reductions and design modifications to facilitate efficient processing of changes. Common reduction allowances are 60%-100% after phase 1 and 10-15% after phase 2. Size reductions after that point are allowed but do not relieve generators of their allocation towards upgrades shared with other generators.
 - Note that this will not fully eliminate modifications (subject to materiality considerations). Wind, solar and battery power plants can often be engineered, procured, and constructed by a developer faster than transmission upgrades can be built by a utility following execution of the interconnection agreement. Thus, it is impractical to assume that interconnection requests should have final technology selections and design while in the study process. Forcing early procurement of technology in a rapidly advancing industry may decrease the reliability and efficiency of the equipment and/or increase cost. Each of these outcomes is negative for consumers.

We note that while other ISOs have struggled to find appropriate transition mechanisms to fairly process large backlogs of projects, NYISO could move directly into a three-stage process by sequencing it to begin immediately following the current Class Year. This would provide a seamless transition to the new process, so long as it does not materially impact the interconnection study timelines for projects that have already completed a significant portion of their interconnection process.

Again, we appreciate the opportunity to provide these comments and are looking forward to participating in the discussions regarding these changes at the upcoming committee meetings. Enel has extensive experience working on similar interconnection issues across the country and is looking forward to bringing that perspective to the table. Lastly, we would be more than willing to review our suggestions with NYISO staff and answer any questions from the NYISO, so please do not hesitate to follow up with the team below.

Sincerely,

Alex Worsley

Senior Manager

Regulatory Affairs

Enel North America

Alex.Worsley@enel.com

Aaron Vander Vorst

Head of Growth Strategy & Transmission

Business Development

Enel North America

Aaron.Vandervorst@enel.com

Mario Hayden

Director, Transmission

Business Development, Transmission

Enel North America

Mario.Hayden@enel.com