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August 23, 2022

Mr. Richard Dewey
President and CEO
The New York Independent System Operator
Albany, NY

Dear President Dewey:

On January 11, 2022, several members of the Alliance for Clean Energy New York (ACE NY) team met with your senior staff to discuss a range of timely subjects relevant to both the NYISO and ACE NY. We appreciate the time that your staff took to discuss several issues critical to the continuing development of wind, solar, and storage facilities here in New York State.

Chief among the topics discussed were the current delays in the interconnection process, both in the class year and in the steps that occur prior to a project entering the class year. Again, we appreciate that your staff also recognized the seriousness of the current delays and expressed an openness to explore any potential solutions to the interconnection delays caused by reduced staff at the NYISO, by the high number of clean energy projects requesting interconnection, and by a lengthy and complex interconnection process.

ACE NY has since formed an ad hoc subcommittee to discuss possible solutions to the interconnection delays. This subcommittee proposed a project in the NYISO annual Budget Priorities Working Group (BPWG) process which was then reviewed and ranked by the NYISO. We look forward to this project (*Interconnection Process Enhancements*) being a part of NYISO's workplan for 2023, as this issue is critical to the success of renewable project development and achievement of New York's climate goals.

We were heartened that the issue of interconnection process delays was frequently mentioned during the June NYISO meeting in Lake George, and again, we appreciate your attention to this important issue.

Our subcommittee has been discussing process improvement ideas that would require a tariff change, as well as those that would not require a tariff change. I wanted to forward the attached list of process improvements that would not require a tariff change. We hope your team finds this list helpful, and we look forward to the opportunity to discuss these recommendations with NYISO staff soon.

Sincerely,

Anne Reynolds,
Executive Director

Potential Improvements to NYISO Interconnection Process
That Would NOT Require a Tariff Change

The Alliance for Clean Energy New York (ACE NY) appreciates that dramatically increased amounts of interconnection requests due to interest in the development of wind power, solar power, energy storage, offshore wind power, and transmission projects, combined with limited staff, a tight nationwide labor market, and a lengthy and complex interconnection process is putting stress on the New York Independent System Operator (NYISO) and causing delays in the interconnection process. These delays are a serious issue, creating a barrier to project completion and thus progress towards the State's clean energy goals.

ACE NY also appreciates that the NYISO has recognized this issue and is serious about tackling it. ACE NY proposed an interconnection process enhancements project for the 2022 Budget and Priorities Working Group (BPWG) stakeholder voting exercise. We appreciate that the NYISO included this proposed project in the BPWG proposed project list and ranked it as #2 of 24 projects. This project has been supported by a significant number of NYISO stakeholders and we are glad it will become a new priority project in 2023, in which a range of tariff changes will be explored to overcome these delays and make the process as efficient as possible without sacrificing any reliability or safety analyses. We believe this can be fully in keeping with the recent Federal Energy Regulatory Commission (FERC) Notice of Proposed Rulemaking (NOPR) on this same topic.

In advance of that more formal effort, ACE NY also wants to put forward a short list of potential improvements that would not require a change to the NYISO tariff and would therefore offer the possibility of more rapid implementation. We respectfully request that the NYISO consider these suggestions, which are discussed in more detail below:

1. **Allow the Use of Consultants to Expedite Base Cases and Conduct Power Flow Modeling in the SRIS Process, especially for the power flow model and Power System Simulation for Engineers (PSSE) dynamic model testing and for the development of study cases.**
2. **Increase Transparency with Respect to Class Year Deliverability by earlier involvement of project developers in the identification of System Delivery Upgrades.**
3. **Improve the Portal to Further Enhance Process Transparency and Communication, especially with respect to deadline notification and visibility; information depository; and use of templates.**
4. **Provide Feasibility Information at Initial Feasibility Study Meeting.**
5. **Provide SRIS Sensitivity Studies for Nearby Projects.**
6. **Use New Collaboration Tools to Complete Generator Interconnection Agreements.**
7. **Enhance Workforce Hiring and Retention for NYISO and Transmission Owners**

<p>1. Allow the Use of Consultants to Expedite Base Cases and Conduct Power Flow Modeling in the SRIS Process, especially for the power flow model and Power System Simulation for Engineers (PSSE) dynamic model testing and for the development of study cases.</p>
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After a project's System Reliability Impact Study (SRIS) study scope has been approved by the NYISO Operating Committee, there are several processes that the NYISO then follows before the project's SRIS is ready to be contracted to either a 3rd-party consultant or drafted internally by NYISO engineers.

During this phase of the SRIS's lifecycle, developers are experiencing significant delays (6-12 months) on their projects. One consistent cause of delay that NYISO staff have communicated is the lack of NYISO engineers to prepare and process the project's SRIS materials for commencement. As the number of projects entering the Interconnection Queue is expected to continue growing, alternatives to increasing staffing at the NYISO may need to be considered.

There are two NYISO processes at this stage which developers have identified are causing delays:

- Power flow model and Power System Simulation for Engineers (PSSE) dynamic model testing
- Development of study cases

Delays during this phase of the SRIS can have significant impacts on a project's development schedule. In particular, the requirement that a project have a completed SRIS in order to enter the Class Year study means that even a small delay during the SRIS phase can trigger a larger 2-3 year project delay should it fail to have its SRIS completed in time for the Class Year. Similarly, a completed SRIS is necessary to submit an application to the New York Office of Renewable Energy Siting (ORES), so this delay also affects the permitting schedule.

Many developers are staffed with experienced electrical engineers who would be qualified to support the NYISO during this data preparation stage of the SRIS. Additionally, many of NYISO's currently approved 3rd-party consultants are qualified to complete this work, which could be done in a more expedient manner.

If NYISO engineers were to provide detailed guidelines for consultants and developers to adhere to, this data preparation could be completed externally. Time would still be required of NYISO staff to administer and review the data submissions; however, this would be significantly less of a resource drain compared to NYISO completing all the work internally. All costs for power flow modeling and base case development could be borne by the developer.

ACE NY would like to propose that developers be permitted to prepare and submit the following deliverables to the NYISO after a project's SRIS study scope has been approved by the Operating Committee:

- Power flow models, change files. Developer would provide power flow models (dynamic and steady state) change files for the project in .raw, .dyr, and .idv formats, in addition to the typical modeling data. Models will be tested in PSSE per NYISO standards to observe whether parameters need to be tuned. The developer will tune parameters of models to comply with NYISO requirements.
- Study Cases development. NYISO will provide the developer with processes and tools for developing the base cases for the SRIS study. The developer or the developer's consultant will prepare the study cases needed to support the SRIS study and submit them to NYISO.

If developers are permitted to prepare and submit the two deliverables described above to the NYISO after a project's SRIS study scope has been approved by the Operating Committee, the process should proceed more efficiently.

Taking it one step further, ACE NY also proposes that the NYISO allow developers to hire third-party consultants to perform the actual SRIS studies themselves. While this is authorized in the tariff (Section 30.7.2.1), it is ACE NY's understanding that the NYISO has not been supportive of such an approach in recent years. If third-party consultants, hired by developers, could be used to perform SRIS studies, it could reduce the burden on NYISO staff to arrange for such consultants, and streamline the process.

2. Increase Transparency with Respect to Class Year Deliverability by earlier involvement of project developers in the identification of System Delivery Upgrades.

As part of the Class Year Study, NYISO staff performs a Deliverability Study, in cooperation with Market Participants, to determine whether System Deliverability Upgrades (SDUs) are required for Class Year CRIS Projects under the NYISO Deliverability Interconnection Standard. During the initial identification of SDUs, NYISO staff do not usually seek input from market participants but only communicate the preferred SDU solution and cost to individual developers that are impacted by the SDU. In communicating the preferred SDU solution and cost to the impacted developers, NYISO Staff do not provide those developers details of the process and criteria that were used to determine the preferred SDU solution – this has previously made developers feel that the Class Year Deliverability process lacks transparency.

ACE NY would like to propose that once NYISO staff identifies a need for an SDU during the Class Year Study, NYISO staff should involve the market participants in the SDU identification process. After the NYISO completes analyzing the various alternative solutions and identifies a preferred

SDU solution and cost of that SDU, ACE NY would also like to propose that NYISO staff should share with the Market Participants the process and criteria that was used to select the preferred SDU solution.

This proposed improvement will help enhance transparency in the Class Year Study SDU identification process. The proposed improvements also have the potential to minimize questions from the market participants regarding the NYISO proposed SDU, which should speed up the overall process.

3. Improve the Portal to Further Enhance Process Transparency and Communication, especially with respect to deadline notification and visibility; information depository; and use of templates

Project developers have experienced delayed or no responses to requests for project status, especially in the SRIS process. For a project developer, it has become a time-consuming and frustrating exercise to call and email NYISO staff to get answers regarding the status of their projects. We assume this is equally frustrating for NYISO staff who do not have the time to communicate this information as well as make progress on the interconnection process itself.

To address this problem, we understand that the NYISO is pursuing dedicated employees for this communication, *i.e.*, to respond to interconnection process and tariff related questions, particularly project status, in order to leave the technical engineering staff the time to focus on that work. As we understand it, NYISO has expressed interest in pursuing this approach and we reiterate our support.

The recent changes to the Interconnection Projects Portal have been a great improvement, and ACE NY would like to express our full appreciation for those improvements. We also would like to propose additional enhancements to the portal in three areas: deadline notification and visibility; information depository; and use of templates

- ***Key deadline notifications and visibility.*** Currently, interconnection customers get a single email from the portal when they have a deadline (for example, to select a study type after the scoping meeting). It would be good to have at least two of these notifications, one at the beginning of the window, and an additional reminder the last day of the window (similar to what PJM does with Queue Point). In addition, it is not currently possible for a user of the portal to tell which interconnection requests have an open deadline from the main page that summarizes all existing requests. Users must navigate individually to the Action Required tag on each application to get this information. We recommend that the status tag in the main page be updated/modified to show the fact that a project is pending a selection of a study type or agreement execution, showing the deadline date.

- ***Improved information depository.*** Again, we sincerely appreciate that this has been improved recently, but an additional area for improvement would be to add key modeling information to the platform, so interconnection customers can confirm what is the latest modeling information NYISO is using in their studies. While the interconnection customer is responsible for providing accurate information and maintaining it, the interconnection process takes several years, so having the latest information in the portal can help in making sure the right information is being used in case there are changes on the interconnection customer point of contact. This is especially important for Power System Simulation for Engineers (PSS/E) models, in light of the latest NERC recommendations for dynamic modeling information. As part of this recommendation, we would also suggest properly documenting any material modification in the Portal itself.
- ***Use of templates to populate information.*** Every time an interconnection customer creates an Interconnection Request or a Critical Electrical Infrastructure Information (CEII) request to add a project member, that customer needs to write the information. This could be improved by having the option to export data from other applications for certain repetitive information, such as project members, wind turbine or inverter data, or company information.

4. Provide Feasibility Information at Initial Feasibility Study Meeting.

Another issue in the current interconnection process is the cancellation of multiple projects' Feasibility Studies (without full refunds of deposits), due to four- or five-month delays in Feasibility Studies base case finalization. In this case, a project developer must jump immediately to the SRIS. Feasibility Studies, if not so riven with delays, could allow a project to explore multiple points of interconnection (POI) routes at a time, and delays can upend this, eliminating the ability to more fully de-risk each option without risk of missing future Class Years.

In terms of solutions, our first thought is that it is a staffing constraint issue causing delays in FES base case finalization.

ACE NY would like to suggest another approach to this issue that could improve efficiency. If the NYISO was to develop a template to be used at every initial scoping meeting regarding the POI in question, this could standardize and streamline information exchange between the TO, the generator, and the NYISO. That is, the TO would provide a standardized list of information to provide visibility to the available space, such as the number of bays, a map of fence lines and property limits, any ongoing expansion plans at that location, etc.

5. Provide SRIS Sensitivity Studies for Nearby Projects

As per the NYISO Tariff Attachment X, the Interconnection System Reliability Impact Study (SRIS) is defined as an engineering study that evaluates the impact of the proposed Large Generation Facility or Class Year Transmission Project on the safety and reliability of the New York State Transmission System and, if applicable, an Affected System, to determine what Attachment Facilities, Distribution Upgrades and System Upgrade Facilities are needed for the proposed Large Generation Facility or Class Year Transmission Project of the Developer to connect reliably to the New York State Transmission System or to the Distribution System in a manner that meets the NYISO Minimum Interconnection Standard. If NYISO determines that a preliminary non-binding deliverability evaluation is required, the SRIS also performs the deliverability evaluation under the NYISO Deliverability Interconnection Standard.

NYISO usually performs SRIS studies for a single project although, under the tariff, the SRIS studies can be clustered at NYISO's option. In some cases, NYISO performs sensitivity studies to determine the collective impact of projects in the queue that are at the same level in the interconnection process and are in the same area. These sensitivity studies are limited to power flow, short circuit and stability analysis; they do not address the potential physical feasibility challenges of interconnecting many projects to a single POI or to POIs that are near each other. The problem of physical feasibility is left to the Class Year (CY) studies.

As an improvement to the Interconnection Process, ACE NY would like to propose that SRIS sensitivity studies be performed to evaluate any physical feasibility constraints that would arise from projects that have the same proposed POI or projects whose proposed POIs are near each other.

As you well know, NYISO has witnessed a significant increase in the number of renewable projects in its queue that are being proposed to meet the NY state climate law's mandates. Many of the renewable projects are in the same geographical area with the same POIs or their POIs are near each other. Because the SRIS studies are performed for a single project, and any SRIS sensitivity studies do not evaluate the physical feasibility constraints of connecting many projects at one POI, this has started being a problem to the CY study process resulting in unforeseen delays to the process.

NYISO recently reported to its Stakeholders and to FERC that one of the causes of delay of the CY21 was the technical challenges resulting from multiple projects proposing the same POI or POIs that are close to each other. NYISO reported that Transmission Owners and NYISO had to take a long time to identify feasible POIs for projects that were competing for same POI. ACE NY believes that this proposed improvement will help speed up the CY process by identifying any POIs challenges and mitigation solutions early enough at the SRIS stage before the projects progress to the CY studies.

6. Use New Collaboration Tools to Complete Generator Interconnection Agreements

The Generator Interconnection Agreement (GIA) negotiating process requires legal, commercial, and technical terms to be negotiated by representatives that possess that skillset. The complexity brought on by the number of stakeholders involved and the content of the GIA is exacerbated by the quality of the collaboration tool. Specifically, Word document drafts traded via email among multiple editors has proven to be inefficient. The unpredictable timing of the execution-ready version of the GIA causes the very detailed milestone schedule to be frequently revised, potentially leading to even more administratively burdensome revisions to the GIA. This is a self-propagating process that leads to almost inevitable delays. ACE suggests that NYISO's explore the adoption of collaboration tools to ease the administrative burden of document sharing, version control, and permissions to break this self-propagating delay, such as SharePoint for documentation control and collaboration tools such as Smartsheet, Primavera, or other software to streamline the GIA process.

7. Enhance Workforce Hiring and Retention for NYISO and Transmission Owners

The renewable energy industry is truly sympathetic to the challenges that the NYISO and TOs face in hiring, developing, and retaining talent. A clear solution to many of the various components of the interconnection delays would be to hire and train more staff, but we understand that is both occurring now, and remains challenging. We also highlight that there is a public benefit to the NYISO and TOs having sufficient and qualified staff levels and there may be a role for public funds to assist in this, such as by developing targeted programs to develop the talent pool, focusing on NY-based schools like the Rensselaer Polytechnic Institute and SUNY system, to cultivate the ongoing human capital needs of the New York Transmission System, a strategic asset to national security. We also support the NYISO and NYTOs being authorized to increase their budgets for talent development, retention, and recruitment.

Additional staff could help, for example, with the various delays in the SRIS process: delays in receiving the modeling data form and study deposit email after the scoping meeting; delays in commencing the studies after modeling data submission and deposit payment; delays in releasing study scope documents; delays preparing study cases for review (this could be addressed by using project developers' consultants as suggested above); significant delays in completing the studies and releasing a study report after studies are commenced; and delays in getting Interconnection Agreements completed.

Conclusion

ACE NY appreciates the NYISO's consideration of these various suggestions for addressing delays in the interconnection process. It is our opinion that these suggestions do not require a change to the NYISO tariff and could therefore be implemented on a faster schedule than the formal tariff process that will commence in response to both the FERC interconnection NOPR and the interconnection process enhancement project that emerged from the BPWG stakeholder voting process. We would sincerely appreciate the opportunity to meet with NYISO staff to discuss these suggestions.