Attachment V

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

New York Independent System Operator, Inc.	**)**	**Docket No. ER24-___-000**

AFFIDAVIT OF JON SAWYER

Mr. Jon Sawyer declares:

1. I have personal knowledge of the facts and opinions herein and if called to testify could and would testify competently hereto.

A. Purpose of this Affidavit

2. I submit this affidavit in support of NYISO's compliance filing in response to Order No. 2023. The purpose of this affidavit is to support the NYISO's requested independent entity variation to the requirement in Order No. 2023 for transmission providers to, at the request of Interconnection Customers, use operating assumptions in interconnection studies that reflect the proposed charging behavior of electric storage resources unless good utility practice requires the use of different operating assumptions.[1]

B. Background and Introduction

3. My name is Jon Sawyer. I am the Director of Grid Operations for the New York Independent System Operator ("NYISO"). My business address is 10 Krey Boulevard, Rensselaer, NY 12144.

4. I have held this position since August 2022. Prior to that, I was Manager of Control Room Operations for the NYISO for approximately nine years. I have also held several other positions at the NYISO, including as a System Operator and in Operator training. In total, I have worked at the NYISO for over twenty years. Prior to joining the NYISO, I served in the United States Navy Nuclear Power Program for eight years, spent two years as an instructor in reactor plant operations, and served three years aboard a Los

[1] *See* Order No. 2023 at PP 1509-1533; Order No. 2023-A at PP 575-587.

Angeles class submarine. I earned a bachelor's degree in information technology from the University of Phoenix.

5. I am responsible for all NYISO Grid Operations functions, including Power System Operations and Dispatcher Training, to ensure the reliable operation of the New York bulk power system consistent with a wide array of regulatory standards, including applicable standards and policies set by the NYISO, North American Electric Corporation ("NERC"), Northeast Power Coordinating Council ("NPCC"), and New York State Reliability Criteria ("NYSRC"), amongst others.

6. Based on this experience, I am aware of the NYISO's operating procedures and market rules for Energy Storage Resources ("ESRs"). As explained further below, the NYISO has proposed to expand the application of its existing operating procedures to reduce the need for upgrades identified in the NYISO's interconnection studies for electric storage resources, wind, and solar projects. This approach would accomplish the objectives of Order No. 2023 in a manner that is carefully tailored to the NYISO's unique market and planning framework.

C. The NYISO Minimum Interconnection Standard Already Achieves the Objectives of the Order No. 2023 Operating Assumption Rules for Many Electric Storage Resources Interconnecting to the New York State Transmission System

7. The NYISO Minimum Interconnection Standard currently minimizes the need for upgrades for proposed interconnections of all resource types, including electric storage resources, to much of the New York State Transmission System. Under this standard, the NYISO only requires upgrades if adverse reliability impacts cannot be mitigated through normal operating procedures, including the redispatch of resources to address identified reliability impacts.

8. The NYISO Minimum Interconnection Standard recognizes that in actual operations, the NYISO market systems will dispatch generation in a manner that avoids thermal overloads on NYISO-secured transmission facilities.

D. The NYISO's Proposed Enhancements to NYISO Tariffs and Procedures to Address Interconnection of Intermittent Resources to Currently Unsecured Transmission Facilities in New York Operated at 100 kV or Greater

9. To address concerns raised by developers regarding ESR interconnections to unsecured transmission facilities of at least 100 kV, the NYISO worked with stakeholders and developers to develop enhancements to its normal operating procedures.

10. The enhanced procedures would function as follows. Prior to or during the interconnection study process, the connecting and affected New York Transmission Owners and the NYISO will be required agree that the overloaded facilities can be evaluated to be secured by the NYISO BMS, consistent with the process outlined in the NYISO's Transmission and Dispatch Operations Manual ("T&D Manual").[2] When the NYISO and Transmission Owner(s) agree, projects will be dispatched for purposes of the interconnection study at their full capability (including both injection and withdrawals for projects that are capable of withdrawing Energy) to determine if overloads exist on non-ISO or non-New York Transmission Owner secured 100 kV or greater elements. If a thermal overload is identified in an interconnection study, then the project(s) being studied will be backed down in that study (*i.e.*, redispatched), as needed to clear the overload. The NYISO will keep track of the non-ISO and non-New York Transmission Owner secured 100 kV and greater elements for which the project was redispatched to avoid an overload in the study.

11. When the new resources approach their commercial operation date and are integrated in the NYISO's market systems, the NYISO will follow the process outlined in its T&D Manual to potentially secure additional transmission facilities in its market systems. If the NYISO determines, and the connecting and affected New York Transmission Owner(s) confirm, that a facility that was subject to a thermal overload in an interconnection study can be secured in the NYISO's market systems, the transmission facility or facilities will be added to the BMS and secured by the NYISO going forward.

[2] *See* NYISO Manual 12: Transmission and Dispatch Operations Manual at Section 5 (November 2023); *available at:* https://www.nyiso.com/documents/20142/2923301/trans_disp.pdf/9d91ad95-0281-2b17-5573-f054f7169551.

In such case, the procedures for addressing the impacts to secured facilities described above would apply.

12. If (i) the NYISO instead cannot secure an overloaded element in the BMS because it does not meet the criteria outlined in the T&D Manual and (ii) a limitation to the output or withdrawals of the resource is needed to secure a thermal overload that was identified in the interconnection study, then during real time operations the NYISO will limit the output or withdrawal of the resource to resolve the overload. This will be managed via an Out-of-Merit redispatch for an ESR and/or the issuance of a Wind and Solar Output Limit to a wind or solar Generator.

13. Specifically, if necessary, the NYISO will reduce an ESR's injections and withdrawals in real-time operations via an Out-of-Merit redispatch instruction to prevent an overload on a non-ISO secured, 100kV or greater transmission facility. If, and to the extent, an overload was observed in the interconnection study process but not addressed with an upgrade, the NYISO will not reimburse the market participant for any required reductions in output (or withdrawals) of the ESR that are necessary to secure the thermal overload. That is, the economic impact of the reduced injection or withdrawal will be the ESR's responsibility.

14. To produce appropriate settlements, the NYISO proposes to revise Section 25 of the NYISO's Services Tariff to establish that the ESR will not be eligible to receive a Day-Ahead Margin Assurance Payment[3] ("DAMAP") when the Energy Storage Resource is "scheduled or dispatched Out-of-Merit by the ISO to inject or withdraw less Energy than its real-time Energy schedule … in response to an ISO or Transmission Owner request to relieve a constraint on a Local Area Transmission System Facility that was identified as limiting in the Energy Storage Resource's interconnection study and not able to be set as secured in the NYISO's market systems."[4] This is appropriate because the NYISO's

[3] DAMAP is intended to reimburse a Supplier for any lost Day-Ahead Margin that may result from actions taken by the NYISO in real-time that reduce a Resource's Day-Ahead Margin. This typically happens when the NYISO, in real-time, reduces the otherwise applicable schedule of a Generator, as determined in the Day-Ahead Market, for reliability reasons. DAMAP is not warranted when the Supplier's own actions cause lost, or reduced, Day-Ahead Margin.

[4] *See* proposed NYISO Services Tariff § 25.2.2.7. Wind and solar Generators are never eligible to receive DAMAP. *S*ee currently effective NYISO Services Tariff § 25.2.2.1(iii).

Day-Ahead Commitment will not have the opportunity to secure the constraint that was identified in the interconnection study, so the Energy Storage Resource (or wind or solar project) may be overcommitted in the Day-Ahead Market.

15. Notwithstanding the NYISO Minimum Interconnection Standard and the revised normal operating procedures proposed in the NYISO's compliance filing, there may be instances in which using the coordinated redispatch approach described above does not resolve a reliability issue identified in an interconnection study. This may be the case when a project is interconnecting to facilities that do not satisfy the NERC standard to be Bulk Electric System ("BES") facilities. In such cases, redispatch would not be an appropriate normal operating procedure to rely on in interconnection studies. For example, a 100 kV or greater transmission facility which is only a radial connection to supply load or "load networks" may not constitute a BES facility. In addition, even when redispatch is accommodated under normal operating procedures, an interconnection study may identify a reliability issue that redispatch is not able to resolve. For example, upgrades may be required to connect the proposed project to the existing system or to mitigate short circuit issues. In cases where permitted redispatch does not mitigate an identified reliability issue, upgrades will still be required and identified in the interconnection study.

E. The Approach Adopted in Order No. 2023 Conflicts with NYISO Market and Planning Rules

16. It would not be consistent with the NYISO-administered Energy and Installed Capacity market framework to allow each ESR to specify whether it will withdraw Energy during on-peak periods. ESR charging is an important component of ESR participation in the New York markets. The ability of an ESR to charge when necessary provides flexibility and robustness to grid operations at all times of the day. The NYISO Minimum Interconnection Standard, supplemented by the enhancements to its normal operating procedures that the NYISO proposes in its compliance filing, will allow ESRs with interconnections impacting transmission facilities at 100kV or greater to charge on-peak when they are able (consistent with maintaining reliability) and economically scheduled to do so. The NYISO's proposal will enable ESRs in New York to operate flexibly and avoid the need to broadly prohibit on-peak charging.

17. The NYISO does not prescribe the time periods for which an ESR can charge, nor can the NYISO programmatically restrict an ESR from offering to withdraw Energy in some (but not all) hours of the Day-Ahead or real-time market-day. Grid or market conditions may make it desirable for ESRs to charge during peak demand hours and/or during the NYISO's Peak Load Window.[5] For example, charging of ESRs during peak periods can allow capture of "excess" energy production during peak output of intermittent renewables such as solar generating facilities.

F. The NYISO's Proposed Enhancements Cannot Accommodate Interconnections to Facilities Below 100 kV

18. Certain project developers have requested that the NYISO expand the process described herein to transmission facilities operated at less than 100 kV. The NYISO cannot do so.

19. With limited exceptions, the NYISO does not secure or have visibility concerning the transmission facilities below the 100 kV level – typically the sub-transmission system. The NYISO's operations systems are not designed to recognize facility rating limits or to allow analysis of contingencies and dispatch of resources in real time for facilities below 100 kV. Accordingly, upgrades remain necessary to resolve overloads on such facilities. To expand the NYISO's proposed redispatch approach below 100 kV, the NYISO would need to substantially redesign its operating systems hardware and software, staffing, and operating procedures to modify how facilities below 100 kV are managed in real time. Order No. 2023 does not require such a fundamental change to the NYISO's operating system.

20. The sub-transmission portion of the power system was planned and is designed to support load. The addition of load and generation resources on these sub-transmission facilities increases the scenarios that must be studied and managed to maintain reliability. While the NYISO and the Transmission Owners monitor real-time status, neither performs analysis of post-contingency flows in real-time for sub-transmission facilities. It remains necessary for interconnection studies to identify upgrades required to keep the facilities within required limits in real time. The management of any resources connected on

[5] NYISO Services Tariff § 5.12.14.

facilities below 100 kV require manual intervention by the Transmission Owner to maintain facilities within ratings. Action is taken to correct limit exceedances on these facilities in response to real time loading, which cannot be predicted in outage conditions.

21. This concludes my affidavit.

ATTESTATION

I am the witness identified in the foregoing affidavit. I have read the affidavit and am familiar with its contents. I verify under penalty of perjury that the foregoing is true and correct.

Jon Sawyer
April 30, 2024