UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Implementation of Dynamic Line Ratings Docket No. AD22-5-000

NOTICE OF INQUIRY COMMENTS OF THE NEW YORK INDEPENDENT SYSTEM OPERATOR, INC.

The New York Independent System Operator, Inc. ("NYISO") respectfully submits comments in response to the *Notice of Inquiry* in the above-captioned proceeding issued by the Federal Energy Regulatory Commission ("Commission") on February 17, 2022 ("Notice").[1] In its comments, the NYISO addresses certain questions raised in the Commission's Notice regarding whether the lack of Dynamic Line Rating ("DLR") requirements renders current wholesale rates unjust and unreasonable. The NYISO appreciates the opportunity to work with the Commission and Commission staff through the submission of these written comments.

Wholesale energy rates in the NYISO-administered markets are not rendered unjust and unreasonable by the lack of generally applicable DLR requirements. The NYISO has DLR functionality in place today for Transmission Owners to adjust transmission line ratings in real time, when appropriate. The currently effective seasonal transmission line ratings, along with the existing DLR functionality and the forthcoming changes under FERC Order No. 881,[2] support efficient markets, reliable system operation, and the flexibility needed for the NYISO and Transmission Owners to utilize the transmission system effectively and to respond to real-time system conditions. The NYISO urges the Commission not to require any further modifications to the approach to manage transmission line ratings at this time.

[1] Implementation of Dynamic Line Ratings, *Notice of Inquiry*, Docket No. AD22-5-000 (February 17, 2022).

[2] *See Managing Transmission Line Ratings*, Final Rule, 177 FERC ¶ 61,179 (2021) (FERC Order No. 881).

The NYISO recommends that the Commission allow each Independent System Operator ("ISO") and Regional Transmission Organization ("RTO") to take the time necessary to review the issues raised in the Notice with its respective stakeholders after implementing the requirements of FERC Order No. 881. The Commission should not impose a uniform DLR requirement. As the ISOs/RTOs and other affected parties develop and implement compliance plans in response to FERC Order No. 881, it is not clear that expansive implementation of DLR requirements would provide significant benefits to the NYISO, asset owners, electric system reliability, or New York's consumers. The issues raised in the Notice should be reviewed on region-by-region basis after the ambient-adjusted rating ("AAR") requirements are implemented to determine if there is a need to further expand the requirements related to managing transmission line ratings.

I. COMMENTS

A. Overview

The NYISO has existing functionality to receive DLR adjustments from Transmission Owners in real time, when appropriate. Asset owners may increase or decrease real-time line ratings for any reason they deem appropriate using the DLR functionality.[3] A majority of the Bulk Electric System ("BES") equipment in New York is able to be rated using DLRs. Transmission Owners submit the updated ratings to the NYISO via the Inter-control Center Communications Protocol ("ICCP") secure communications tool.

The NYISO accepts DLRs from asset owners for use in the Real-Time Market commitment and dispatch solutions and the Energy Management System ("EMS") Security

[3] The NYISO does not have visibility into the technology that the New York Transmission Owners rely on or have deployed to determine DLRs.

analysis functions.[4] Currently, the set of facilities that generally utilize the DLR functionality is almost exclusively comprised of underground cables, and the ratings are not modified frequently. The underground cable asset owners typically adjust ratings in response to line-specific operating conditions (*e.g.*, thermal issues in the oil-filled pipe) and do not generally vary in response to other factors. This approach has proven beneficial to the NYISO, the Transmission Owners, and consumers in New York.

However, the NYISO does not envision significant additional benefits from expanded DLR requirements. In fact, DLRs that change frequently and cannot be forecasted, especially those that would reduce ratings, may be detrimental to the financial reservation system that the NYISO uses to support transmission service, transmission system security, and efficient price formation. The NYISO commented on the potential negative impacts of DLR requirements in advance of FERC Order No. 881 and understands that the complete record of Docket No. RM20-16 is incorporated in this proceeding.[5]

B. Use and Impact of DLR Requirements in the New York Control Area ("NYCA")

The NYISO encourages the Commission to review and consider the wide-ranging and negative impacts that could result from a general requirement to implement DLRs beyond the Real-Time Market. While asset owners and the NYISO already use DLRs in certain circumstances to facilitate real-time operation, implementing a general requirement that

[4] The Energy Management System ("EMS") is used by the system operators to monitor the reliable operation of the grid and for situational awareness. It includes applications that monitor flows, voltages and perform contingency analyses, such as security monitor, state estimator, outage monitoring, as well as automatic generation control. The NYISO also employs a Business Management System ("BMS"), which is the suite of applications that comprise the Security-Constrained Unity Commitment ("SCUC"), Real-Time Commitment ("RTC") and Real-Time Dispatch ("RTD") software. This software is used to develop schedules and prices for the NYISO's Energy and Ancillary Services markets.

[5] *See* Notice at P 4.

significantly broadens their use may be detrimental to system security and price formation, and is unlikely to provide significant benefits.

Reliability is the cornerstone of establishing and administering wholesale electricity markets. The NYISO Day-Ahead Market ("DAM") incorporates both financial and reliability passes to present a secure day-ahead plan to the system operators. This plan may need to be augmented to address reliability concerns identified after the DAM, but the DAM is the starting point for addressing these concerns. To avoid the risk of an unanticipated reduction in transmission capability, and potentially a reliability concern, the NYISO uses the seasonal ratings in the DAM and will use predictable AARs in the future pursuant to FERC Order No. 881. Market Participants that utilize the transmission system through NYISO's financial reservation system will continue to be able to predict transmission line ratings using the historical data and AAR calculation methodologies posted on its website after FERC Order No. 881 is implemented. The NYISO's financial reservation system effectively utilizes the New York State Transmission System.

The NYISO has successfully implemented DLR functionality to allow asset owners to change real-time line capability, when appropriate, throughout the NYCA. Historically, these changes have increased ratings to provide additional transfer capability in real time. For example, the NYISO utilized a DLR increase, provided by National Grid, on the 181-922 Packard-Erie Street 115kV circuit in Western New York to improve Real-Time Market operation in 2,848 hours between May 1 and October 31, 2020. The NYISO also utilized a DLR increase, provided by National Grid, on the 92 Leeds-Pleasant Valley 345kV circuit in Southeastern New York to improve Real-Time Market operation in 1,023 hours during the same period of 2020. Increasing transmission facility ratings in real time allows the co-optimization software to

schedule the least-cost mix of Ancillary Services and Energy from Suppliers, thereby reducing transmission system congestion and avoiding unnecessary uplift costs to consumers.

Many of the thermally-limited transmission elements in the downstate load centers of New York City and Long Island (NYISO Load Zones J and K) are oil-filled pipe type underground cables. The heat dissipation characteristics on these lines are very different from overhead circuits, and high loading of these facilities on one day may affect limits for days into the future. Asset owners carefully weigh numerous factors when considering an adjustment of the DLRs for these facilities. Decisions regarding line-rating adjustments must be left up to the asset owners in real time, since, for example, system conditions on day one may require the facility to keep emergency capability available to avoid load shedding on that day or the next few days. Given these complex considerations, the NYISO does not support requiring DLRs to be implemented on a broader set of underground cables. The underground cable asset owners must retain the ability to manage the capability of these facilities.

Expansive implementation of DLRs in New York, in addition to the new AAR requirements in FERC Order No. 881, would not provide universal benefits to the NYISO, asset owners, or electric system reliability. Including more variables in transmission line rating determinations, such as difficult to predict weather parameters like wind speed or cloud cover, could introduce reliability issues and market inefficiencies by unnecessarily reducing the expected transmission line ratings. As discussed in the NYISO's Docket No. RM20-16 comments, DLRs that change frequently or cannot be accurately forecasted, especially those that reduce line ratings in real time, may be detrimental to system security, harm efficient price

formation, and increase uplift costs.[6] The use of DLRs should only be utilized on an appropriate set of facilities and under certain, real-time circumstances, as the Transmission Owners do today. The Commission should allow each ISO/RTO to review needs and prioritize the best approach for its region, based on the existing market constructs and the existing transmission equipment.

C. The NYISO's Transmission Model Warrants Regional Flexibility for Managing Transmission Line Ratings

If the Commission proceeds with the additional DLR requirements, the NYISO strongly recommends that any new transmission line rating-related rules be considered after FERC Order No. 881 is fully implemented and be sufficiently flexible to accommodate the NYISO's financial reservation transmission model, as well as other regional differences among the ISOs/RTOs. The NYISO's "financial reservation" transmission model differs substantially from the "physical reservation" transmission model contemplated by Order Nos. 888 and 890 *pro forma* OATT.[7] Firm transmission service within the NYCA is scheduled "implicitly" when customers receive Energy schedules from the NYISO. There are no express reservations of physical transmission service within the NYISO control area. Flexible transmission line rating rules would allow the RTOs and ISOs to implement the Commission's objectives in the most efficient means possible given the existing regional differences.

Unlike markets that rely on "physical" (MW) reservations of ramp and transfer capability, the NYISO does not permit Market Participants to pre-reserve ramp or transfer

[6] *See* Notice of Proposed Rulemaking Comments of the New York Independent System Operator, Inc., Docket No. RM20-16-000 at pp. 4-9(March 22, 2021).

[7] *See New York Independent System Operator, Inc.*, 123 FERC ¶ 61,134 (2008), at PP 8-13; *New York Independent System Operator, Inc.*, Letter Order on Compliance Filing, Docket No. OA08-13-003 (November 12, 2008); *New York Independent System Operator, Inc.*, Compliance with Order No. 890, Docket No. OA08-13-000 (April 11, 2008); *New York Independent System Operator, Inc.*, Compliance Filing, Docket No. OA08-13-000 (October 11, 2007).

capability. Instead, the NYISO awards firm transmission service to economically committed resources, including External Transactions. In the NYISO's Real-Time Market software, internal New York generation resources compete with External Transactions (Imports, Exports and Wheels-Through) to be economically awarded an Energy schedule, and therefore, the necessary transmission service and ramp schedule. All desired uses of the transmission system are scheduled to the extent that customers are willing to pay congestion charges (some of which can be hedged using financial transmission rights). This approach directly incorporates expected transmission system congestion and transmission service into the market software evaluations and permits the NYISO to meet demand obligations at the lowest production cost.

The NYISO has previously described to the Commission how its customers' ability to schedule transactions is, with certain limited exceptions,[8] not limited by a pre-defined amount of Available Transfer Capability ("ATC") as under the *pro forma* OATT. Instead, the entire capacity of the New York State Transmission System is made available prior to the start of each DAM cycle. The ATC is calculated and posted based on the transactions accepted in the DAM. If a posted ATC value is zero, that value indicates that an interface is congested, and that additional transmission capacity would not be available absent redispatch in the Real-Time Market. However, it may still be possible for the NYISO to schedule additional transactions for customers that are willing to pay the applicable congestion charges.

[8] The NYISO previously accommodated "Pre-Scheduled Transaction Requests" across External Interfaces, which could be submitted in the Day-Ahead Market up to 18 months in advance of the Dispatch Day. If a customer arranged for a Pre-Scheduled Transaction, it would obtain a special priority reservation in the Day-Ahead Market that would necessitate a reduction in the ATC posted for the relevant External Interface. The NYISO's Pre-Scheduled Transaction Request procedure, however, went essentially unused for many years, and the Commission recently accepted the NYISO's proposal to eliminate it. *See Tariff Amendments to Eliminate Pre-Scheduled Transaction Capability*, Letter Order, Docket No. ER10-2517-000 (November 2, 2010). The NYISO also supports "Advance Reservations" on specific designated controllable "Scheduled Lines" between the NYISO and certain neighboring entities. Scheduled Lines allow for Advanced Reservations on a basis that would be limited by a pre-defined amount of ATC. With one exception, however, other RTOs/ISOs are responsible for calculating ATC for each of the existing Scheduled Lines.

Consequently, the information conveyed by NYISO ATC postings is markedly different from that conveyed by such postings in areas with physical reservation regimes. The ATC within the NYISO represents the transmission capability that is left over after all scheduled transactions have been accommodated. Stated differently, ATC is used only as an instantaneous indication of the existence of uncongested transmission paths, and not as a determinant of whether additional requests for transmission service can be satisfied. Based on numerous compliance filings under Orders No. 890 and No. 890-A and various waivers filed and approved by the Commission,[9] the NYISO is not obligated to maintain and post the same OASIS-related information as RTOs and ISOs with a physical reservation transmission system.

As a practical matter, because physical reservation models are much more common than financial ones, the Commission, the North American Electric Reliability Corporation ("NERC"), and the North American Energy Standards Board ("NAESB") have tended to create transmission rules, including ATC rules, which are geared towards physical reservation systems. The NYISO has thus often been left to seek waivers of some requirements, and to provide detailed explanations of its compliance with others. The NYISO offers these comments to remind the Commission of the financial transmission system and related circumstances in New York and to

[9] *Request for Limited OASIS Waivers*, Docket No. EL99-77-000 (July 9, 1999), at pp 5-6; *see also New York Independent System Operator, Inc.*, Filing in Compliance with May 7, 2008 Order, Docket No. OA08-13-003 (June 6, 2008), at pp 4-6; *New York Independent System Operator, Inc.*, Filing in Compliance with Order No. 890-A, Docket No. OA08-107-000 (April 15, 2008), at pp 8-11; *see also New York Independent System Operator, Inc.*, 130 FERC ¶ 61,104 (2010), at PP 9-14. *See New York Independent System Operator, Inc.*, Letter Order, Docket Nos. ER11-2048-003, -004 (June 6, 2011); *New York Independent System Operator, Inc.*, 133 FERC ¶ 61,208 (2010), at PP 12-13 (granting the NYISO's amended waiver request from OASIS posting requirements that were incompatible with the NYISO's transmission service); *New York Independent System Operator, Inc.*, 132 FERC ¶ 61,239 (2010), at P 22; *New York Independent System Operator, Inc.*, 125 FERC ¶ 61,274 (December 5, 2008), at PP 8-13; *New York Independent System Operator, Inc.*, Letter Order, Docket No. OA08-13-003 (November 12, 2008); *New York Independent System Operator, Inc.*, 127 FERC ¶ 61,005 (2009), at P 7; *New York Independent System Operator, Inc.*, 125 FERC ¶ 61,275 (2008); *New York Independent System Operator, Inc.*, 94 FERC ¶ 61,215 (2001), at P 61,795; *Central Hudson Gas & Electric Corp.*, 88 FERC ¶ 61,253 (1999).

urge the Commission to be mindful of them in devising any new transmission-focused requirements. Any new requirements should account for regional flexibility based on the existing, approved approaches in various regions.

D. Any Commission Action Should Be Driven by Transmission Owners and ISO Stakeholders and Accommodate Regional Differences

Given the uncertainty of the need for and the benefits that could arise from DLR requirements, the NYISO encourages the Commission to allow each ISO/RTO to work with its respective stakeholders to review the objectives outlined by the Commission and to determine if any changes are needed within that ISO's/RTO's market structure after FERC Order No. 881 is fully implemented. The Commission should not impose a uniform implementation process or timeline on all ISOs/RTOs.

Each ISO/RTO employs different power system modelling techniques, has different approaches to scheduling transmission service, employs different pricing methods, has different market rules, relies on a different mix of resources, including transmission equipment, and uses different software to implement its markets. The characteristics of each ISO's/RTO's commitment, dispatch and settlement processes should inform the decision of when and how to implement DLRs, if any expansion of today's practices is warranted. The Commission has recognized that ISOs and RTOs do not (and need not) have identical software or market rules for their markets and power systems to produce compatible results.[10] The Commission has also recognized that the practical ability of each ISO or RTO to implement software changes, including the potential costs of making those changes, often justifies allowing ISOs/RTOs to

[10] *See, e.g., New York Independent System Operator, Inc*., 142 FERC ¶ 61,202 at PP 24-26 (2013) ("NYISO's compliance obligation does not require NYISO to redesign its market. [footnote omitted] This would be particularly unnecessary here where, as NYISO points out, it would be costly and economically inefficient to do so.")

comply with Commission mandates in ways that accommodate regional differences rather than insisting on "one-size fits all" solutions.[11] The Commission should allow sufficient time for the NYISO and market participants in New York to implement the AAR changes that are underway pursuant to FERC Order No. 881 before considering any further DLR requirements.

II. COMMUNICATIONS AND CORRESPONDENCE

All communications regarding this filing should be directed to:

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[11] *Id*. *See also, New York Independent System Operator, Inc.*, 133 FERC ¶ 61,246 at P 25 (2010).

III. CONCLUSION

The NYISO respectfully submits these comments for the Commission's consideration.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding in accordance with the requirements of Rule 2010 of the Rules of Practice and Procedure, 18 C.F.R. §385.2010.

Dated at Rensselaer, NY this 25th day of April 2022.

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