New York ISO
Independent System Operator

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May 30, 2025

Submitted Electronically

Honorable Debbie-Anne A. Reese
Secretary
Federal Energy Regulatory Commission
888 First Street N.E.
Washington, D.C. 20426

Re: *New York Independent System Operator, Inc.*'s Proposed Tariff Amendments to Enhance Wholesale Energy Market Participation by Combined Cycle Gas Turbine Generators Equipped with Duct-Firing Capability;
Docket No. ER25-___-000.

Dear Ms. Reese:

In accordance with Section 205 of the Federal Power Act[1] and Part 35 of the regulations of the Federal Energy Regulatory Commission ("Commission"), the New York Independent System Operator, Inc. ("NYISO") submits proposed revisions to its Market Administration and Control Area Services Tariff ("Services Tariff") to: (1) enhance the modeling of combined cycle gas turbine ("CCGTs") generators with duct-firing capability; and (2) expand opportunities for CCGTs with duct-firing capability to provide Energy and Ancillary Services consistent with their physical operating capabilities.[2]

The NYISO Management Committee approved the proposed revisions, without opposition, on October 31, 2024. The NYISO respectfully requests that the proposed revisions be permitted to take effect as early as June 1, 2026, as discussed further in Section IV below.

I. List of Documents Submitted

The NYISO submits the following documents with this filing letter:

1. A clean version of the proposed revisions to the NYISO's Services Tariff ("Attachment I"); and

2. A backline version of the proposed revisions to the NYISO's Services Tariff ("Attachment II").

[1] 16 U.S.C. § 824d.

[2] Capitalized terms not otherwise defined herein shall have the meaning specified in the Services Tariff. Definitions for "Combined Cycle Gas Turbine ("CCGT") Generator" and "Combined Cycle Gas Turbine ("CCGT") Generator with Duct-Firing Capability" are proposed with this filing.

II. Background

Some CCGTs are equipped with heat recovery steam generators ("HRSG") with duct burners, which add additional heat to the steam cycle by burning fuel directly in the exhaust duct. The additional heat from the duct burners increases the steam flow to the steam turbine which increases the power generation ouput for the turbine. Typically, the operation of the duct burners is limited to the last 10% or less of the CCGT's output capability, and requires the gas turbine to be at or near its maximum output prior to activation. Operation within the duct-firing range, or transitioning from the standard operating range to the duct-firing range, may require a different ramp rate or a transition time compared to operation within the standard operating range of the CCGT. This proposal introduces new and enhanced scheduling options for CCGTs with duct-firing capability to allow such Resources to offer, and be scheduled for, Energy and Operating Reserves more accurately and efficiently based on their distinct operating capabilities. This proposal would also allow certain Resources that are currently unable to provide Operating Reserves to become eligible to offer Operating Reserves.

Under the current market rules, Energy and Operating Reserves are subject to specific ramp rate requirements. For Energy scheduling through the NYISO-administered wholesale markets, up to three normal response rates ("NRR") may be used to characterize the response rate (in MW per minute) of a generator with respect to its Energy ("MW") output. The NRR values and breakpoints can be tailored to best fit the specific generator's operating characteristics.[3] However, a generator's emergency response rate ("ERR") is used for Operating Reserves scheduling and for Energy scheduling during a Real-Time Dispatch – Corrective Action Mode ("RTD-CAM")[4] intervals. The ERR is a single value that is required to be greater than or equal to a generator's highest NRR.

A significant number of CCGTs with duct-firing capability may not be able to physically achieve their ERR when ramping through their duct-firing operating region. This may result from (i) lower response rates within the duct-firing operating region, or (ii) a required transition time to move from the resource's normal operating region to the duct-firing operating region. Therefore, under the current market rules, some CCGTs with duct-firing capability are not able to accurately follow Base Point Signals during RTD-CAM intervals in their duct-firing range, not able to follow Regulation Service schedules in their duct firing range, and also unable to meet the qualification requirements to provide Operating Reserves.

To allow certain CCGTs with duct-firing capability to become eligible to provide additional Operating Reserve services, the NYISO is proposing to introduce a new "Limiting Participation model" option. This option will allow CCGTs with duct-firing capability to limit their participation to a level up to, but excluding, their duct-firing range for 10-minute reserves

[3] For example, CCGTs can specify a lower response rate for Energy scheduling within their duct-firing capability range under normal system conditions.

[4] *See* Services Tariff Section 2.18. Definition of "Real-Time Dispatch–Corrective Action Mode ("RTD-CAM")": A specialized version of the Real-Time Dispatch software that will be activated when it is needed to address unanticipated system conditions. *See also* Services Tariff Section 4.4.3, specifying that RTD-CAM will have the ability to commit certain Resources.

and Regulation Service, while continuing to offer Energy and 30-Minute Reserves based on the entire capability of the Generator. The response rate breakpoint pertaining to the start of the duct-firing region would be utilized to set the Participation Limit for 10-Minute Reserves and Regulation Service. At the same time, the entire operating capacity, including the duct-firing regions, would be used for 30-Minute Reserves and Energy within normal modes. CCGTs with duct-firing capability will have the option to use the Limiting Participation model. Once a qualifying Generator is validated by the NYISO to use the option, the Limiting Participation model is activated.

The NYISO also proposes two enhancements to the scheduling options for CCGTs with duct-firing capability during RTD-CAM activations. First, once a qualifying resource has opted into the Limiting Participation model, the model would apply the limits described above to Energy, Operating Reserves, and Regulation Service scheduling within RTD-CAM intervals. If the CCGT Base Point Signal is already within its duct-firing region before an RTD-CAM activation, this CCGT would be held at that Base Point Signal without being ramped up or down during such RTD-CAM activation. If the CCGT is not yet operating in its duct-firing region at the commencement of an RTD-CAM activation, the NRR that is assigned to the operating region where the CCGT is scheduled for Energy at the time of the RTD-CAM activation would be utilized for Energy scheduling during such RTD-CAM activation. Second, for all CCGTs that are equipped with duct-firing systems, the ERR will no longer be utilized for scheduling Energy during RTD-CAM intervals.

These proposed scheduling enhancements would help to more efficiently and effectively utilize the feasible operating capability of CCGTs with duct-firing capability under both normal and emergency conditions.[5]

III. Description of Proposed Revisions to the Services Tariff

The tariff revisions proposed in this filing consist of two primary components. First, the NYISO proposes the addition of the Limiting Participation model option for CCGTs with duct-firing capability. Second, the NYISO proposes enhancements to the RTD-CAM scheduling rules such that CCGTs with duct-firing capability can be utilized more effectively and scheduled consistent with their operating capabilities. The NYISO also proposes several ministerial edits in the attached tariff sections.

[5] The NYISO's Market Monitoring Unit, Potomac Economics, has authorized the NYISO to indicate that Potomac supports enhancements to modeling of combined cycle generators with duct firing capabilities to represent the operational capabilities of those facilities. The proposed enhancements represent a good step towards modeling the capabilities of those resources, and the NYISO should consider a future enhancement to model the break-point between normal operations and the duct-firing range as a biddable parameter.

The NYISO is open to continuing to review additional enhancements with stakeholders as a separate, future endeavor and NYISO stakeholders are considering such an effort for 2026.

The NYISO proposes several new definitions that are required to describe the scheduling rule enhancements.

A. Services Tariff Section 2

In Services Tariff Section 2.3, the NYISO proposes to add the following definitions to describe the types of Generators that are impacted by the duct-firing scheduling enhancements:

> **Combined Cycle Gas Turbine ("CCGT") Generator:** A Generator that produces electric power from gas turbine(s) and uses exhaust heat from gas turbine(s) to generate steam and additional electric power with a heat recovery steam generator and steam turbine(s).
>
> **Combined Cycle Gas Turbine ("CCGT") Generator with Duct-Firing Capability:** A Combined Cycle Gas Turbine Generator equipped with duct burners, which add additional heat to the steam used to produce additional electric power from the heat recovery steam generator and steam turbine(s).

In Services Tariff Section 2.12, the NYISO proposes to add a definition for "Limiting Participation Flag" as indicated below. This functionality will be used by a qualifying Generator to indicate to the NYISO that a CCGT with duct-firing capability is limiting some Operating Reserve and Regulation Service availability to the operating region that does not require duct firing. This functionality applies for a qualifying Generator that has opted to use the Limiting Participation model.

> **Limiting Participation Flag:** An Operating Reserve and Regulation Service participation option that a Combined Cycle Gas Turbine Generator with Duct-Firing Capability may utilize, subject to technical validation pursuant to ISO Procedures, to limit its 10-Minute Spinning Reserves and Regulation Service Schedules to the Participation Limit.

In Services Tariff Section 2.16, the NYISO proposes to add the following definition for "Participation Limit." This limit is required to identify the amount of Energy a qualifying Generator can produce without using its duct-firing capability. This functionality is used by a qualifying Generator that has opted to use the Limiting Participation model.

> **Participation Limit:** The maximum amount of Energy that a Combined Cycle Gas Turbine Generator with Duct-Firing Capability can produce without using its Duct-Firing Capability, which is used as the upper limit for scheduling 10-min Spinning Reserves and Regulation Service. This limit does not apply to Energy scheduling.

B. Services Tariff Section 4

In Services Tariff Section 4.2, the NYISO proposes to add that when a CCGT with duct-firing capability has opted to use the Limiting Participation model, the Generator's specified Participation Limit and ERR will determine the quantity of 10-Minute Reserves that the Resource is capable of providing in the Day-Ahead Market.

In Services Tariff Section 4.4, the NYISO proposes to add that, in real-time, when a CCGT with duct-firing capability has opted to use the Limiting Participation model, the RTD-CAM program will not dispatch the Generator beyond its specified Participation Limit. However, if the Generator is already at or above its Participation Limit, it will continue to be scheduled at the Base Point Signal in effect at the time that RTD-CAM is activated.

Also in Services Tariff Section 4.4, the NYISO proposes to add that when a maximum generation pickup[6] is initiated in real-time: (i) a CCGT with duct-firing capability can be scheduled to its emergency upper operating limit level using its normal response rate pertaining to the operating region that its physical base point was in prior to the activation of the maximum generation pickup event; and (ii) for CCGTs that have opted to use the Limiting Participation model, apply special scheduling rules based on the Generator's operating region immediately prior to the start of the maximum generation pickup event. Specificially, if the CCGT with duct-firing capability was operating at a level below its specified Participation Limit immediately prior to the activation of the maximum generation pickup event, the Generator can be scheduled to its specified Participation Limit using the Generator's normal response rate pertaining to the operating region that its physical base point was at prior to the activation of the maximum generation pickup event. If, however, the CCGT with duct-firing capability was operating at a level equal to or above its specified Participation Limit immediately prior to the activation of the maximum generation pickup event, the Generator will be scheduled to stay at that level for the duration of the maximum generation pickup event.

C. Services Tariff Section 15 (Rate Schedules 3 and 4)

In Services Tariff Section 15.3, the NYISO proposes to add that Suppliers shall choose to opt in or opt out of the Limiting Participation model for each CCGT with duct-firing capability. In Services Tariff Section 15.3.2.1, the NYISO proposes to add that for Regulation Service offers from CCGTs with duct-firing capability that have opted to use the Limiting Participation model, the NYISO will limit the Regulation Capacity (in MW) from such Generator to the Resource's maximum Regulation Service capability without exceeding its specified Participation Limit.

In Services Tariff Sections 15.4.2 and 15.4.3, the NYISO proposes to add scheduling limits for Operating Reserves from CCGTs with Duct-Firing Capability that have opted to use the Limiting Participation model. For Spinning Reserves, the Resource can be scheduled to the lower of the Resource's ERR multiplied by ten or the Resource's specified Participation Limit.

[6] The NYISO initiates a maximum generation pickup mode when an Emergency makes it necessary to maximize Energy production in one or more location(s). *See* Services Tariff Section 4.4.3.

For 30-Minute Reserves, the Resource can be scheduled to the lower of the Resource's ERR multiplied by twenty or its applicable upper operating limit.

D. Services Tariff Section 17

In Services Tariff Section 17.1.2.1.3, the NYISO proposes to add language clarifying the scheduling rules for CCGTs with duct-firing capability during RTD-CAM activations. The applicable scheduling rules depend on whether a CCGT with duct-firing capability has opted to use the Limiting Participation model.

The proposed revisions clarify that, if a CCGT with duct-firing capability does not opt to use the Limiting Participation model, the NYISO will have the discretion to either: (i) move the Resource's Real-Time Dispatch ("RTD") Base Point Signal signal towards its emergency upper operating limit at the normal response rate pertaining to the operating region that its base point was at prior to a RTD-CAM activation; or (ii) set the Resource's RTD Base Point Signal at a level equal to the Resource's base point prior to a RTD-CAM activation.

For each CCGT with duct-firing capability that has opted to use the Limiting Participation model, the applicable scheduling rules are determined based on the Generator's physical base point immediately prior to each RTD-CAM activation. If the Generator's physical base point immediately prior to a RTD-CAM activation was below its specified Participation Level, the NYISO will have discretion to either: (i) move the RTD Base Point Signal of the Generator towards its Participation Limit at the normal response rate pertaining to the operating region that its physical base point was at prior to the RTD-CAM activation; or (ii) set the Resource's RTD Base Point Signal at a level equal to the Resource's base point prior to the RTD-CAM activation. If, however, the Generator's physical base point immediately prior to a RTD-CAM activation was equal to or above its specified Participation Level, the NYISO will set the Resource's RTD Base Point Signal at a level equal to its base point prior to the RTD-CAM activation.

IV. Effective Date

The NYISO respectfully requests that the Commission issue an order accepting the tariff revisions proposed in this filing on or before July 29, 2025 (*i.e.*, sixty days after submission of this filing) with a flexible effective date. The NYISO currently anticipates that the proposal may be implemented as early as June 1, 2026.[7] The NYISO cannot propose a more precise effective date until the software changes necessary to implement the proposed tariff revisions are finished, adequately tested, and the software deployment is scheduled. The NYISO proposes to submit a notice at least two weeks prior to the proposed effective date that will specify the date on which the revisions will take effect. Consistent with Commission precedent, the subsequent submittal

[7] The NYISO intends to implement the proposed revisions between June 1, 2026 and December 31, 2026, subject to Commission acceptance of this filing and the proposed prior notice requirements discussed further in this Section IV.

will provide adequate notice to the Commission and Market Participants of the implementation date for the revisions proposed herein.[8]

The NYISO also requests a waiver of the Commission's regulations to allow the NYISO to make this filing more than 120 days prior to the date on which the proposed tariff revisions are to become operational.[9] No Market Participant will be prejudiced by this request because the NYISO has informed stakeholders of the anticipated implementation timeframe for this proposal. Submitting the proposed tariff revisions now will provide more certainty of the upcoming market rule changes for the NYISO and its stakeholders. This certainty will allow the NYISO to proceed more confidently with software development efforts.

V. Stakeholder Approval

The Management Committee approved the revisions to the Services Tariff on October 31, 2024. The NYISO Board of Directors approved the proposed tariff revisions on November 19, 2024.

VI. Correspondence

All communications and correspondence concerning this filing should be directed to:

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[8] *See, e.g., New York Indep. Sys. Operator, Inc.*, 106 FERC ¶ 61,111 at P 10 (2004); Docket No. ER 11-2544-000, *New York Indep. Sys. Operator, Inc.*, Letter Order at 1 (February 10, 2011); Docket No. ER15-485-000, *New York Indep. Sys. Operator, Inc*., Letter Order at 2 (January 15, 2015); *New York Indep. Sys. Operator, Inc.*, 151 FERC ¶ 61,057 at P 20 (2015); *New York Indep. Sys. Operator, Inc*., 170 FERC ¶ 61,033 at P 34 (2020).

[9] *See* 18 C.F.R. § 35.3(a)(1).

VII. Service

The NYISO will send an electronic link to this filing to the official representative of each of its customers, and each participant on its stakeholder committees. The NYISO will send an electronic copy of this filing to the New York State Public Service Commission and the New Jersey Board of Public Utilities. The NYISO will also post a complete copy of this filing on its website at www.nyiso.com.

VIII. Conclusion

The NYISO respectfully requests that the Commission: (1) waive its regulations to allow the NYISO to make this filing more than 120 days prior to the date on which the proposed tariff revisions are to become operational; and (2) issue an order on or before July 29, 2025 accepting the tariff revisions proposed in this filing without modification, with a flexible effective date as further described in Section IV.

Respectfully submitted,

/s/ James H. Sweeney
James H. Sweeney, Senior Attorney
New York Independent System Operator, Inc.

cc:
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