NEW YORK INDEPENDENT SYSTEM OPERATOR
10 Krey Boulevard ♦ Rensselaer, NY 12144

December 6, 2013

By Electronic Delivery

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: New York Independent System Operator, Inc.'s Proposed Tariff Amendments to Implement External Coordinated Transaction Scheduling with PJM Interconnection, LLC; Docket No. ER14-___-___

Dear Ms. Bose:

Pursuant to Section 205 of the Federal Power Act,[1] the New York Independent System Operator, Inc. ("NYISO") hereby submits proposed amendments to its Open Access Transmission Tariff ("OATT") and Market Administration and Control Area Services Tariff ("Services Tariff") to add new Real-Time Market[2] External Transaction bidding and scheduling rules that will enable the NYISO to implement Coordinated Transaction Scheduling ("CTS") at its border with PJM Interconnection, LLC ("PJM"). The NYISO and PJM are collectively referred to herein as the "ISOs," even though PJM is a Regional Transmission Organization.

CTS is a set of Real-Time Market rules that allows Imports and Exports to be scheduled based on a bidder's willingness to purchase energy at a source in the PJM Control Area or the NYISO Control Area and sell it at a sink in the other Control Area if the forecasted price at the sink minus the forecasted price at the corresponding source is greater than or equal to the dollar value specified in the CTS Interface Bid. The NYISO proposes to implement CTS at all four of the PJM Proxy Generator Buses over which interchange between the ISOs can be scheduled.[3] The ISOs propose to implement CTS in November of 2014.[4]

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[1] 16 U.S.C. §824d (2010).

[2] Capitalized terms not otherwise defined herein shall have the meaning specified in Section 1 of the OATT and Section 2 of the Services Tariff.

[3] The ISOs intend to designate the PJM Keystone Proxy Generator Bus, the Neptune Scheduled Line Proxy Generator Bus, the Linden VFT Scheduled Line Proxy Generator Bus and the HTP Scheduled Line Proxy Generator Bus as CTS Enabled Proxy Generator Buses.

[4] As explained in Section V of this filing, the NYISO proposes to set an effective date for the CTS-related tariff amendments by submitting an eTariff filing at least two weeks in advance of the proposed effective date. The NYISO will coordinate with PJM to develop a mutually agreed to proposed implementation date.

The Commission accepted similar, but not identical, CTS scheduling rules for implementing CTS at the NYISO's primary A/C interface with ISO-New England ("ISO-NE") in 2012.[5] The Tariff revisions the NYISO proposes in this filing build upon the Tariff amendments NYISO developed to implement CTS with ISO-NE. Certain details of the NYISO's implementation of CTS with PJM differ from its implementation of CTS with ISO-NE. For this reason, the proposed Tariff rules had to be carefully crafted to both account and allow for differences between how CTS will be implemented with ISO-NE,[6] and how it will be implemented with PJM.[7] The NYISO is also proposing Tariff changes to ensure that associated credit requirements properly assess coverage for CTS transactions. The proposed credit requirements for CTS transactions are similar, but not identical, to the requirements that the Commission has accepted for other External Transactions.[8] The Tariff amendments proposed in this filing were approved by the NYISO's Management Committee and its Board of Directors.[9]

Dr. David Patton, President of Potomac Economics, Ltd. which is the NYISO's external Market Monitoring Unit ("MMU"), has endorsed CTS as a method for improving the efficiency of Energy trading across the external Interfaces at which it is implemented.[10]

I. Documents Submitted

1. This filing letter;

2. A clean version of the proposed revisions to the NYISO's OATT ("Attachment I");

3. A blacklined version of the proposed revisions to the NYISO's OATT ("Attachment II");

4. A clean version of the proposed revisions to the NYISO's Services Tariff ("Attachment III");

5. A blacklined version of the proposed revisions to the NYISO's Services Tariff ("Attachment IV"); and

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[5] *New York Independent System Operator, Inc.*, 139 FERC ¶ 61,048 (2012).

[6] NYISO's anticipated implementation date for CTS with ISO-NE is the fourth quarter of 2015.

[7] Section V of this filing letter sorts the Tariff revisions into (a) Tariff revisions that are specific to implementation of CTS with ISO-NE (that were accepted for filing by the Commission in Docket No. ER12-701, but that may be further modified in this filing to make clear that they only apply to CTS with ISO-NE), (b) Tariff revisions that are necessary to implement CTS with both PJM and ISO-NE, and (c) Tariff revisions that are being newly proposed in this filing.

[8] *See New York Independent System Operator, Inc.*, 143 FERC ¶ 61,229 (2013).

[9] The proposed ministerial correction to the last line of Section 6.5.1 of OATT Rate Schedule 5 was not presented to the NYISO's stakeholders.

[10] *See* Potomac Economics Ltd.'s *2010 State of the Market Report for the New York Market* ("2010 SOM"), at p. x. Link: http://www.nyiso.com/public/markets_operations/documents/studies_reports/index.jsp.

6. PJM's concurrence letter, concurring with the proposed revisions to OATT Sections 35.2, 35.7 and 35.12, the NYISO/PJM Joint Operating Agreement ("Attachment V").

II. Discussion

A. Explanation of CTS and Expected Benefits of CTS

Under the ISOs' proposal, once a Proxy Generator Bus at the NYISO/PJM border is CTS enabled, Transmission Customers will gain the option to submit CTS Interface Bids to schedule real-time Imports and Exports at that bus.[11] CTS Interface Bids cannot be used to schedule Wheels Through the New York Control Area ("NYCA"). CTS Interface Bids will be evaluated using the CTS bidding and scheduling rules that were initially submitted for implementation with ISO-NE, as supplemented and revised by the proposed Tariff revisions that accompany this filing letter.

Transmission Customers using CTS will submit a single CTS Interface Bid to indicate their desire to simultaneously buy Energy in one Control Area and sell Energy into the other Control Area based on the forecasted price difference between the NYISO and PJM markets at the relevant location. CTS Interface Bids allow schedules to be based on the price differences projected by PJM and NYISO. Every 15 minutes, the NYISO will incorporate PJM's forecast prices into the NYISO's Real-Time Commitment ("RTC") optimization and will economically evaluate CTS Interface Bids, Decremental Bids and Sink Price Cap Bids to determine cross-border Transaction schedules.[12]

CTS will improve scheduling efficiency for both NYISO and PJM by: (i) adding a new scheduling option for Transmission Customers that transact across the NYISO/PJM border; (ii) allowing Transmission Customers to Bid different MW quantities at different prices for each 15 minute interval within an hour; (iii) reducing counter-intuitive regional schedules by explicitly incorporating projected price differences between the NYISO and PJM Control Areas into scheduling decisions; and (iv) establishing intra-hour schedules 15 minutes closer to actual, real-time operations. The scheduling process, repeated every 15 minutes, will more efficiently utilize a CTS Enabled Interface whenever economic Transactions are proposed to move power from the low-cost Control Area to the high-cost Control Area. Establishing intra-hour schedules closer to the actual 15 minute scheduling interval will improve the accuracy of cross-border scheduling decisions because those decisions will reflect updated system conditions. Submitting a CTS Interface Bid can also protect a Transmission Customer from the financial risk of obtaining inconsistent transmission schedules in NYISO and PJM because CTS Interface Bids

[11] CTS Interface Bids can be used to schedule both transactions to buy and sell Energy from the ISOs' LMP Markets and Bilateral Transactions to schedule Transmission Service for a private Energy sale. Wheels Through at CTS Enabled Proxy Generator Buses will continue to use Decremental Bids, as they do currently.

[12] Every 15 minutes, the NYISO runs a multi-period optimization covering the next 2.5 hours in 15-minute intervals. To implement CTS, PJM will provide the NYISO the forecasted LMPs from its Intermediate Term Security Constrained Economic Dispatch ("IT SCED") application prior to each RTC run, as an input into the NYISO optimization.

are jointly scheduled and coordinated between the ISOs. Other types of External Transactions are separately scheduled in NYISO and PJM, and then aligned using a manual check-out process.

CTS Interface Bids will be an additional bidding option for Transmission Customers that transact at the NYISO/PJM border. Transmission Customers will have the ability to submit CTS Interface Bids for scheduling across the NYISO/PJM free-flowing tie lines or any of the three Scheduled Lines connecting New York and PJM. The NYISO will also continue to evaluate Decremental Bids (imports) and Sink Price Cap Bids (exports) for all Transactions between NYISO and PJM. Decremental Bids will continue to be required to schedule Wheels Through the NYCA.

The market improvements that the NYISO proposes to develop to implement CTS with PJM will allow Customers at ***any*** Variably Scheduled Proxy Generator Bus[13] to submit up to an 11-point bid curve, *i.e.*, up to eleven different prices and eleven different MW quantities, for *each* 15-minute interval of an upcoming hour.[14] The additional flexibility will be available to CTS Interface Bids, Decremental Bids and Sink Price Cap Bids that propose to schedule Imports or Exports.[15] This additional scheduling flexibility will permit the submission of offers to import or bids to export Energy that vary the amount of Energy that is offered, and vary the price, for each quarter hour evaluation period.

The CTS bid improvements provide Transmission Customers a more precise method of arbitraging price differences between the NYISO and PJM markets. Instead of submitting a strike price, CTS Interface Bids specify a minimum predicted[16] price difference between the two markets for the ISOs to use in deciding whether or not to schedule a CTS Interface Bid. For example, a CTS Interface Bid for the hour beginning 10:00:00 may contain the following components:

- For 10:00:00 thru 10:14:59
    - I want to be scheduled to export 20 MW from the NYCA to PJM if the projected PJM price is greater than the projected NYCA price by $10/MWh or more,

[13] Sections 2.22 and 4.4.4 of the Services Tariff define and identify the NYISO's Variably Scheduled Proxy Generator Buses.

[14] The NYISO is not proposing to change the timing of Bid submission in this filing. Bids are required to be submitted 75 minutes in advance of the hour, or 85 minutes in advance of the hour at Scheduled Lines that require Advance Reservations. *See* the definition of "Real-Time Scheduling Window" in Section 2.18 of the Services Tariff.

[15] This market improvement will apply at all Variably Scheduled Proxy Generator Buses, at any NYCA border, without regard to whether a Proxy Generator Bus is CTS enabled.

[16] CTS transactions will be scheduled on an *ex ante* basis using the projected, locational price difference between the NYISO and PJM (or ISO-NE) Control Areas.

- I want to be scheduled to export 40 MW from the NYCA to PJM if the projected PJM price is greater than the projected NYCA price by $20/MWh or more,

- and so on, using up to eleven different price/MW pairs

- from 10:15:00 thru 10:29:59

  - I want to be scheduled to export 20 MW from the NYCA to PJM if the projected PJM price is greater than the projected NYCA price by $15/MWh or more,

  - I want to be scheduled to export 30 MW from the NYCA to PJM if the projected PJM price is greater than the projected NYCA price by $25/MWh or more,

  - and so on, using up to eleven different price/MW pairs

- the same opportunities exist for 10:30:00 thru 10:44:59 and for 10:45:00 thru 10:59:59.

CTS with PJM will accommodate both purchases and sales of Energy and the scheduling of Transmission Service in real-time at CTS Enabled Proxy Generator Buses. No changes to the scheduling of External Transactions in the Day-Ahead Market are necessary. Transmission Customers will be able to transfer their Day-Ahead scheduled Imports and Exports into the NYISO's Real-Time Market using their choice of a CTS Interface Bid, a Decremental Bid, or a Sink Price Cap Bid.

In real time, the NYISO's RTC will use the projected real-time prices resulting from PJM's existing Intermediate Term Security Constrained Economic Dispatch ("IT SCED") process as the basis for determining which CTS Interface Bids should be scheduled. The NYISO economic evaluation in RTC will schedule CTS Interface Bids that would be profitable given the projected PJM and NYISO prices at each CTS Enabled Proxy Generator Bus. CTS Interface Bids will be evaluated against Decremental Bids, Sink Price Cap Bids and Wheels Through. The most recently available information on prices from IT SCED will be used by the NYISO's RTC to schedule Imports and Exports, and to produce forward-looking advisory schedules. The NYISO will provide the advisory schedules produced by each RTC evaluation to PJM. The advisory schedule information will then be used in subsequent PJM IT SCED runs. As a result, RTC and IT SCED will be more closely aligned, and will iterate to produce an efficient dispatch solution at the NYISO/PJM border.

B. Explanation and Expected Benefits of Proposed Market Improvements that Accompany CTS

The NYISO also proposes to move its evaluation of Import offers and Export bids at all Variably Scheduled Proxy Generator Buses 15 minutes closer to real-time operations. Today,

the NYISO begins its economic evaluation of import offers and export bids 45 minutes prior to each quarter hour and establishes the binding schedules 30 minutes prior to real-time operations. When the CTS with PJM Tariff revisions are permitted to take effect, the NYISO proposes to begin its evaluation of import offers and export bids 30 minutes before each quarter-hour and to establish the binding schedules 15 minutes prior to real-time operations; a 15 minute improvement that will improve the accuracy of scheduling decisions.[17] Because CTS Interface Bids are evaluated against projected clearing prices in NYISO and PJM, moving the evaluation of Bids 15 minutes closer to the real-time flow of energy increases the likelihood that projected NYISO and PJM prices that are used to schedule External Transactions will closely align with actual real-time prices. This enhancement will also improve the accuracy of the NYISO's economic evaluation of the Decremental and Sink Price Cap import offers and export bids it receives.

The NYISO's proposed Tariff revisions also remove two import revenue guarantees that otherwise would be available to importers of Energy to New York: (1) the Real-Time Bid Production Cost Guarantee for Imports ("RT Import BPCG"), and (2) the Import Curtailment Guarantee. The NYISO's proposal to remove RT Import BPCG and Import Curtailment Guarantees is consistent with the changes that the NYISO proposed, and the Commission accepted, as part of NYISO's implementation of CTS with ISO-NE.[18]

RT Import BPCG is currently paid to a Transmission Customer when the LBMP revenue it receives for importing Energy to the NYCA does not cover the Bid cost the Transmission Customer submitted.[19] The expected LBMP at the time an Import is scheduled by RTC can differ from the actual LBMP at the time the Energy associated with the Import is delivered to the NYISO. This can occur due to changes in system conditions that have not occurred, or that are not yet reflected in RTC, at the time an Import is scheduled, but that manifest before the Energy associated with the Import is delivered (hereafter, "latency risk"). Statewide Load currently pays the cost of protecting Transmission Customers that schedule Imports from latency risk.

Latency risk increases as the time between RTC's scheduling decision and the delivery of the Energy increases. The NYISO's proposal to move its evaluation of import offers and export bids 15 minutes closer to real-time operations will significantly reduce latency risk by halving (reducing from 30 minutes to 15 minutes) the time period between RTC's scheduling decision and actual Energy flowing between the NYISO and a neighboring Control Area.

In approving CTS with ISO-NE, and later CTS with PJM, the NYISO's stakeholders elected to re-assign the cost of hedging latency risk to Transmission Customers. Transmission

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[17] Transmission Customers will continue to submit their Import offers and Export bids at least 75 minutes before each Real-Time Market operating hour. Continuation of this longstanding practice is necessary to ensure that NYCA resources and external resources are evaluated on an equivalent basis.

[18] *See New York Independent System Operator, Inc.*, 139 FERC ¶ 61,048 at PP 20 and 21 (2012); *NYISO's Proposed Tariff Amendments to Add External Coordinated Transaction Scheduling Market Rules and Request for Waiver*, Docket No. ER12-701 at pp. 6-7 (December 28, 2011).

[19] At Variably Scheduled Proxy Generator Buses RT BPCG is only available to Imports that are offered on a quarter-hourly basis. *See* Services Tariff Section 18.6.1.2.1.

Customers offering to import Energy to the NYCA have the ability to include perceived latency risk in the $/MWh component of their import offer. Eliminating the RT Import BPCG payments for Imports at CTS Enabled Interfaces will leave to each Transmission Customer the decision on how recovering the cost of latency risk fits within its bidding strategy. Transmission Customers that are able to hedge latency risk most effectively/efficiently (at the lowest cost) will gain a market advantage.

The NYISO proposes to eliminate RT Import BPCG payments for all Imports entering the NYCA from PJM, without regard to whether the Import is offered via a CTS Interface Bid, or a Decremental Bid. The removal of RT Import BPCG protection for Imports at the PJM border directly parallels the Commission approved removal of RT Import BPCG protection for Imports at the NYCA/ISO-NE border.[20] When CTS with ISO-NE goes into effect, there will only be one method available to schedule Imports and Exports between the NYCA and ISO-NE; a CTS Interface Bid. After CTS with PJM takes effect there will be two methods of offering Imports to New York available; a CTS Interface Bid or a Decremental Bid. It would not be appropriate to protect some Imports, but not others, from latency risk. If Imports offered via a Decremental Bid were eligible to receive RT Import BPCG, but Imports submitted via a CTS Interface Bid were not similarly eligible to receive RT Import BPCG, Transmission Customers would have an unwarranted incentive to use Decremental Bids to offer Imports to the NYISO.[21]

The Commission also accepted a NYISO proposal to reassign responsibility for latency risk from statewide Loads to Transmission Customers when it accepted the NYISO's Enhanced Interregional Transaction Coordination filing in 2011. When the NYISO implemented 15 minute scheduling at its PJM and Chateauguay (Hydro Quebec) Proxy Generator Buses it continued to allow Transmission Customers to offer Imports and Exports on an hourly basis, but limited the availability of BPCGs to Imports that were offered on a 15 minute basis.[22]

The NYISO proposes to eliminate all Import Curtailment Guarantee payment at CTS Enabled Interfaces. The NYISO pays Import Curtailment Guarantees to keep Imports that were scheduled in the NYISO's Day-Ahead Market whole to their Day-Ahead Margin[23] if: (1) the NYISO curtails the corresponding, scheduled real-time Import for reliability reasons, and (2) the importing Transmission Customer's balancing obligation (the obligation to purchase Energy in the Real-Time Market to replace the MWs that were scheduled Day-Ahead, but not delivered in real-time) erodes the Day-Ahead Margin the Transmission Customer would have received if it had delivered its scheduled Energy in real-time. Like latency risk, the risk of a curtailment

[20] *See New York Independent System Operator, Inc.*, 139 FERC ¶ 61,048 at PP 20 and 21 (2012).

[21] The NYISO intends to submit a Federal Power Act Section 205 Filing with the Commission proposing to eliminate RT BPCG protection for Imports at all of its borders in December of 2013.

[22] *See New York Independent System Operator, Inc.,* 134 FERC ¶ 61,186 at P 6 (2011).

[23] Section 2.4 of the Services Tariff defines the Day-Ahead Margin as "That portion of Day-Ahead LBMP, Operating Reserves settlement or Regulation Service settlement for an hour that represents the difference between the Supplier's accepted Day-Ahead offer price and the Day-Ahead LBMP, Operating Reserves settlement or Regulation Service settlement for that hour."

should also be incorporated into the Transmission Customer's import offer, rather than being charged to statewide Load.

The NYISO has never offered a real-time BPCG or curtailment guarantee to Exports. Transmission Customers that want to schedule Exports from the NYCA already incorporate their exposure to latency and curtailment risks into their export bids. Transmission Customers that want to schedule Imports to the NYCA will have the same opportunity to reflect their expected costs in their import offers.

C. Studies Indicate that PJM and NYISO will Benefit from Implementing CTS at the NYISO/PJM Border

As explained above, the proposed CTS bidding and market improvements will provide additional scheduling options for Transmission Customers and will move the NYISO's economic evaluation of import offers and export bids 15 minutes closer to real-time operations. NYISO's and PJM's joint studies indicate that CTS should lead to more efficient scheduling at the NYISO/PJM border, closer alignment of the two Control Areas' clearing prices, and provide a net benefit to both PJM's and NYISO's customers. As stated in the *2010 State of the Market Report for the New York Markets*, the NYISO's Market Monitoring Unit also supports the CTS market design as improving the efficiency of Energy Transactions at the Interfaces at which it is authorized.[24]

The ISOs estimate that, in 2012, approximately 33% of the intervals have inefficient schedules when there is more than a $10/MWh price differences between the two control areas. These intervals can be evenly divided between "counter-intuitive" intervals (when flows are going from a high priced control area to a low priced control area), and inefficient intervals (when the flows are in the correct direction, but the interface is not being fully utilized). CTS is expected to improve efficiency by providing an additional mechanism to align flow with the price signals in the two Control Areas.

NYISO and PJM performed an iterative, supply curve based analysis to evaluate the production cost savings that both markets could have realized in 2012 if CTS had been in effect and Transmission Customers had made effective use of the market enhancement. For the study, the ISOs used hourly average prices for PJM and NYISO for the time period from January through December 2012, in conjunction with monthly supply curves. Three different price alignment scenarios were simulated, testing the additional efficiencies that could be achieved if CTS successfully changed power flows to improve price convergence. The first scenario aggressively assumed that CTS would converge prices until the difference between the NYISO's

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[24] *See:* 2010 SOM at p. x: http://www.nyiso.com/public/markets_operations/documents/studies_reports/index.jsp. (Also excerpted in Appendix A):

> *Our analyses indicate that the potential production cost savings are roughly $17 million per year assuming optimal interchange based on perfect information. The study indicated that a large share of these potential benefits would be captured by either of the two proposed solutions (roughly 70 percent). While the Tie Optimization proposal performed slightly better in our simulations than the Coordinated Transaction Scheduling proposal, the benefits are similar. Therefore, we would support either alternative.*

LBMP and PJM's LMP at the ISOs' primary A/C interface,[25] was $5/MWh. The second scenario assumed that CTS would converge prices until the difference between the NYISO's LBMP and PJM's LMP at the ISOs' primary A/C interface, was $10/MWh. The final scenario conservatively assumed that CTS would converge prices until the difference between the NYISO's LBMP and PJM's LMP at the ISOs' primary A/C interface, was $15/MWh. To approximate other factors that may prevent convergence (for example, ramp constraints that must be respected in order to reliably operate the system), the study calculation also restricted the number of MWs that each area would adjust from the original starting point to increase the operational reality of this study approach to 200 MW, 300 MW and 400 MW. In total, the NYISO and PJM studied nine different scenarios.[26]

In each of the nine scenarios studied, both NYISO and PJM experienced potential production cost savings. The total potential cost reduction ranged from almost $9 million/year in the most conservative scenario[27] to over $26 million/year in the most optimistic scenario.[28]

III. Description and Justification of Proposed Revisions to the Services Tariff

The NYISO developed its CTS with PJM tariff revisions by building on the language that NYISO developed, and the Commission accepted, to implement CTS with ISO-NE in its "CTS with ISO-NE Order" in 2011.[29] The NYISO does not expect to implement CTS with ISO-NE until the fourth quarter of 2015; approximately a year after NYISO is requesting that the Commission permit the Tariff revisions necessary to implement CTS with PJM to become effective. In Section V of this filing letter, the NYISO addresses the proposed effective dates for each of the Tariff revisions described below.

In addition to the revisions described below, the NYISO proposes some ministerial and grammatical corrections, and some re-numbering of sections and cross-references that it does not describe.

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[25] The primary A/C interface between the NYISO and PJM is the "Keystone Proxy Generator Bus" in New York and the corresponding "NYIS Interface" in PJM.

[26] *See* NYISO presentation to Stakeholders on September 30, 2013: http://www.nyiso.com/public/webdocs/markets_operations/committees/mc/meeting_materials/2013-09-30/CTS%20PJM%20MC%2009302013%20FOR%20PRESENTATION.pdf.

[27] The most conservative scenario posited that only 200 additional MW could be moved between the NYISO and PJM markets to better converge prices, and that no further effort to converge prices would occur when the difference between the PJM LMP and the NYISO LBMP was $15/MWh or less.

[28] The most optimistic scenario posited that 400 additional MW could be moved between the markets to better converge prices, and that no further effort to converge prices would occur when the difference between the PJM LMP and the NYISO's LBMP was $5/MWh or less.

[29] *See New York Independent System Operator, Inc.*, 139 FERC ¶ 61,048 (2012); *NYISO's Proposed Tariff Amendments to Add External Coordinated Transaction Scheduling Market Rules and Request for Waiver*, Docket No. ER12-701-000 (December 28, 2011).

A. Section 2: Definitions

The NYISO proposes to modify a number of defined terms and proposes a small number of new terms. Most of the modifications proposed below are designed to ensure that the defined terms can be used for both CTS with ISO-New England and CTS with PJM:

Section 2.2:

Bid Price: The NYISO proposes clarifying changes to explain that, in the case of a CTS Interface Bid, the Bid Price is "a dollar value that indicates the bidder's willingness to purchase Energy at a CTS Source and sell it at a CTS Sink across a CTS Enabled Interface if, at the time of scheduling, the forecasted CTS Sink Price minus the forecasted CTS Source Price is greater than, or equal to, the dollar value specified in the Bid."

Section 2.3:

CTS Credit Requirement: A new defined term that specifies how the NYISO will calculate credit requirements for CTS Interface Bids.

CTS Enabled Proxy Generator Bus: The NYISO proposes to modify the definition that was developed in the CTS with ISO-NE filing to recognize that CTS Interface Bids may be offered at an Interface where Incremental Energy Bids, Decremental Bids and Sink Price Cap Bids are also available bidding options.

CTS Interface Bid: This term describes the Bid that Transmission Customers will use at CTS Enabled Interfaces to schedule Imports and Exports**.**

Wheels Through the NYCA will be scheduled hourly and will be Bid as they are today, using existing Decremental Bid protocols, rather than CTS Interface Bids.[30]

Bilateral Transactions, or requests for Transmission Service, will also be submitted using a CTS Interface Bid and will be included in the NYISO's economic optimization at the CTS Enabled Proxy Bus. As is the case today, the request for transmission service will be scheduled if economic although no Energy settlement will be attached to the schedule. Rather, a Transmission Usage Charge will be calculated and charged as it is today.[31]

CTS Sink: The term "CTS Sink Control Area" was changed to recognize that there may be more than one CTS Enabled Proxy Generator Bus at the intersection between two Control Areas, and that Energy withdrawals will be location-specific.

CTS Source: The term "CTS Source Control Area" was changed to recognize that there may be more than one CTS Enabled Proxy Generator Bus at the

[30] Because Wheels Through are simultaneously scheduled at two NYISO Interfaces, the NYISO is constrained to use Bid-types and scheduling frequency that are common to all its Interfaces.

[31] *See* OATT Section 2.7.2.2.

intersection between two Control Areas, and that Energy injections will be location-specific.

CTS Sink Price: The price at a CTS Sink. Replaces "CTS Sink Control Area Price."

CTS Source Price: The price at a CTS Source. Replaces "CTS Source Control Area Price."

Section 2.9:

NYISO proposes a ministerial correction to the definition of "Imputed LBMP Revenue." The proposed correction is not directly related to the purpose of this filing.

Section 2.16:

The NYISO proposes modifications to the terms "Point(s) of Delivery," "Point(s) of Withdrawal," "Point(s) of Injection" and "Point(s) of Receipt" to clarify that Proxy Generator Buses are permitted Points of Delivery, Points of Withdrawal, Points of Injection and Points of Receipt in New York.

B. Section 4: Real-Time Markets and Schedules

Consistent with pages 5-6 of its November 12, 2013 Variable Energy Resource ("VER") compliance filing in Docket No. ER14-385-000, the NYISO proposes to amend Section 4.4.1.2.2 of its Services Tariff to permit the submission of Bids to import or export Energy that vary the amount of Energy offered, and/or vary the price at which Energy is offered for each quarter-hour of an upcoming Real-Time Market hour. The NYISO proposes to make the enhanced Bid flexibility available at ***all*** Variably Scheduled Proxy Generator Buses, not just at CTS Enabled Proxy Generator Buses.

Consistent with the proposed amendments to Section 16.3.1 of the OATT (below), the NYISO proposes to amend Section 4.4.1.2.2 of its Services Tariff to clarify the rules that apply at Variably Scheduled Proxy Generator Buses that (a) are not CTS Proxy Generator Buses, and (b) where Transmission Customers submitting External Transaction Bids may specify whether they want to be scheduled on an hourly or intra-hour basis. The NYISO's Chateauguay Proxy Generator Bus with Hydro Quebec is the only Proxy Generator Bus that will satisfy the specified criteria after CTS with PJM is implemented.

Consistent with pages 6-7 of its VER compliance filing, the NYISO proposes two symmetric revisions to Section 4.4.1.4 of the Services Tariff that will permit the NYISO to move its economic evaluation of External Transaction Bids 15 minutes closer to real-time operations. This change will improve the accuracy of the NYISO's scheduling decisions.

The NYISO proposes the following revisions to the table in Section 4.4.4 of its Services Tariff:

- First, the NYISO proposes to add two new sub-columns to identify Proxy Generator Buses where a CTS Interface Bid is "required," meaning a CTS Bid is the only option for submitting intra-hour Import offers and Export bids; and Proxy Generator Buses where CTS Interface Bids are "permitted," meaning Transmission Customers that desire to schedule an intra-hour Import or Export may choose to submit a CTS Interface Bid, a Decremental Bid or a Sink Price Cap Bid.

- Second, the NYISO proposes to add a note to clarify that Wheels Through will continue to be scheduled on an hourly basis at Variably Scheduled Proxy Generator Buses.

- Third, NYISO proposes to add a note to make clear that it does not yet offer dynamic (5 minute) scheduling, even though dynamic scheduling is listed on the table as a scheduling option.

In addition to modifying the table in Section 4.4.4 of the Services Tariff, the NYISO proposes to modify the text of Section 4.4.4 to clarify that if it is required to change to hourly scheduling at a Variably Scheduled Proxy Generator Bus or at a Dynamically Scheduled Proxy Generator Bus to address technical problems, or to preserve system reliability, the NYISO will also use hourly pricing rules. This will make pricing consistent with scheduling under the described conditions.

Finally, the NYISO proposes to clarify that it is not required to evaluate CTS Interface Bids at times when it, or a neighboring Balancing Authority is unable to implement the resulting schedules, or when necessary to preserve system reliability. An example of a circumstance under which this exception might apply is when the neighboring RTO is not able to transmit its projected prices or supply curve to the NYISO. If the NYISO does not timely receive the neighboring ISO's/RTO's supply curve (ISO-NE) or projected LMPs (PJM), then it will not be possible for the NYISO to determine the expected price spread between the two markets that it requires to economically evaluate and schedule CTS Interface Bids.

C. Section 26.4, Attachment K

The NYISO proposes amendments to Services Tariff Attachment K to add a new CTS Credit Requirement to the NYISO's credit rules. In addition to the revisions described below, the NYISO proposes some ministerial/grammatical corrections and some re-numbering of sections and cross-references that it does not describe.

The NYISO proposes to amend Section 26.4.2.2 to add the "CTS Credit Requirement" to the External Transaction Component of a Customer's overall credit requirement.

The NYISO proposes to add rules for determining a Customer's CTS Credit Requirement to Section 26.4.2.2.4 of Attachment K. The CTS Credit Requirement will apply to any Market Participant that enters a CTS Interface Bid to Export Energy from the NYCA, excluding non-firm transactions. All of a Market Participant's CTS Interface Bids to Export Energy that have the same source, sink and Bid date/hour will be grouped together and credit evaluated as one bid-

group. The CTS Credit Requirement for each such bid-group will first be calculated at the close of the hour-ahead market. At market close for an hour the CTS Credit Requirement for CTS Interface Bids to Export will be calculated as the sum of the time-weighted RTC price times the MWhs bid for each interval within the hour, not to be less than zero. Once the hour during one or more CTS Interface Bid(s) to Export were scheduled is completed in real-time, the credit requirement will be the total MWhs scheduled times the time-weighted integrated Real-Time LBMP for that hour; not to be less than zero.

After the market day is complete, the credit requirement for CTS transactions will equal the net payments due to the NYISO as determined by the daily bill results for that market day.

D. Section 31, Attachment P

The NYISO proposes to amend the title to this Attachment to make clear that it only applies to the NYISO's implementation of CTS with ISO-NE. Services Tariff Attachment P will not become effective until NYISO and ISO-NE implement CTS.

IV. Description and Justification of Proposed OATT Revisions

A. Sections 1.2, 1.3 and 1.16: Definitions

The NYISO proposes to modify the OATT definitions that correspond to the definitions that the NYISO proposed to modify in Sections 2.2, 2.3 and 2.16 of the Services Tariff. See above.

B. Section 6: Rate Schedules

The proposed revisions to OATT Rate Schedules 1, 2 and 5 will not take effect until the NYISO implements CTS with ISO-NE.

Section 6.1, Rate Schedule 1: ISO Annual Budget Charge and Other Non-Budget Charges and Payments

Section 6.2, Rate Schedule 2: Voltage Support Service; and

Section 6.5, Rate Schedule 5: Operating Reserves

The NYISO and ISO-NE reciprocally agreed to eliminate certain Import and Export fees for CTS Interface Bids that are scheduled between their Control Areas. NYISO and PJM have not agreed to reciprocally eliminate Import and Export fees at CTS Enabled Proxy Generator Buses. The NYISO proposes revisions to Sections 6.1 (Annual Budget Charge and Other Non-Budget Charges and Payments), 6.2 (Voltage Support Service) and 6.5 (Operating Reserves) of its OATT Rate Schedules to indicate that only CTS Interface Bids that are scheduled with ISO-NE are exempt from the specified Import and Export fees. The proposed changes are necessary

because PJM's stakeholders do not support reciprocal elimination of NYISO's and PJM's Import and Export fees, and NYISO's stakeholders only support elimination of NYISO's and PJM's Import and Export fees on a reciprocal basis.

The NYISO proposes an additional amendment to the last sentence of Section 6.5.1 to ensure that the crediting back of charges paid by LSEs supplying Station Power as third-party providers and by Exports, other than CTS Exports to ISO-New England, are only credited back to those that were charged for Operating Reserves.[32]

Section 16.3

Consistent with the proposed amendments to Section 4.4.1.2.2 of the Services Tariff (above), the NYISO proposes to amend Section 16.3.1 of its OATT to clarify the rules that apply at Variably Scheduled Proxy Generator Buses that (a) are not CTS Proxy Generator Buses, and (b) where Transmission Customers submitting External Transaction Bids may specify whether they want to be scheduled on an hourly or intra-hour basis. The NYISO's Chateauguay Proxy Generator Bus with Hydro Quebec is the only Proxy Generator Bus that will satisfy the specified criteria after CTS with PJM is implemented.

Section 35 - Joint Operating Agreement Between NYISO and PJM

The NYISO and PJM propose the following amendments to their Joint Operating Agreement. PJM's letter of concurrence with the proposed changes is included as Attachment V to this filing.

Section 35.2

The NYISO and PJM propose to add three new defined terms to their Joint Operating Agreement. The proposed defined terms are used in Section 35.12 of the NYISO/PJM Joint Operating Agreement to describe CTS and how it will be performed by NYISO and PJM.

> **Coordinated Transaction Scheduling ("CTS"):** market rules that allow transactions to be scheduled based on a bidder's willingness to purchase energy from a source in either the NYISO or PJM Control Area and sell it at a sink in the other Control Area if the forecasted price at the sink minus the forecasted price at the corresponding source is greater than or equal to the dollar value specified in the bid.

[32] The NYISO assesses the hourly cost of the payments it makes to Operating Reserves Suppliers to internal Load and scheduled Exports in the market in each hour. Since Station Power third party supply is not determined until the end of the month, third party Station Power Suppliers are charged for Operating Reserves only at the end of the month. The revenue recovered from these charges is then credited back or rebated to those that had already paid the full cost of Operating Reserves that month. Those receiving the rebate should not include Export Transactions resulting from CTS Interface Bids at a CTS Enabled Interface with ISO New England, since such Transactions will not be charged for Operating Reserves costs in the first place.

Intermediate Term Security Constrained Economic Dispatch: PJM's algorithm that forecasts dispatch and LMP solutions based on current and projected system conditions for up to several hours into the future.

Real-Time Commitment: NYISO's multi-period security constrained unit commitment and dispatch model.

Section 35.7

Proposed additions to this Section identify the new/additional data sharing that must occur for NYISO and PJM to implement CTS. New/additional data that NYISO and PJM must share in order to effectuate CTS includes: (i) interchange transaction offer attributes (frequency of scheduling, offer type, source and sink), (ii) forecasted interchange schedules, (iii) forecasted prices, and (iv) interface limits.

Section 35.12

Proposed Section 35.12.2 of the NYISO/PJM Joint Operating Agreement briefly explains what CTS is and how NYISO and PJM will implement CTS. The Section also identifies the circumstances under which PJM and NYISO may suspend the scheduling of CTS transactions between their regions.

V. Requested Effective Date and Request Regarding the Timing of Commission Action and Request for Waiver, if Necessary

The NYISO requests a flexible effective date between November 1, 2014 and November 30, 2014 for its proposed Tariff revisions that are necessary to implement CTS with PJM. The NYISO will not be able to propose a precise effective date until the software changes needed to implement the proposed Tariff revisions are ready for deployment and testing is complete.[33]

The NYISO proposes to submit a compliance filing at least two weeks in advance of its proposed effective date specifying the date on which the CTS with PJM Tariff revisions will take effect and specifying the date, or dates, on which its PJM Proxy Generator Buses will become CTS Enabled Proxy Generator Buses (the "2014 Compliance Filing").[34] Consistent with Commission precedent,[35] the NYISO's 2014 Compliance Filing will provide adequate notice to

[33] The NYISO will coordinate with PJM to develop a mutually agreed to proposed implementation date.

[34] The NYISO will submit revisions to Section 4.4.4 of its Services Tariff specifying the proposed effective date(s) for enabling CTS at its PJM Proxy Generator Buses.

[35] *New York System Operator, Inc*., 106 FERC ¶ 61,111 at PP 5, 10 (2004) ("We will allow NYISO to implement parts of the filing prior to September 2004, as such parts become ready for implementation, provided that NYISO adheres to the three steps identified above in Paragraph 5 of this order."); *New York Independent System Operator, Inc.*, Letter Order, Docket No. ER11-2544-000 (Feb. 10, 2011).

the Commission and to Market Participants of the NYISO's implementation date for CTS with PJM.

The NYISO developed its CTS with PJM tariff revisions by building on the language that the NYISO developed, and the Commission accepted, to implement CTS with ISO-NE in its "CTS with ISO-NE Order" in 2011.[36] However, the NYISO does not expect to implement CTS with ISO-NE until the fourth quarter of 2015; approximately a year after NYISO is requesting that the Commission permit the Tariff revisions necessary to implement CTS with PJM to become effective. In its 2014 Compliance Filing, the NYISO will submit proposed effective dates for all of the Tariff sections that are necessary to implement CTS with PJM.

The NYISO's proposed 2014 Compliance Filing will specify the effective date for the following Tariff sections that are modified by this filing and were *not* modified in the CTS with ISO-NE Filing:

- Services Tariff Sections 2.9 and 26.4;
- OATT Sections 35.2, 35.7 and 35.12.

The NYISO's proposed 2014 Compliance Filing will also specify the effective date for the following Tariff sections that were first amended in the CTS with ISO-NE Filing and are further modified by this filing:

- Services Tariff Sections 2.2, 2.3, 2.16 and 4.4;
- OATT Sections 1.2, 1.3, 1.16 and 16.3.

The NYISO's proposed 2014 Compliance Filing will further specify the effective date for the following Tariff sections that the Commission accepted in the CTS with ISO-NE Filing, that are *not* further amended in this filing, but that are also necessary to implement CTS with PJM:

- Services Tariff Sections 2.4, 2.18, 2.19, 2.20, 17.1, 18.6, 21 and 25;
- OATT Sections 1.4, 1.5, 1.18, 1.19, 1.20 and 3.1.

Finally, there are some Tariff sections that were amended in the CTS with ISO-NE Filing, that NYISO proposes to further modify in this filing, that *should not* become effective until the NYISO implements CTS with ISO-NE in the fourth quarter of 2015. The proposed modifications to Services Tariff Section 31 and OATT Sections 6.1, 6.2 and 6.5 that were submitted with this filing, along with the underlying Tariff revisions that the Commission accepted for filing in its CTS with ISO-NE Order, do not need to become effective until the

[36] *See New York Independent System Operator, Inc.*, 139 FERC ¶ 61,048 (2012); *NYISO's Proposed Tariff Amendments to Add External Coordinated Transaction Scheduling Market Rules and Request for Waiver*, Docket No. ER12-701-000 (December 28, 2011).

NYISO implements CTS with ISO-NE. The NYISO's proposed 2014 Compliance Filing will not propose an effective date for the CTS with ISO-NE Tariff revisions in these Tariff Sections.

The NYISO requests a waiver of Commission regulations to allow the NYISO to make this filing more than 120 days prior to the date on which the proposed service is to become operational.[37] No Market Participant will be prejudiced by NYISO's request because the proposed implementation timetable was developed in consultation with New York and PJM Market Participants. Market Participants have known, for some time, that the NYISO will be prepared to implement CTS software and new market rules with PJM no sooner than November 2014, and the NYISO will provide at least two weeks advance notice prior to implementation.

VI. Stakeholder and NYISO Board of Directors Approval

The NYISO's Management Committee approved, by a show of hands with one abstention, the Tariff revisions proposed in this filing on September 30, 2013.[38] The NYISO Board of Directors approved the proposed Tariff revisions on November 19, 2013.

VII. Communications and Correspondence

All communications and service in this proceeding should be directed to:

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[37] *See* 18 CFR §35.3(a)(1).

[38] The proposed ministerial correction to the last line of Section 6.5.1 of OATT Rate Schedule 5 was not presented to the NYISO's stakeholders.

VIII. Service

The NYISO will send an electronic link to this filing to the official representative of each of its customers, to each participant on its stakeholder committees, to the New York Public Service Commission, and to the New Jersey Board of Public Utilities. In addition, the complete filing will be posted on the NYISO's website at www.nyiso.com.

IX. Conclusion

Wherefore, for the foregoing reasons, the New York Independent System Operator, Inc. respectfully requests that the Commission accept its proposed Tariff revisions for filing and grant the waiver requested in Section V of this filing, subject to NYISO's submission of a compliance filing that will (i) specify a November 2014 effective date for the proposed Tariff revisions, and (ii) specify the date(s) on which each of the NYISO's PJM Proxy Generator Buses will become a CTS Enabled Proxy Generator Bus.

Respectfully submitted,

/s/ Alex M. Schnell
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