



Manual 03

Transmission Congestion Contracts Manual

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Attachments

Attachments A through U are posted on the Operations Manuals section of the NYISO website: (Library > Manuals, Technical Bulletins & Guides > Manuals > Operations). These attachments are updated on a regular basis to show current and upcoming Auction information.

Attachment A: [RESERVED FOR FUTURE USE]

Attachment B: [RESERVED FOR FUTURE USE]

Attachment C: Centralized Auction and Reconfiguration Auctions – Effective Periods of TCCs in Centralized and Reconfiguration Auctions – Sub Auctions and Rounds for the Centralized TCC Auction

Attachment D: TCC Auction Time Line

Attachment E: Points of Injection and Withdrawal (POI and POW) – Centralized TCC Auction and TCC Reconfiguration Auctions

Attachment F: Prohibited Groups of Points of Injection and Withdrawal (POI and POW) – Centralized TCC Auction and TCC Reconfiguration Auctions

Attachment G: Bidding Rules for using the HQ Proxy Bus as a POI or POW in a Centralized TCC Auction and/or a Reconfiguration Auction

Attachment H: Auction Example

Attachment I: Binding Agreement to Purchase Non-Historic Fixed Price Transmission Congestion Contracts

Attachment J: Non-Historic Fixed Price TCC Initial Purchase Documents

Attachment K: Non-Historic Fixed Price TCC Renewal Documents

Attachment L: Historic Fixed Price TCC Conversion Documents

Attachment M: Historic Fixed Price TCC Renewal Documents

Attachment N: Acronyms and Abbreviations

Attachment O: Request for Incremental TCCs

Attachment P: Examples of Transmission Capability-Related Improvements That Will Not Be Considered for Incremental TCC Awards

Attachment Q: Notification of and Confirmation for Incremental TCC Awards

Attachment R: Outage States of an Expansion with Multi-Independent Transmission Facilities

Attachment S: Sample Notice of Request for Revision to OATT Attachment L

Attachment T: TCC Market PJM-NYISO Interconnection Scheduling Protocol

Attachment U: Historic Fixed Price TCC Extension Documents

Revision History

Version	Effective Date	Revisions
1.0	08/25/2005	Initial Release
1.1	02/09/2006	<p>Section 3.63</p> <ul style="list-style-type: none"> ➤ Editorial correction to Qk variable description <p>Section 3.9.2</p> <ul style="list-style-type: none"> ➤ Minor edits under Storm Watch and revised reference to "Table 3" <p>Sections 3.9.5, 4.2.1, 4.3.1</p> <ul style="list-style-type: none"> ➤ Updated NYISO address information <p>Section 3.9.3, para 8</p> <ul style="list-style-type: none"> ➤ New paragraph "Disaggregation of ETCNL" discussing the disaggregation option, and NYISO contact information to request a disaggregation. <p>Section 4.5.7</p> <ul style="list-style-type: none"> ➤ Update language to describe changes in the normal configuration of the Astoria units.
2.0	12/30/2013	<p>Global</p> <ul style="list-style-type: none"> ➤ Reformatted per new template to standardize presentation. ➤ Standardized labeling and numbering of graphical and tabular material. ➤ Implemented minor stylistic changes. ➤ Changed the title of the manual from "Transmission Congestion Contracts Auctions Manual" to "Transmission Congestion Contracts Manual" to incorporate non-auction products. ➤ Changes have been made throughout the manual to reflect the current implementation of the TCC Automated Market System (AMS) for inventory management and offers in any round functionality. <p>Revision History Table</p> <ul style="list-style-type: none"> ➤ Changed column headings as follows: "Revision" changed to "Version" "Changes" changed to "Revisions" <p>Section 1.3</p> <ul style="list-style-type: none"> ➤ Revised to describe resources available via the TCC Data & Information web page. <p>Section 3.5 (old)</p> <ul style="list-style-type: none"> ➤ The section on "Credit Requirements" has been removed. Reader is referred to the MST. Revised offsetting Credit example. <p>Section 3.5.1</p>

		<ul style="list-style-type: none"> ➤ Updated Phase Angle Regulator descriptions in Operating Assumptions <p>New Manual sections added</p> <ul style="list-style-type: none"> ➤ Section 4.8 “NYISO Market Participant Review and Verification of Transmission Congestion Contracts (TCCs)” was added. ➤ Section 5.0 “Accepted Revisions Process – Updates to Existing Transmission Facility Agreements (“ETAs”) was added. ➤ Section 6.0 “Award of TCCs for Transmission Expansion” was added. ➤ Section 7.0 “Historic Fixed Price TCCs” was added. ➤ Section 8.0 “Non-Historic Fixed Price TCCs” was added. <p>Technical Bulletins incorporated into manual</p> <ul style="list-style-type: none"> ➤ Technical Bulletin #144 “NYISO Market Participant Review and Verification of Transmission Congestion Contracts” has been integrated into the Manual as Section 4.8 ➤ Technical Bulletin #152 “TCC Market: PJM Keystone Proxy Bus Pricing and Scheduling” has been integrated into the Manual as Attachment T ➤ Technical Bulletin #207 “Revised TCC Bidding Points for Astoria 3, Astoria 4, and Astoria 5” has been integrated into the Manual as Section 4.4.7 ➤ Technical Bulletin #222 “Non-Historic Fixed Price TCC Reduction Process” has been integrated into the Manual as Section 8.3 <p>Attachments added</p> <ul style="list-style-type: none"> ➤ Attachment J “Non-Historic Fixed Price Initial Purchase Documents”. ➤ Attachment K “Non-Historic Fixed Price Renewal Documents” ➤ Attachment L “Historic Fixed Price TCC Conversion Documents” ➤ Attachment M “Historic Fixed Price TCC Renewal Documents” ➤ Attachment N “Acronyms and Abbreviations” ➤ Attachment O “Request for Incremental TCCs” ➤ Attachment P “Examples of Transmission Capability-Related Improvements That Will Not Be Considered for Incremental TCC Awards” ➤ Attachment Q “Notification of and Confirmation for Incremental TCC Awards” ➤ Attachment R “Outage Stages of a Merchant Expansion with Multi-Independent Transmission Facilities” ➤ Attachment S “Accepted Revision Request Form” ➤ Attachment T “TCC Market PJM-NYISO Interconnection Scheduling Protocol”
3.0	08/27/2015	<p>Global</p> <ul style="list-style-type: none"> ➤ Implemented minor stylistic and syntactic changes <p>Section 2</p> <ul style="list-style-type: none"> ➤ Added revenue adequacy description to overview

		<p>Section 3.3.3</p> <ul style="list-style-type: none"> ➤ Enhanced descriptions in optimal power flow input preparation <p>Section 3.5.1</p> <ul style="list-style-type: none"> ➤ Update the reference to the 5018 transmission line from “Branchburg-Ramapo Interconnection” to “Hopatcong-Ramapo Interconnection” <p>Section 3.5.3</p> <ul style="list-style-type: none"> ➤ Enhanced descriptions in ETCNL determination for consistency with section 3.3.3 <p>Section 4.1.8</p> <ul style="list-style-type: none"> ➤ Clarified that there is no limit on the maximum number of permitted offers <p>Section 4.2.8 and 4.2.9</p> <ul style="list-style-type: none"> ➤ Increased maximum permitted bid limit from 500 to 1,000. <p>Sections 4.5.5 and 4.5.6</p> <ul style="list-style-type: none"> ➤ Added description of invoicing process for Two Year TCCs <p>Sections 4.6.1 and 4.6.2</p> <ul style="list-style-type: none"> ➤ Added cross-references to description of invoicing process for Two Year TCCs <p>Section 4.8</p> <ul style="list-style-type: none"> ➤ Revise Figure 4-1 to reflect most current version of TCC Validation Letter utilized by the NYISO <p>Sections 5.1.2, 5.1.5 and 5.1.6</p> <ul style="list-style-type: none"> ➤ Incorporate annual process for incorporating Accepted Revisions into the OATT <p>Section 6</p> <ul style="list-style-type: none"> ➤ Incorporate reference to early termination rights for Incremental TCCs ➤ Clarify Secondary Market transfer of Incremental TCCs from single POI/POW combinations <p>Section 6.4.2</p> <ul style="list-style-type: none"> ➤ Revise provisions for Secondary Market transfer of Incremental TCCs from single POI/POW combinations <p>Section 6.7</p> <ul style="list-style-type: none"> ➤ Incorporate process for early termination of Incremental TCCs <p>Section 8.1.2</p> <ul style="list-style-type: none"> ➤ Clarified customer registration process and updated hyperlink <p>Attachments J, K, L, M</p> <ul style="list-style-type: none"> ➤ added TCC to title of Attachments <p>Technical Bulletins incorporated into manual</p> <ul style="list-style-type: none"> ➤ Technical Bulletin #225 “TCC Markets - Maximum Permitted Number of Individual Bids” has been incorporated into the Manual in Section 4.2.8 and 4.2.9
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		<ul style="list-style-type: none"> ➤ Technical Bulletin #227 “TCC Market - Modeling of the Station 124 PARs” has been incorporated into the Manual in Section 3.5.1 ➤ Technical Bulletin # 231 “TCC Market – Modeling of the Pilgrim PAR” has been incorporated into the TCC Manual in Section 3.5.1
3.1	08/08/2017	<p>Global</p> <ul style="list-style-type: none"> ➤ Ensure capitalization is consistent with tariff and/or manual defined terms <p>Sections 1.2 and 3.3.11</p> <ul style="list-style-type: none"> ➤ Clarify the description of Reconfiguration Auctions <p>Section 1.3</p> <ul style="list-style-type: none"> ➤ Update Figure 1-1 and add a description of an additional location for accessing masked bid/offer information on the TCC Data & Information section of the NYISO website <p>Sections 3, 3.1.2, 3.2.4, 3.3.14, 4.3 and 4.4.6</p> <ul style="list-style-type: none"> ➤ Update and clarify language to reflect Balance-of-Period (BoP) Auctions <p>Sections 3.2.1, 4.1.1, 4.1.2, 4.2.1 and 4.2.2</p> <ul style="list-style-type: none"> ➤ Remove language addressing requirement to execute purchase/sell agreements and revise the description of the registration process to reflect such elimination <p>Section 3.2.2</p> <ul style="list-style-type: none"> ➤ Clarify the description of the typical schedule for conducting TCC auction rounds <p>Section 3.2.6</p> <ul style="list-style-type: none"> ➤ Remove obsolete language regarding the offsetting credit policy <p>Section 3.3.1</p> <ul style="list-style-type: none"> ➤ Update reference to locations for accessing masked bid/offer data ➤ Clarify the requirement to specify a minimum offer price <p>Section 3.3.3</p> <ul style="list-style-type: none"> ➤ Clarify description of the TCC auction objective function to reflect BoP Auctions <p>Section 3.3.4</p> <ul style="list-style-type: none"> ➤ Clarify that distinct power flow models are used for each TCC auction <p>Sections 3.3.6, 4.1.5, 4.2.5, 4.5.1, 4.5.2, 4.6.1 and 4.6.2</p> <ul style="list-style-type: none"> ➤ Clarify the market-clearing price calculation for multi-month TCCs awarded in a BoP Auction <p>Section 3.3.8</p> <ul style="list-style-type: none"> ➤ Clarify dispute period for TCC auction awards <p>Section 3.3.9</p> <ul style="list-style-type: none"> ➤ Update description of Reconfiguration Auctions to include BoP Auctions

		<p>Section 3.3.10</p> <ul style="list-style-type: none"> ➤ Clarify that only TCCs valid in a month covered by an auction may be offered for sale in that auction <p>Sections 4.1.3 and 4.2.3</p> <ul style="list-style-type: none"> ➤ Add language to describe the Period ID information required for bids/offers <p>Sections 4.1.4 and 4.2.4</p> <ul style="list-style-type: none"> ➤ Add description of bid/offer withdrawal requests <p>Sections 4.1.10 and 4.2.9</p> <ul style="list-style-type: none"> ➤ Update and clarify Overall and Individual Offer/Bid validations to reflect BoP Auctions <p>Section 4.5.3</p> <ul style="list-style-type: none"> ➤ Clarify representations regarding bids/offers submitted in TCC auctions <p>Sections 4.5.5 and 4.5.6</p> <ul style="list-style-type: none"> ➤ Clarify timing of when Market Participants are deemed to be in receipt of TCC award notices <p>Section 4.5.7</p> <ul style="list-style-type: none"> ➤ Add a new section describing dispute process for TCC auction award notices (incorporates Appendix A from former purchase/sell agreements into the Manual) <p>Section 6.4.1</p> <ul style="list-style-type: none"> ➤ Revise to clarify process for accepting/rejecting temporary awards of Incremental TCCs and effective date of accepted temporary awards <p>Section 7.5</p> <ul style="list-style-type: none"> ➤ Add new section addressing distribution of revenues to the Transmission Owners from the sale of Historic Fixed Price TCCs <p>Attachment T</p> <ul style="list-style-type: none"> ➤ Update to include Rockland Electric Company (RECO) load delivery assumptions that are utilized in TCC auctions <p>Technical Bulletins incorporated into Manual</p> <ul style="list-style-type: none"> ➤ Bulletin # 240 “TCC Market PJM-NYISO Interconnection Scheduling Protocol” has been incorporated in to the Manual in Attachment T ➤ Bulletin # 236 “TCC Market – Effective Date of Temporary Awards of Incremental TCCs” has been incorporated in to the Manual in Section 6.4.1
4.0	02/28/2020	<p>Global</p> <ul style="list-style-type: none"> ➤ Revisions related to consistency in use of defined terms, consistency in references to various documents, and ministerial editorial/grammatical corrections ➤ Updated links and references to redesigned NYISO website <p>Section 3.2.1</p> <ul style="list-style-type: none"> ➤ Updated customer registration details

		<p>Section 3.2.4</p> <ul style="list-style-type: none"> ➤ Updated TCC AMS User’s Guide section references <p>Section 3.3.3</p> <ul style="list-style-type: none"> ➤ Updated TCC Manual section references ➤ Replaced reference to the Summary of Transmission Contracts public report with the new public TCC & Grandfathered Rights Report <p>Section 3.4.1</p> <ul style="list-style-type: none"> ➤ Added modeling assumptions for the Rainey and Blissville PARs ➤ Clarifying revisions to address the optimization objective for optimized PARs <p>Section 3.4.5</p> <ul style="list-style-type: none"> ➤ Updated the description of the process for requesting TCC Auction Data <p>Section 4.1.3</p> <ul style="list-style-type: none"> ➤ Clarifying revisions to the description of “Inventory ID” and updated sources for accessing such information <p>Section 4.1.7</p> <ul style="list-style-type: none"> ➤ Clarifying revision to the title of the Section <p>Section 4.4.5</p> <ul style="list-style-type: none"> ➤ Updated TCC Manual section references <p>Section 4.8</p> <ul style="list-style-type: none"> ➤ Revision to title of the Section ➤ Updated the sample TCC Data Validation Certification Form <p>Sections 6.3.5, 6.6</p> <ul style="list-style-type: none"> ➤ Removed references to “merchant” <p>Section 7</p> <ul style="list-style-type: none"> ➤ Addition of the Historic Fixed Price TCC extension product procedures ➤ Reorganization and consolidation of provisions to reduce redundancy ➤ Updated description of credit security requirements applicable to Historic Fixed Price TCCs <p>Section 8</p> <ul style="list-style-type: none"> ➤ Clarifying revision to the description of eligible POIs for Non-Historic Fixed Price TCCs <p>Sections 8.1.6 and 8.3.6</p> <ul style="list-style-type: none"> ➤ Updated description of credit security requirements applicable to Non-Historic Fixed Price TCCs <p>Sections 8.1.10 and 8.3.10</p> <ul style="list-style-type: none"> ➤ Updated description of sources for obtaining Nodal Price values <p>Attachment T</p>
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		<ul style="list-style-type: none"> ➤ Updated description of assumptions used in the TCC market for expected flows over the ABC, JK and Hopatcong-Ramapo Interconnections with the PJM Control Area <p>Attachment U</p> <ul style="list-style-type: none"> ➤ New Attachment that provides samples of the required documentation for extensions of Historic Fixed Price TCCs <p>Technical Bulletins incorporated into Manual</p> <ul style="list-style-type: none"> ➤ Bulletin # 246 “TCC Market: PJM-NYISO Interconnection Scheduling Protocol” has been incorporated in Attachment T ➤ Bulletin # 248 “TCC Market: Modeling of the Rainey PAR” has been incorporated in Section 3.4.1 ➤ Bulletin # 249 “TCC Market: Modeling of the Blissville PAR” has been incorporated in Section 3.4.1
4.1	10/15/2021	<p>Recertification</p> <p>Global</p> <ul style="list-style-type: none"> ➤ Made revisions related to consistency in use of defined terms, consistency in references to various documents, and ministerial editorial/grammatical corrections <p>Section 1.3</p> <ul style="list-style-type: none"> ➤ Updated screenshot of NYISO website <p>Section 2.1</p> <ul style="list-style-type: none"> ➤ Added reference to the Settlement Data Applications User’s Guide <p>Section 3</p> <ul style="list-style-type: none"> ➤ Reorganized and consolidated provisions to reduce redundancy and improve readability <p>Section 3.1.1</p> <ul style="list-style-type: none"> ➤ Added section to describe the single round one-year Sub-Auction for TCCs with an effective period equivalent to the second year of previously sold two-year TCCs <p>Section 3.4.2</p> <ul style="list-style-type: none"> ➤ Clarified to address the single round one-year Sub-Auction described in Section 3.1.1 <p>Section 3.4.3</p> <ul style="list-style-type: none"> ➤ Clarified that the percentage of available transmission system capability to be offered to support the sale of TCCs in a Centralized TCC Auction is set by product start date and duration ➤ Added provision regarding the amount of capacity that can be made available in the single round one-year Sub-Auction described in Section 3.1.1 <p>Section 3.4.4</p> <ul style="list-style-type: none"> ➤ Clarified that the amount of system transfer capability available to support TCCs in an upcoming Auction will be posted for each product start date and duration

		<p>Section 3.4.5</p> <ul style="list-style-type: none"> ➤ Generalized reference for credit requirements in Attachment K of the Services Tariff <p>Section 3.5</p> <ul style="list-style-type: none"> ➤ Renamed section and reorganized to consolidate provisions related to conducting all types of TCC auctions <p>Section 3.5.1</p> <ul style="list-style-type: none"> ➤ Added a reference to additional bid/offer validation details in Sections 4.1 and 4.2 <p>Section 3.5.2</p> <ul style="list-style-type: none"> ➤ Clarified that offers can be submitted in advance of the OPF analysis <p>Section 3.5.3</p> <ul style="list-style-type: none"> ➤ Clarified which TCCs and Grandfathered Rights are represented in the OPF based on their respective effective periods and account for the single one-year Sub-Auction described in Section 3.1.1 ➤ Clarified that the scaling factor calculation accounts for the start date of the product being offered <p>Section 3.6.3</p> <ul style="list-style-type: none"> ➤ Removed superfluous information from the description of Storm Watch events ➤ Clarified which TCCs and Grandfathered Rights are represented in the starting set of injections and withdrawals based on the effective periods of those TCCs/Rights and account for the single one-year Sub-Auction described in Section 3.1.1 ➤ Added a provision to allow the NYISO to conduct an additional ETCNL feasibility analysis prior to administering the single round one-year Sub-Auction described in Section 3.1.1 ➤ Clarified that the description of the current Capacity Reservation Cap for consistency with tariff <p>Section 4.1.8</p> <ul style="list-style-type: none"> ➤ Clarified that a Seller's Individual Offers must be contained in one Electronic Offer per auction round, not per Class <p>Section 4.2.8</p> <ul style="list-style-type: none"> ➤ Clarified that maximum number of Individual Bids permitted to be contained in an Electronic Bid is applied per period <p>Section 4.4.2</p> <ul style="list-style-type: none"> ➤ Clarified which TCCs are represented in the OPF based on the effective periods of those TCCs <p>Section 4.4.3</p> <ul style="list-style-type: none"> ➤ Clarified that the NYISO will model the OPF analysis to maximize the objective function <p>Section 4.4.6</p> <ul style="list-style-type: none"> ➤ Clarified that the provisions for scheduling transmission outages applies for six-month Sub-Auctions and Reconfiguration Auctions
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		<p>Section 4.5.5</p> <ul style="list-style-type: none"> ➤ Revised the prescribed timing for posting purchase Award Notices <p>Section 4.5.6</p> <ul style="list-style-type: none"> ➤ Revised the prescribed timing for posting sale Award Notices <p>Section 4.6.1</p> <ul style="list-style-type: none"> ➤ Renamed the section and consolidated provisions to address both Market Participant and NYISO payment obligations ➤ Added provisions to support the inclusion of TCC auction related settlements on invoices issued as part of the NYISO's Consolidated Invoice process <p>Section 4.6.3</p> <ul style="list-style-type: none"> ➤ Added provisions to support the inclusion of TCC net auction revenues settlements on invoices issued as part of the NYISO's Consolidated Invoice process <p>Section 4.8</p> <ul style="list-style-type: none"> ➤ Clarified that the TCC data validation letter can be submitted electronically and removed notarization requirement <p>Section 7.4</p> <ul style="list-style-type: none"> ➤ Clarified that requests to convert expiring/terminating ETAs to HFPTCCs and requests to renew or extend HFPTCCs can be submitted electronically <p>Section 8.1.3</p> <ul style="list-style-type: none"> ➤ Clarified that the Notification of Intent to Purchase NHFPTCCs can be submitted electronically <p>Section 8.3.3</p> <ul style="list-style-type: none"> ➤ Clarified that the Notification of Intent to Renew NHFPTCCs can be submitted electronically
<p>5.0</p>	<p>MM/DD/YYYY</p>	<p>Section 3.6.1</p> <ul style="list-style-type: none"> ➤ Updated to include or revise modeling assumptions for the East Garden City PARs, Hurley Avenue PAR, and Vinegar Hill PARs <p>Section 4.8</p> <ul style="list-style-type: none"> ➤ Updated Figure 9 for consistency with the current version of TCC Validation Letter <p>Technical Bulletins incorporated into Manual</p> <ul style="list-style-type: none"> ➤ Technical Bulletin #254 "TCC Market: Modeling of the Vinegar Hill PAR" has been incorporated into Section 3.6.1 ➤ Technical Bulletin #255 "TCC Market: Modeling of the Second Vinegar Hill PAR" has been incorporated into Section 3.6.1 ➤ Technical Bulletin #257 "TCC Market: Modeling of the East Garden City PARs" has been incorporated into Section 3.6.1 ➤ Technical Bulletin #258 "TCC Market: Modeling of the Hurley Avenue PAR" has been incorporated into Section 3.6.1

1. Introduction

The New York Independent System Operator’s Transmission Congestion Contract (TCC) Manual (Manual) contains the rules, procedures, and guidelines that will be followed by the New York Independent System Operator (NYISO) and its Customers concerning the TCC Auctions administered by the NYISO pursuant to the NYISO Open Access Transmission Tariff (OATT) and Market Administration and Control Area Services Tariff (Services Tariff). In addition, this Manual contains rules, procedures and guidelines for allocation of non-auction awards of Fixed Price TCCs and Incremental TCCs. TCC Auction provisions are discussed in Section 19.2 of [Attachment M of the OATT](#).

1.1 Scope of Manual

The intent of this Manual is to identify and explain rules, procedures, and guidelines regarding TCC Auctions. Other TCC issues are addressed by other NYISO documents including, but not limited to those identified in [Section 2.1](#) of this Manual.

This Manual does not provide information on the uses of the TCC Automated Market System (AMS). The TCC AMS description is in the [TCC AMS User’s Guide](#).

1.2 Purpose of TCC Auctions

The purpose of the Centralized TCC Auction and the Reconfiguration Auction is to create a market for the sale and purchase of TCCs.

The Rules, Procedures, and Guidelines for the Auctions of TCCs contained in this Manual have been established to:

- a. Govern the Centralized TCC Auction process as conducted by the NYISO, in which Primary Holders of TCCs may offer those TCCs for sale and other Market Participants (MPs) may bid to purchase TCCs.
- b. Govern the Reconfiguration Auction process as conducted by the NYISO, in which Primary Holders of TCCs may offer those TCCs for sale and other MPs may bid to purchase TCCs.¹
- c. Establish the procedures and guidelines that the NYISO utilizes to perform the TCC Auctions and Optimal Power Flow (OPF) analyses.

1.3 The Transmission Congestion Contracts Web Page

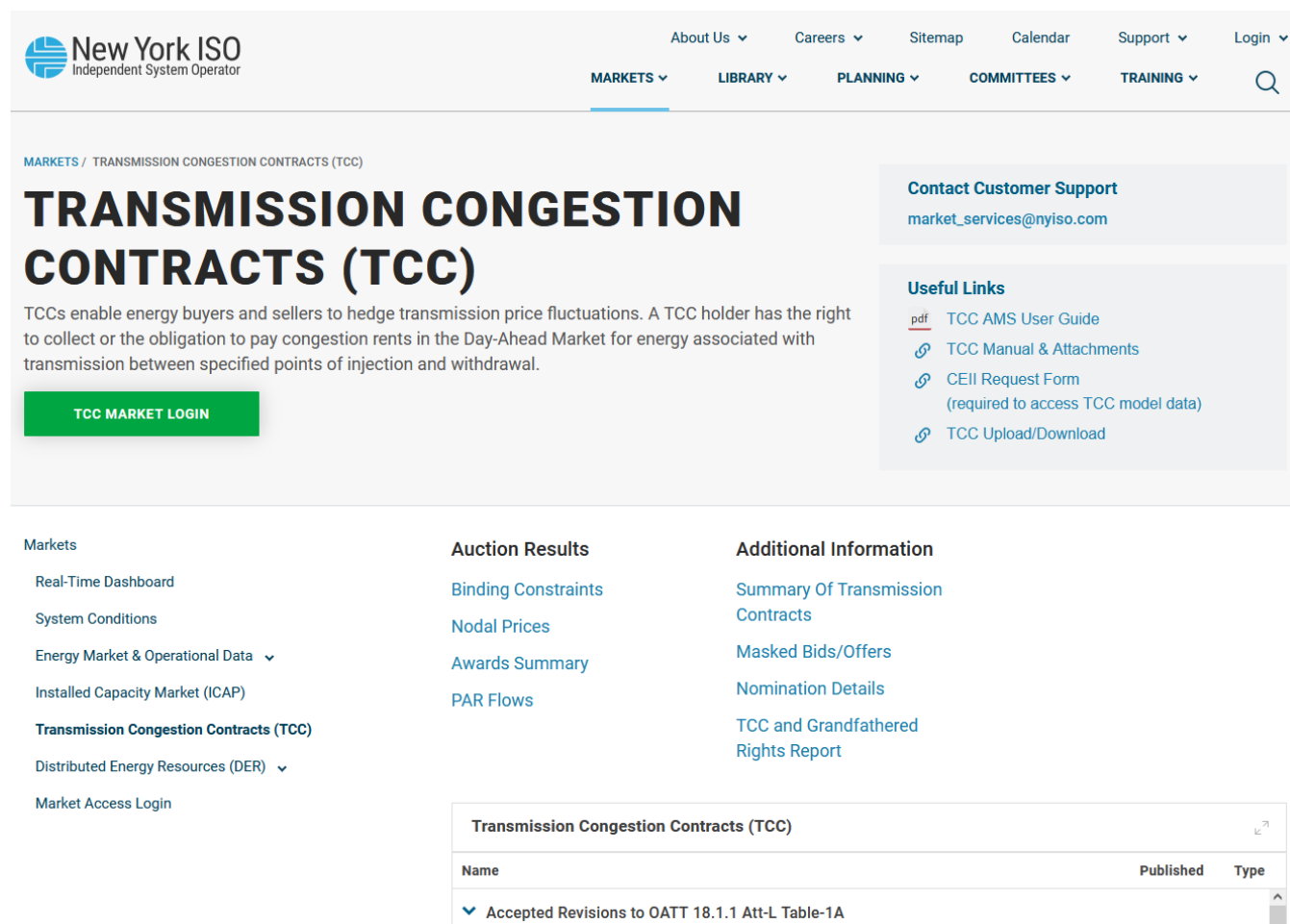
This Manual is designed to be used in conjunction with its Attachments and informational postings included on the NYISO Transmission Congestion Contracts web page. While the Manual provides the rules

¹ Centralized TCC Auction and Reconfiguration Auction referred to, collectively, as “Auctions”

and procedures for participating in the TCC Auctions, the Transmission Congestion Contracts web page also provides useful information.

The Transmission Congestion Contracts web page is located on the NYISO website under the Markets heading (see [Figure 1](#) ~~Figure 1~~ ~~Figure 1~~ ~~Figure 1~~).

Figure 1: Transmission Congestion Contracts Web Page



The screenshot shows the NYISO website's 'TRANSMISSION CONGESTION CONTRACTS (TCC)' page. At the top, there is a navigation bar with the NYISO logo and menu items: About Us, Careers, Sitemap, Calendar, Support, and Login. Below this is a secondary menu with 'MARKETS' highlighted, along with LIBRARY, PLANNING, COMMITTEES, and TRAINING. The main content area has a breadcrumb 'MARKETS / TRANSMISSION CONGESTION CONTRACTS (TCC)' and a large heading 'TRANSMISSION CONGESTION CONTRACTS (TCC)'. A sub-heading explains that TCCs enable energy buyers and sellers to hedge transmission price fluctuations. A green 'TCC MARKET LOGIN' button is prominent. To the right, there are sections for 'Contact Customer Support' (market_services@nyiso.com) and 'Useful Links' which include: TCC AMS User Guide (pdf), TCC Manual & Attachments, CEII Request Form (required to access TCC model data), and TCC Upload/Download. Below the main content, there are three columns of links: 'Markets' (Real-Time Dashboard, System Conditions, Energy Market & Operational Data, Installed Capacity Market (ICAP), Transmission Congestion Contracts (TCC), Distributed Energy Resources (DER), Market Access Login), 'Auction Results' (Binding Constraints, Nodal Prices, Awards Summary, PAR Flows), and 'Additional Information' (Summary Of Transmission Contracts, Masked Bids/Offers, Nomination Details, TCC and Grandfathered Rights Report). At the bottom, there is a table titled 'Transmission Congestion Contracts (TCC)' with columns for Name, Published, and Type. The table shows one entry: 'Accepted Revisions to OATT 18.1.1 Att-L Table-1A'.

The Transmission Congestions Contracts web page includes a collection of data/information and links that provide convenient access to important information related to TCC products and the TCC Auctions.

Links located on the Transmission Congestion Contracts web page include the following:

- [TCC Market Login](#) – link to access the TCC AMS.
- [TCC Upload/Download](#) – link to upload bid/offer sets into the TCC AMS.
- [Binding Constraints](#) – this link accesses the public Binding Constraints Reports, by auction and auction round.

- [Nodal Prices](#) – this link accesses the public Nodal Prices Reports, by auction and auction round.
- [Awards Summary](#) – this link accesses the public Awards Summary Reports, by auction and auction round.
- [Nomination Details](#) – this link accesses the public Nomination Reports for Existing Transmission Capacity for Native Load and Residual Capacity Revenue Rights nominations.
- [Summary of Transmission Contracts](#) – this link accesses the public Transmission Contracts Report.
- [CEII Request Form](#) – this link accesses the form for requesting TCC Auction Data (see [Section 3.6.5](#) of this Manual). The CEII Request Form includes a Non-Disclosure Agreement.
- [Masked Bids/Offers](#) – this link accesses the Masked Bids and Offers reports for past TCC Auction rounds.
- [PAR Flows](#) – this link accesses the public Phase Angle Regulator (PAR) MW flows reports, by auction and auction round.
- [TCC and Grandfathered Rights Report](#) – this link accesses the public TCC and Grandfathered Rights Report.
- [TCC AMS User Guide](#) – a link to the TCC Automated Market System User’s Guide which provides step-by-step instructions for using the TCC Automated Market System.

The various portions of the Transmission Congestion Contracts web page contain documentation relevant to TCC products and current, upcoming, and past TCC Auctions, and include the following:

- [Information and Announcements](#) – provides current and historic information concerning transmission facility outages and uprate/derate details related to the auctions. Announcements related to upcoming and/or current auctions will also be located here, as well as general information regarding TCCs.
- [Historic Fixed Price TCCs](#) – provides a summary of Historic Fixed Price TCCs.
- [Non-Historic Fixed Price TCCs](#) – provides a summary of Non-Historic Fixed Price TCCs.
- [Incremental TCCs](#) – provides a summary of Incremental TCCs.
- [DAM Marginal Losses and Congestion](#) – provides a summary, by month, of Day-Ahead Market (DAM) losses and congestion for all years since 1999.
- [Accepted Revisions to OATT 18.1.1 Att-L Table-1A](#) – provides a summary of changes made to long term transmission wheeling arrangements.
- [TCC Auctions Prior to August 2006](#) – provides TCC Auction results prior to the implementation of the TCC Automated Market System. TCC Auction results for the August 2006 Reconfiguration Auction and beyond are available through the TCC Automated Market System.
- [TCC Manual and Attachments - ARCHIVE](#) – provides an archive of past TCC Manual Attachments.

2. Overview

TCCs are financial instruments that can be used to hedge costs resulting from transmission system congestion. Primary Holders of TCCs are able to hedge congestion costs associated with transmitting one MW of power between the buses specified in the TCCs.

A TCC represents the right to collect, or the obligation to pay, the DAM Congestion Rents associated with one Megawatt (MW) of transmission between a specified Point of Injection (POI) and specified Point of Withdrawal (POW). The DAM Congestion Rents are determined by the Congestion Component of the DAM Locational Based Marginal Price (LBMP) at the POW of the TCC minus the Congestion Component of the DAM LBMP at the POI of the TCC, for each hour of the Effective Period. TCCs are fully funded. As such, Primary Holders of TCCs always receive (or pay) the full value of Congestion Rents associated with their respective TCCs.

Congestion Rents are collected by the NYISO from energy buyers and Transmission System users when the Congestion Components of LBMPs differ between locations where energy is purchased versus locations where energy is supplied. Payments to Primary Holders of TCCs are principally funded through Congestion Rents collected in the DAM. Any Congestion Rent Shortfalls are funded by the Transmission Owners subject to Attachment N of the OATT (for purposes of this Manual, such Transmission Owners shall hereinafter be referred to collectively as the “TOs” or singularly as a “TO”). Likewise, any Excess Congestion Rents are paid to the TOs. These Congestion Rent Shortfalls and Excess Congestion Rents are applied to the applicable TOs’ respective Transmission Service Charge (TSC) or NYPA Transmission Adjustment Charge (NTAC).

The TCC auctions utilize system representations, transmission facility and interface limits, parallel flow assumptions, contingency event definitions and PAR operation assumptions, which are consistent with the DAM for the time period covered by each respective auction. This ensures that if the set of TCCs awarded in a TCC auction does not violate any security constraints observed in the DAM, then the NYISO will collect adequate Congestion Rents in the DAM to fully fund all required payments to Primary Holders of TCCs. Congestion Rent Shortfalls and Excess Congestion Rents may arise when transmission facility operational status and/or limits, PAR schedules, parallel flows or other factors are experienced in the DAM that modify internal transfer capability to levels which differ from what had been assumed in a TCC auction.

The number of TCCs that the NYISO can award to Market Participants (MPs) is restricted by the physical configuration of the Transmission System. The NYISO uses an Optimal Power Flow (OPF) that corresponds to the set of TCCs (and Grandfathered Rights) that have been awarded to ensure that the awarded TCCs do not violate any security constraints represented in the DAM.

Since there are many feasible combinations of injections and withdrawals that do not violate any security constraints, there are many feasible sets of TCCs and Grandfathered Rights. The NYISO uses the TCC Auction to allocate TCCs to MPs.² MP bids in the Auction determine which set of TCCs the NYISO will award. The NYISO cannot provide advance notice of the number of TCCs available in the Auction.

A number of TCCs and Grandfathered Rights were assigned prior to implementation of the restructured electricity market administered by the NYISO. Some of these TCCs and Grandfathered Rights were assigned to recipients of service under then Existing Transmission Agreements (ETAs). Additional TCCs (Original Residual TCCs) were allocated to the TOs after accounting for Existing Transmission Capacity for Native Load (ETCNL). Some of the ETCNL may be allocated to retail access customers as TCCs, with the unused capacity released into the Auction.

Each Primary Holder of a TCC is permitted to sell that TCC in the Auction. The number of TCCs that can be purchased in the Auction is affected by the number of TCCs that are offered for sale in the Auction. The system transfer capability required to support TCCs offered for sale is released as available for purchase in the Auction.

The NYISO models each TCC and each Grandfathered Right that is not offered for sale in the Auction by its Primary Holder as a fixed injection and withdrawal at the appropriate locations in the power flow. The injection and withdrawal corresponding to each of these TCCs or Grandfathered Rights produce flows that use part of the system transfer capability. The system transfer capability that remains can be used to support TCCs purchased in the Auction.

MPs may bid on TCCs between the same locations as TCCs that were offered for sale in the Auction, and they may also bid for TCCs between other locations on the transmission system, depending on their preferences. If the set of TCCs awarded in the Auction differs from the set of TCCs offered for sale into the Auction (i.e., if the system transfer capability that had previously been used to support the TCCs offered for sale in the Auction is used to support a different set of TCCs sold in the Auction), then the set of TCCs offered for sale was reconfigured into another set of TCCs, which MPs preferred to the TCCs that had originally been offered for sale.

As stated in Section 19.10 of [Attachment M of the OATT](#), the Centralized TCC Auction format will ultimately change to an end-state, or as otherwise referred to as a multi-duration Auction format. This Manual does not describe the end-state Auction format, but instead describes the Auction process currently in use. This Manual describes the Auction functions, such as bid submittal and validation, the OPF analysis,

² Transmission Owners may also sell certain TCCs they hold by Direct Sale.

and Auction result and informational postings as well as the OPF assumptions to be used in the OPF analysis. As rules, procedures, and guidelines are developed for new Auction formats, they will be provided in this Manual.

2.1 References

References to other documents that provide background or additional detail directly related to this Manual are located on the NYISO website:

- [New York Independent System Operator, Inc., Open Access Transmission Tariff](#)
- [New York Independent System Operator, Inc., NYISO Market Administration and Control Area Services Tariff](#)
- [NYISO Accounting and Billing Manual](#)
- [Transmission Congestion Contracts page](#) of the NYISO website (www.nyiso.com > Markets > Transmission Congestion Contracts (TCC)) for announcements and Auction related postings
- [NYISO Customer Registration](#)
- [TCC Automated Market System User's Guide](#)
- [Credit Management System User's Guide](#)
- [Settlement Data Applications User's Guide](#)

3. TCC Auction Process

The TCC Auctions are conducted by the NYISO on behalf of the Market Participants (MPs). In the Auction, bidders will specify the maximum amount they are willing to pay for the TCCs they wish to purchase and sellers will specify the minimum amounts they are willing to accept for the TCCs they are offering for sale. The objective of the Auction is to maximize the bid value of the TCCs awarded less the offer value at which TCCs sold by Auction participants were offered, subject to the constraint that the set of all outstanding TCCs and Grandfathered Rights must correspond to a simultaneously feasible security-constrained power flow in each time period. The NYISO will run a security-constrained OPF to determine the simultaneous feasibility of TCCs to be awarded.

The Auction will determine prices for feasible TCCs. All bidders awarded TCCs in an Auction round will pay or be paid the market-clearing price (Market-Clearing Price) in that round for those TCCs. Similarly, all Primary Holders of TCCs selling TCCs through the Auction are paid or will pay the Market-Clearing Price in that round for those TCCs.

TCC Auctions cover long and short power system operating horizons and are called:

- a. **Centralized TCC Auctions** – Seasonal to provide a platform for longer term purchases and sales of TCCs (e.g., six-month and longer duration terms).
- b. **Reconfiguration Auctions** – Monthly to provide a platform for short term purchases and sales of TCCs that are valid for a month or a combination of months within a given Capability Period.

This section describes these Auctions and how they are conducted.

3.1 Centralized TCC Auctions

The Centralized TCC Auction consists of a series of Sub-Auctions. A Sub-Auction is a round or set of rounds in which TCCs of a given start date and duration may be purchased. The NYISO may conduct these Sub-Auctions in several rounds. Unless the TOs subject to Attachment N of the OATT unanimously consent to fewer rounds, the transmission capacity that has been offered for sale in each Sub-Auction is auctioned in not less than four rounds, with the exception of the single round one-year Sub-Auction described in [Section 3.1.1](#) of this Manual. A portion of the capacity available for sale as TCCs will be auctioned in each of those rounds. The TCCs available for sale in the Auction include the Original Residual TCCs that were initially allocated to the TOs (but not sold through a Direct Sale), Residual Capacity Revenue Rights (RCRR) and feasible ETCNL not reserved by the TOs, and any other TCCs offered for sale by a Primary Holder.

3.1.1 Single round one-year Sub-Auction to reprice the second year of a two-year TCC

The NYISO may conduct a single round one-year Sub-Auction for TCCs with an effective period equivalent to the second year of previously sold two-year TCCs. This single round one-year Sub-Auction will occur as part of the Centralized TCC Auction that immediately follows a Centralized TCC Auction in which the NYISO sold two-year TCCs. For example, if the NYISO sold two-year TCCs in the Centralized TCC Auction conducted prior to the Summer Capability Period (i.e., commonly referred to as the “Spring Centralized TCC Auction”), it may then conduct, as part of the next Centralized TCC Auction held prior to the Winter Capability Period (i.e., commonly referred to as the “Autumn Centralized TCC Auction”), a single round one-year Sub-Auction for TCCs valid for the same period as the second year of the two-year TCCs sold in the Spring Centralized TCC Auction.

3.2 Reconfiguration Auctions

The NYISO will conduct Reconfiguration Auctions monthly and TCCs purchased in Reconfiguration Auctions will be valid for the applicable month or months following the Reconfiguration Auction. Primary Holders of TCCs that are valid for the next month or a combination of months within a given Capability Period may offer those TCCs for sale in the Reconfiguration Auction for that month.

In a Reconfiguration Auction, Primary Holders of TCCs may indicate whether they wish to sell those TCCs. All of the TCCs that have been offered for sale in the Reconfiguration Auction will be auctioned. Each Primary Holder or purchaser of a TCC in a Direct Sale (if it meets the NYISO’s creditworthiness standards) may offer its TCCs for sale in the Reconfiguration Auction.

All transmission capacity is made available to support the sale of TCCs in Reconfiguration Auctions except for that reserved for TCCs that have not been offered for sale and Grandfathered Rights.

The monthly auction administered by the NYISO will be either: (i) a Balance-of-Period Auction; or (ii) an auction in which MPs may purchase and sell one-month TCCs (Single-Month Reconfiguration Auction); provided, however, that the NYISO shall conduct only one Reconfiguration Auction type in a month. The Reconfiguration Auction consists of one round.

3.2.1 Balance-of-Period Auction

A Balance-of-Period Auction will cover the combination of months remaining in the Capability Period of the month that follows the month in which the Balance-of-Period Auction is held. A Balance-of-Period Auction provides MPs the ability to purchase and sell TCCs in each of the remaining months of a given Capability Period that are offered as part of the auction. Primary Holders of TCCs that are effective for any

month covered by the Balance-of-Period Auction period may offer those TCCs for sale in the Balance-of-Period Auction in the months for which they are valid. In addition, MPs may submit bids to purchase TCCs in the Balance-of-Period Auction.

The NYISO will utilize either a Decoupled or Coupled Mode for the periods represented in a Balance-of-Period Auction.

3.2.1.1 Decoupled Mode

Decoupled Mode is a simultaneous single-period solution within a single auction for all remaining months of the Capability Period. Individual multi-period bids are not supported and MPs can only submit individual single-period bids.

3.2.1.2 Coupled Mode

Coupled Mode is simultaneous multi-period solution within a single auction for all remaining months of the Capability Period. Multi-period bids are supported and MPs are allowed to submit an individual single bid that covers more than one period. The periods selected by the MP in a multi-period bid need not be contiguous. Each period in a multi-period bid shall clear the same number of MWs or the entire bid shall not clear. The Market-Clearing Price of a multi-period bid is the sum of the rounded Market-Clearing Prices for each period included in that bid.

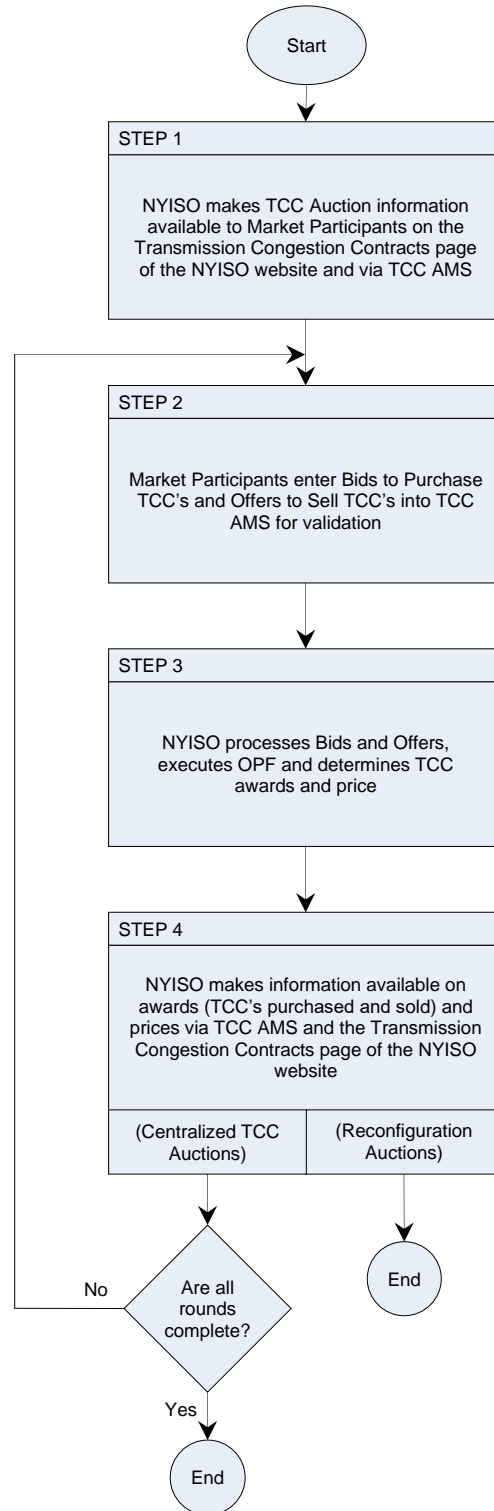
3.2.2 Single-Month Reconfiguration Auction

A Single-Month Reconfiguration Auction is conducted in the month preceding the month for which TCCs will be effective. Primary Holders of TCCs that are effective for the entire Auction period may offer those TCCs for sale in the Single-Month Reconfiguration Auction. In addition, MPs may submit bids to purchase TCCs in a Single-Month Reconfiguration Auction.

3.3 Auction Process

The Auction Process is represented in the block diagram in [Figure 2](#) below.

Figure 2: Centralized TCC and Reconfiguration Auction Process



3.4 Pre-Auction Activities

This section describes the Auction preparation process.

3.4.1 Requirements for Participating in the TCC Market

Each customer desiring to qualify as a participant in the NYISO TCC Market must follow certain guidelines as described in detail below.

- a. A Participant must first register as a Customer of the NYISO. Entities that wish to register as a NYISO Customer may do so online using the NYISO Member Community (<https://www.nyiso.com/support>).
- b. An eligible Customer must sign the OATT and Services Tariff at the time of registration.
- c. Customers participating in the TCC Market must adhere to the rules, in [Section 4](#) of this Manual.

3.4.2 Determination of TCC Products to be Offered for Sale

The NYISO determines the TCC durations to be offered prior to the start of each Centralized TCC Auction. TCCs of a particular duration, which are referred to as a “Class” of TCCs, are offered in at least four rounds, except as described in [Section 3.1.1](#) of this Manual or unless this requirement is unanimously waived by the TOs. The NYISO has made six-month, one-year and two-year TCCs available for sale. The NYISO determines whether, concurrent with a Centralized TCC Auction, a Non-Historic Fixed Price TCC product offering will be available.

The NYISO is required by tariff to solicit input from MPs on the TCC products to be offered in Centralized TCC Auctions. Prior to each Centralized TCC Auction, the NYISO polls MPs to solicit their input on the durations of TCCs to be offered in the upcoming Auction. Although the NYISO determines the TCC products to be offered for sale in these Auctions, the NYISO attempts to reach consensus regarding the products to be offered.

Under current practice, each round of the Auction generally takes one week. Bids and offers are typically submitted on Fridays through Mondays, (unless it is a Holiday), results are typically made available through the TCC AMS on Thursday, (unless it is a Holiday week). An Auction that offers six-month and one-year TCCs without TO waiver of the four-round rule is eight weeks in duration. Including an additional duration could extend the length of the Auction.

Once the MPs have been polled, the NYISO brings its proposal to the Market Issues Working Group (MIWG) with additional discussions as necessary. Upon conclusion of these discussions, the NYISO will revise Attachment C of this Manual, which describes the TCC products, the number of Auction rounds, and percentage of system capability to be offered by product and round. In addition, Attachment D of this

Manual is revised to provide the TCC market activity time line for the upcoming Centralized TCC Auction and the Reconfiguration Auctions of the upcoming Capability Period.

3.4.3 Determination of the Percentage of Remaining System Capability to be Offered for Sale

The NYISO sets the percentage of available transmission system capability to be offered to support the sale of TCCs of each start date and duration in a Centralized TCC Auction. The NYISO then determines the percentage of transmission system capability for each round, considering: (1) the percentage of transmission system capability to be offered for the product, and (2) the number of rounds over which that product will be sold.

The NYISO will typically offer no less than 2.5% of the available transmission system capability in each round of a Centralized TCC Auction. The amount of available system transmission capability that can be used to support Non-Historic Fixed Price TCCs will be no more than, and may be less than, 5%.

The amount of available system transmission capability made available to support the sale of TCCs in the single round one-year Sub-Auction described in [Section 3.1.1](#) of this Manual is limited to the lesser of: (1) 5% of the transmission Capacity not otherwise required to support already-outstanding Grandfathered Rights, Grandfathered TCCs, Fixed Price TCCs, Incremental TCCs, ETCNL TCCs, and RCRR TCCs; and (2) the amount of transmission Capacity that was made available to support the sale of two-year TCCs in the prior Centralized TCC Auction.

3.4.4 Informational Posting Prior to an Auction

Approximately two weeks prior to the start of an Auction, the NYISO posts the following information on the Transmission Congestion Contracts page and/or the Manuals, Technical Bulletins & Guides page of the NYISO website:

- a. The Auction time line which is Attachment D of this Manual.
- b. The type of Auction to be conducted (i.e., Single-Month Reconfiguration Auction, Balance-of-Period Auction or Centralized TCC Auction). For a Centralized TCC Auction, the number of rounds to be conducted is set forth in Attachment C of this Manual.
- c. The proportion of the system transfer capability available to support TCCs to be purchased in the rounds for a particular start date and duration and the proportion for that start date and duration is set forth in Attachment C of this Manual.
- d. Total monthly nodal congestion per MW calculated from Day-Ahead Market (DAM) results. This may be found in the DAM Marginal Losses and Congestion portion of the Transmission Congestion Contracts web page.
- e. Any special rules or conditions that may apply to this Auction, which may include Auction assumptions. This may be found in the Information and Announcements portion of the Transmission Congestion Contracts web page.

In no fewer than five (5) business days prior to an Auction, after any Direct Sales of TCCs have been completed, NYISO will make the following information available in the Nominations Reports described in Sections 13 and 18 of the [TCC AMS User's Guide](#). The reserved ETCNL and RCRR that are withheld from the Auction include:

1. TCCs or MW reserved
2. POI and POW
3. Identity of TO reserving the TCCs or MW

3.4.5 Credit Requirements

Credit Requirements are provided in [Attachment K of the Services Tariff](#).

3.4.6 Offsetting Credit Policy

If an MP holds TCCs that can be used to offset each other (same PTIDs and with quantities of TCCs that can be combined in such a way to allow cancellation), the MP may submit Offset Requests via the TCC AMS. This feature provides the TCC Primary Holder with the opportunity to reduce that holder's collateral obligation, if desired. The NYISO will evaluate the request and the status (Approved or Declined) will be returned via the AMS.

Figure 3: Calculation of Credit Requirements for Offsetting TCCs

Contract ID	Start Date	End Date	POI ID	POW ID	No. of TCCs	MCP	Holding Req.*
1	5/1/2011	4/30/2013	12345	23456	5	400.00	500.00
2	5/1/2011	4/30/2013	12345	23456	5	400.00	500.00
9	11/1/2012	4/30/2013	23456	12345	10	-200.00	2000.00

* The holding requirement values used in the example are for illustrative purposes only. Holding requirements for TCCs are defined in [Attachment K of the Services Tariff](#).

For example, a Primary Holder holds two contracts for five TCCs each between POI of 12345 and POW of 23456, expiring April 30, 2013 requiring \$500 of collateral for each. The MP is awarded a six-month contract starting November 1, 2012 for ten TCCs between POI of 23456 and POW of 12345 that expires April 30, 2013. Rather than being obliged to post additional collateral, the TCCs fully offset each other for the period of November 1, 2012 through April 30, 2013, and the Primary Holder may submit an Offset Request to have the three contracts cancelled.

Detailed instructions for submitting TCC Offset Requests are described in Section 11 (TCC Offsetting) of the NYISO [TCC Automated Market System User's Guide](#).

3.5 Conducting TCC Auctions

A Centralized TCC Auction consists of the following two steps, which occur for each round of the auction:

- a. Bid and offer submittal and validation, and
- b. Optimal Power Flow (OPF) analysis and posting.

A Reconfiguration Auction consists of the two steps described above for the single round of that Auction.

A general flow diagram for TCC Auctions is provided in [Figure 2](#).

3.5.1 Bid and Offer Submittal and Validation

The bid and offer submittal and validation step will follow the time line as set in Attachment D of this Manual for the Auction. Bids and offers will be submitted using the appropriate screens in the TCC AMS software. Bids to purchase and offers to sell TCCs will follow the procedures defined in this Manual. Further details regarding requirements for, and validation of, bids and offers is set forth in [Sections 4.1](#) and [4.2](#) of this Manual.

A Primary Holder who wishes to offer TCCs for sale in the Auction must specify a minimum offer price, which represents the threshold value below which the Primary Holder is not willing to sell those TCCs.

The NYISO will ensure that all bids and offers remain confidential, except for that information which will be made available via the TCC AMS at the conclusion of each round of the Auction. Three months after an Auction, bids and offers are posted for review on the NYISO website under Markets > Energy Market & Operational Data > [Reports & Info](#) > Links > General Information > [NYISO Bid Data - 3 Month Release](#), with the MP organization and PTIDs masked. Masked Bid and Offer reports can also be accessed via the TCC AMS and Transmission Congestion Contracts page of the NYISO website.

3.5.2 Optimal Power Flow Analysis

The OPF analysis and posting step will begin when the bid and offer submittal and validation process ends. This step will follow the time line defined in Attachment D of this Manual. During this step, the following tasks are performed:

- a. Prepare input for the OPF program
- b. Execute the OPF program
- c. Determine the TCCs awarded for the round
- d. Determine the Market-Clearing Prices for those TCCs

- e. Results of the round will be made available via the TCC AMS

3.5.3 Optimal Power Flow Input Preparation

The NYISO uses the transmission network model, transmission facility ratings, and contingency list used in Security Constrained Unit Commitment (SCUC) as input to the OPF. Prior to the start of each Centralized TCC Auction, this SCUC information is converted into the format utilized by the OPF program. In addition, other data required to perform the optimization is included. [Section 3.4](#) of this Manual discusses the modeling assumptions.

Analyses are performed to determine the set of feasible ETCNL and RCRR that the TOs may elect to reserve from the Centralized TCC Auction. A discussion of the feasibility analysis and election process can be found in [Section 3.6.3](#) of this Manual.

TCCs and Grandfathered Rights

Each TCC and each Grandfathered Right that have not expired prior to the start date of the TCCs offered for sale for the relevant Auction period and that have not been previously sold for all or part of the upcoming Auction period are input to the power flow model as fixed MW injections and withdrawals at the POI and POW specified for that TCC or Grandfathered Right. The POI and POW for each TCC will be compiled and updated by the NYISO. The categories of TCCs will include:

- a. Grandfathered TCCs
- b. TCCs previously awarded
- c. TCCs awarded in previous rounds of the current Centralized TCC Auction for the relevant auction period
- d. ETCNL TCCs
- e. RCRR TCCs
- f. Historic Fixed Price TCCs and, as it relates to the sale of TCCs in any round of a Centralized TCC Auction with a start date other than the first day of the Capability Period that commences following the completion of all rounds of such Auction, any modeling necessary to preserve the opportunity for future renewals/extensions of eligible Historic Fixed Price TCCs
- g. Non-Historic Fixed Price TCCs and any modeling necessary to preserve the opportunity for future renewals of eligible Non-Historic Fixed Price TCCs
- h. Temporary and final Incremental TCCs

The TCC and Grandfathered Rights Report, a report generated in the TCC AMS software, lists the number of outstanding TCCs and Grandfathered Rights. This report can also be accessed on the Transmission Congestion Contracts page of the NYISO website.

The fixed injections and withdrawals described above, and injections and withdrawals corresponding

to bids to purchase and offers to sell TCCs submitted into the Auction, are the only generation and load represented in the power flow model relating to the New York Control Area (NYCA). The exception is that all generation required to serve losses within the NYCA will be injected at the Reference Bus. In addition to the fixed injections and withdrawals relating to the NYCA, areas outside the NYCA will be modeled. These external injections and withdrawals represent the dispatch of those systems to meet loads in those areas. The external injections and withdrawals provide the basis for the assumptions regarding the effect of unbilled parallel flows (loop flow) on the NYCA transmission system. All assumptions relating to parallel flows are developed by the NYISO.

Scaling Factor

Scaling factors are used during the data preparation step prior to execution of the OPF algorithm. They provide a mechanism to distribute offered system capacity across multiple Auction rounds. These factors are reversed prior to communication of awards to MPs, and are intended to be an invisible calculation step to the MP.

In a Centralized TCC Auction, only a portion of the transmission capacity of the transmission system will be used to support TCCs available for purchase in any round. The NYISO will determine a scaling factor to be applied to each bid in the round to ensure that only the specified proportion of the remaining transfer capability of the system is made available to support the purchase of the TCCs. The following example illustrates why the scaling factor is necessary.

Example:

Suppose that 25% of the system transfer capability available to support TCCs to be purchased in the Auction has been designated for use to support TCCs purchased in the first round. It is quite possible that without using the scaling factor, the NYISO would receive enough bids for round 1 to sell TCCs corresponding to all of the system transfer capability that is available in the Auction.

Using a scaling factor ensures that only TCCs that can be supported using the specified percentage of the system transfer capability will be sold in a given round. In each round, the NYISO will multiply the number of TCCs that each Market Participant bids to purchase by that round's scaling factor. The power flow model will then be executed. The TCCs that are awarded as a result of using these bids could require use of all of the system's transfer capability. Consequently, these awards must be scaled down by multiplying them by the inverse of the scaling factor, thus ensuring that only TCCs that can be supported using the system transfer capability allocated to that round have been sold.

The scaling factor for any round of a Centralized TCC Auction is calculated as the ratio of:

- a. The percentage of the system transfer capability available to support TCCs yet to be sold with the same start date, including the current round
- b. The percentage of the system transfer capability available to support TCCs sold in the current round.

For example, suppose that the Centralized TCC Auction consists of four rounds for TCCs with the same start date, and that 10% of the system transfer capability available to support TCCs purchased in the Auction has been allocated to round 1, 20% of that capability has been allocated to round 2, and 30% and 40% of that capability have been allocated to rounds 3 and 4, respectively. Then the following scaling factors would be calculated for each round:

$$\begin{aligned} \text{Round 1: } & 100\% / 10\% = 10 \\ \text{Round 2: } & (100\% - 10\%) / 20\% = 4.5 \\ \text{Round 3: } & (100\% - 10\% - 20\%) / 30\% = 2.333 \\ \text{Round 4: } & (100\% - 10\% - 20\% - 30\%) / 40\% = 1.0 \end{aligned}$$

Note: Refer to Attachment H of this Manual, Auction Example for an additional example of the use of the scaling factor.

For Reconfiguration Auctions, all of the system transfer capability, except for that reserved for TCCs that have not been offered for sale and Grandfathered Rights, will be available to support TCCs purchased. Therefore, the scaling factor for Reconfiguration Auctions will equal 1.0.

Modeling of Existing TCCs, Bids to Purchase and Offers to Sell

The power flow data will model each Grandfathered Right and Grandfathered TCC as MW injections and withdrawals at associated POI and POW. The NYISO will model each offer to sell as an injection and withdrawal at the POI and POW of the TCC being offered for sale, as specified in the offer. The dollar value placed on the TCC being offered for sale is the offer price specified in the offer.

Each bid to buy will be modeled as an injection and withdrawal at the POI and POW specified in the bid. The dollar value placed on the bid is the bid price specified in the bid.

Objective Function

In order to define the objective function for the Auction, $NI_{m,p}$ is defined as the net injection at each bus m for each effective period p being represented in each power flow corresponding to the set of all outstanding TCCs as of the conclusion of this round of the Auction, as follows:

$$NI_{m,p} = \sum_{i \in T_p} A_i P_i X_{im} - \sum_{k \in U_p} B_k Q_k Y_{km} + NI_{m,p}^0,$$

Where:

T_p is the set of bids to buy TCCs in period p submitted in this round of the Auction,

A_i is the proportion of bid i that is awarded in this round of the Auction,

P_i is the number of TCCs that the bidder submitting bid i offers to purchase in that bid multiplied by the scaling factor,

$X_{im} =$ 1, if bus m is the injection bus specified in the bid i ,
 -1, if bus m is the withdrawal bus specified in bid i ,
 0, otherwise,

U_p is the set of offers to sell TCCs in period p submitted in this round of the Auction,

B_k is the proportion of offer k that is awarded in this round of the Auction,

Q_k is the number of TCCs that the offeror submitting offer k offers to sell in that offer multiplied by the scaling factor,

$Y_{km} =$ 1, if bus m is the injection bus specified in the offer k ,
 -1, if bus m is the withdrawal bus specified in offer k ,
 0, otherwise, and

$NI_{m,p}^0$ is the net injection at bus m in period p in the power flow corresponding to the set of all TCCs and Grandfathered Rights that are effective during period p as of the date of this round of the Auction and that have not been previously sold for all of the effective period of period p for the round of the Auction, calculated by summing the number of TCCs and Grandfathered Rights that specify bus m as an injection point, and subtracting the number of TCCs and Grandfathered Rights that specify bus m as a withdrawal point.

Then the objective function for this round of the Auction is:

$$\text{MAX} \left(\sum_{i \in T} A_i P_i C_i - \sum_{k \in U} B_k Q_k D_k \right),$$

Where:

A_i , P_i , B_k , and Q_k are as previously defined, and

T is the set of bids to buy TCCs submitted in this round of the Auction,

U is the set of offers to sell TCCs submitted in this round of the Auction,

C_i is the amount that the bidder submitting bid i is willing to pay for TCCs in that bid, and

D_k is the amount that the offeror submitting offer k is willing to take for TCCs in that offer

subject to the constraints that:

$$0 \leq A_i \leq 1 \text{ for all } i \in T$$

$$0 \leq B_k \leq 1 \text{ for all } k \in U$$

and subject to the constraint that the set of net injections $NI_{m,p}$ must be able to be accommodated using a simultaneously feasible contingency-constrained power flow in each period p of the TCC Auction.

This objective function determines the proportion of each bid and offer that is awarded with the objective of maximizing the benefit to purchasers and sellers of TCCs, subject to the constraint that injections and withdrawals corresponding to all TCCs that have been awarded in this round of the Auction, all TCCs and Grandfathered Rights that have not expired prior to the effective date of the upcoming Auction period and all TCCs that have not been previously sold for all or part of the upcoming Auction period must be simultaneously feasible in their respective periods.

In determining the feasible set of TCCs from a TCC Auction, the OPF analysis employs an objective function that maximizes the bidder's value of the TCCs awarded less the value assigned by sellers to TCCs sold. Due to the non-linear nature of the transmission network, the final result may be a local maximum and not the global maximum. The path taken by the OPF analysis to arrive at this maximum will be driven by the decisions made in each iteration of the load flow program used in the solution process. This path may sometimes lead to a solution near, but not at, the global maximum.

3.5.4 Executing OPF

Each power flow model as modified above, the transmission system limits (thermal, voltage, and stability) as determined by the NYISO and the objective function are input to the OPF program for execution.

A single OPF execution provides the results for each round of the Auction. These results include a set of simultaneously feasible TCCs and Market-Clearing Prices for each TCC. The NYISO will review the results of the OPF execution to check for simultaneous feasibility of all Grandfathered Rights, Grandfathered TCCs, other existing TCCs, and the awarded set of TCCs. A set of injections³ and withdrawals will be judged simultaneously feasible if the power flows produced by these injections and withdrawals do not cause any thermal, voltage, or stability violations within the NYCA for base case conditions or any criteria contingencies monitored by the NYISO.

3.5.5 Determine TCCs Awarded for a Round

To determine the bids awarded in the round, the NYISO multiplies the awarded bids determined in the OPF analysis by the inverse of the scaling factor. These scaled down values will be truncated to the nearest whole MW prior to being awarded as TCCs in this round of the Auction.

To determine the offers sold in the round, the NYISO multiplies the awarded sales determined in the OPF analysis by the inverse of the scaling factor. These scaled down values will be truncated to the nearest

³ This set of injections includes those injections required to serve losses.

whole MW prior to being awarded as TCC sales in this round of the Auction. In addition, the NYISO will combine remaining fractional sale awards between identical POI-POW pairs for a particular Primary Holder, if the total of those fractional awards allow the award of additional whole MW for that Primary Holder.

3.5.6 Determine Market-Clearing Prices for TCCs Awarded

Another result of the OPF execution is the determination of the locational marginal prices at each node in the transmission system model. These locational marginal prices are akin to the LBMPs calculated by the NYISO in the Day-Ahead and Real-Time Markets. However, due to the assumptions made in modeling TCCs in the OPF program, only the Congestion Component of the locational marginal price is produced for the Auction results.

The NYISO determines nodal prices for each location of the New York transmission system for which a DAM LBMP is calculated. These nodal prices provide the Market-Clearing Price of a TCC for a withdrawal at the specified node and an injection at the reference bus. These prices are calculated using the same equations used to calculate LBMPs, as explained in more detail in [Attachment B of the Services Tariff](#), with the exception that losses, and hence the marginal loss component, are zero. Market-Clearing Prices for TCCs whose injection location is not the reference bus can be calculated using the posted nodal prices. For example, in order to calculate the price of a TCC from Bus A to Bus B, one would subtract the nodal price posted for a TCC with a withdrawal location at Bus A from the price posted for a TCC with a withdrawal location at Bus B. Therefore, if the posted nodal price for a TCC with a withdrawal location of Bus A is \$100, and the posted nodal price for a TCC with a withdrawal location of Bus B is \$300, the price of a TCC with an injection location at Bus A and a withdrawal location at Bus B will be $\$300 - \$100 = \$200$.

For a Balance-of-Period Auction, if an awarded TCC has a duration of more than one month, the Market-Clearing Price for such a multi-month TCC will equal the sum of the Market-Clearing Prices for each month's TCC with the same Point of Injection and Point of Withdrawal, which in aggregate cover the same period for which the multi-month TCC is valid.

The NYISO will use these Market-Clearing Prices to determine the settlement price for each Buyer or Seller of a TCC in the round.

The amount charged for each TCC awarded is calculated as the product of:

- a. The number of TCCs awarded, and
- b. The Market-Clearing Price for the TCC.

The total amount charged or paid to each MP for the Auction round is calculated as the sum of the amounts charged for each TCC awarded to that MP. The prices from the OPF execution are rounded to the nearest \$0.01 for use in all subsequent calculations.

3.5.7 Unbundling of TCCs

Each TCC has a specific POI and POW. The POI and POW may be a generator bus, a NYCA Zone, the NYISO Reference Bus, or an external proxy bus. This creates great diversity in the TCCs that can be formulated. With such diversity in TCCs there is less chance that one party (Seller) will have the exact TCCs that another party (Buyer) desires. The concept of “unbundling” addresses the diversity issue by unbundling a TCC into standard components, each of which is a TCC. Because there is less diversity in the standard components, many believe that standard component, or unbundled, TCCs are easier to trade, thereby increasing the liquidity of the TCC market.

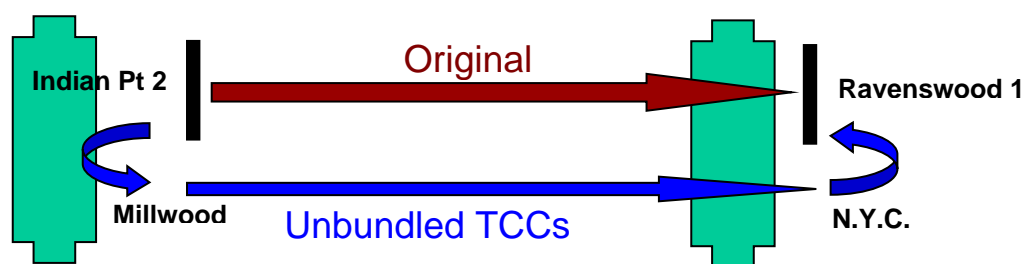
TCC Unbundling Mechanism

The standard components of a TCC are:

- a. POI to the Zone containing the POI (POI Zone)
- b. POI Zone to the Zone containing the POW (POW Zone)
- c. POW Zone to POW.

The NYISO Reference Bus is treated as a POI or POW. An external Proxy bus is treated as a Zone. When a TCC is unbundled into standard components, the original TCC is replaced by up to three TCCs as illustrated in [Figure 4](#) and in [Figure 5](#), [Figure 6](#), and [Figure 7](#), below.

Figure 4: Unbundled TCC in its Standard Components



Example 1: Original TCC, when unbundled, produces three components. Original TCC was for 40 MW between Generator buses in different Zones.

Figure 5: Different Zones

Original TCC	Unbundled TCC
POI: 40 MW into the Indian Point 2 generator bus in the Millwood Zone POW: 40 MW out of the Ravenswood 1 generator in the N.Y.C. Zone	POI: 40 MW into the Indian Point 2 generator bus POW: 40 MW out of the Millwood Zone POI: 40 MW into the Millwood Zone POW: 40 MW out of the N.Y.C. Zone POI: 40 MW into the N.Y.C. Zone POW: 40 MW out of the Ravenswood 1 generator bus

Example 2: Original TCC, when unbundled, produces two components. Original TCC was for 25 MW between two Generator buses in the same Zone.

Figure 6: Same Zone

Original TCC	Unbundled TCC
POI: 25 MW into the Arthur Kill 3 Generator bus in the N.Y.C. Zone POW: 25 MW out of Arthur Kill 2 Generator bus in the N.Y.C. Zone	POI: 25 MW into Arthur Kill 3 Generator bus POW: 25 MW out of N.Y.C. Zone POI: 25 MW into N.Y.C. Zone POW: 25 MW out of Arthur Kill 2 Generator Bus

Example 3: Original TCC, when unbundled, produces two components. Original TCC was for 18 MW between an external Proxy bus and a Generator bus within the NYCA.

Figure 7: Within the NYCA

Original TCC	Unbundled TCC
POI: 18 MW into the PJM Proxy Bus POW: 18 MW out of East Canada Mohawk hydro generator bus in the Capital Zone	POI: 18 MW into the PJM Proxy Bus POW: 18 MW out of Capital Zone POI: 18 MW into Capital Zone POW: 18 MW out of the East Canada Mohawk hydro generator bus

Requirements and Restrictions

The TCC bidder must specify if the TCCs are to be Bundled or Unbundled for each bid submitted. This election is made within the TCC AMS, or via the bid file upload process.

3.5.8 Auction Results

All MPs participating in the Auction Round can review results via the TCC AMS at the end of the Auction Round. All public reports can be viewed via the TCC AMS at the end of the Auction Round. The Summary of Transmission Contracts report is only updated following the completion of a Reconfiguration Auction or all rounds of a Centralized TCC Auction.

The NYISO will post the following information to the NYISO website:

- a. Binding Constraints
- b. Nodal Prices (\$/TCC-period)
- c. For each TCC awarded:
 - (1) Identity of the purchasing and selling MPs (posted after the completion of a Reconfiguration Auction or the last round of a Centralized TCC Auction only)
 - (2) Duration of the purchase or sale
 - (3) The POI and POW
 - (4) The number of TCCs
 - (5) The Market Clearing Price (\$/TCC-period)

Awards made during rounds of the Auction are considered final only when award notices are made available to MPs via the TCC AMS at the end of all rounds for a given Auction and a two business day dispute period has expired without: (i) initiation of a dispute process as described in [Section 4.5.7](#) of this Manual; or (ii) correction or adjustment of an award notice by the NYISO within such two-day dispute period.

3.6 Optimal Power Flows

This section will discuss the power flow modeling assumptions to be used in the Auction and the procedures for changing these assumptions, and analyses performed prior to conducting an Auction.

3.6.1 Operating Assumptions

The NYISO has responsibility for establishing the operating assumptions modeled in the power flows to be used in the Auctions. The transmission limits the NYISO sets in order to maintain system reliability are consistent with those used in the Day-Ahead Market.

Generator Operation

Existing generators connected to the New York State Transmission System are modeled as synchronous condensers in the power flow analysis.

Phase Angle Regulators

The modeling of phase angle regulators (PARs) will vary across the New York State (NYS) Transmission System. The following discussion provides a starting point for establishing criteria for PAR operation in the Auction.

A number of PARs exist both within the NYCA and on its boundaries with its neighbors. Normal PAR

operation can significantly change the pattern of power flows throughout the network. This has implications for the Auction because the set of TCCs that can be awarded depend on the pattern of power flows through the network and thus on the modeling assumptions used for the PARs. The majority of PARs are installed within the current TOs' systems to control the power flows on the lower voltage transmission and sub-transmission systems. The following modeling is used in the OPF analysis for the internal PARs and those on the external boundaries.

- **Inghams PAR** — The Inghams PAR controls the flow on the 115 kV circuit connecting National Grid's Central and Eastern Divisions. It is one of the branches comprising the Central East interface. This PAR is modeled in the OPF analysis with a fixed schedule consistent with recent historical DAM schedules from the previous like Capability Period.
- **LIPA PARs** — The Barrett, Northport (PS2), and Pilgrim 138 kV PARs are used to control loadings on Long Island Power Authority's (LIPA's) transmission system. The PARs at Pilgrim, Barrett and Northport (PS2) are allowed to be optimized in the OPF analysis in order to maximize the value of the objective function in the Auction and provide adequate protection to LIPA's 138 kV and 69 kV transmission facilities during both normal and contingency conditions.
- **Internal Con Edison PARs** — The Dunwoodie, Tremont (Parkchester), Corona, East River (East 13th Street), Academy, Astoria Annex, Freshkills, Vernon, Rainey, [Vinegar Hill](#), and Gowanus PARs are used to control loadings on Con Edison's transmission system. These PARs are allowed to be optimized in the OPF analysis in order to maximize the value of the objective function in the Auction and provide adequate protection to Con Edison's internal transmission system.
- **Con Edison-LIPA PARs** — The PARs at Lake Success and Valley Stream control the flows on the 138 kV ties from these stations to Con Edison's Jamaica substation. The PARs are modeled with fixed schedules that are based upon joint operating agreements in place between Con Edison and LIPA.
- **Northport - Norwalk Harbor PAR** — The Northport - Norwalk Harbor PAR (Northport PAR 1) controls the flow between New England and LIPA on the Northport - Norwalk Harbor 138 kV tie. This PAR is modeled with a fixed schedule chosen to support the Grandfathered Rights/TCCs associated with Points of Withdrawal on Long Island.
- **East Garden City PARs** — The East Garden City PARs control the flow on the Sprainbrook - East Garden City 345 kV [ties facility](#) (Y49). ~~These PARs are modeled with fixed schedules chosen to support the Grandfathered Rights/TCCs associated with Points of Withdrawal on Long Island.~~ [These PARs are allowed to be optimized in the OPF analysis in order to maximize the value of the objective function in the Auction and provide adequate protection to the Con Edison and LIPA transmission systems.](#)
- **Sand Bar (Plattsburgh) PAR** — The Sand Bar (Plattsburgh) PAR controls the flow between the NYCA and New England (Vermont) on the PV20 tie line. This PAR is modeled in the OPF analysis with fixed schedules consistent with recent historical DAM schedules from the previous like Capability Period.
- **Blissville PAR** — The Blissville PAR controls the flow between the NYCA and New England (Vermont) on the Whitehall - Blissville 115 kV tie line (K7). This PAR is modeled in the OPF analysis with fixed schedules consistent with recent historical DAM schedules from the previous like Capability Period.
- **St. Lawrence PARs** — The St. Lawrence PARs control the flow between Ontario Hydro and the NYCA on the L33P and L34P 230 kV ties. These PARs are modeled with fixed schedules of 0 MW.

- **Farragut, Goethals, and Waldwick PARs** — The Farragut, Goethals, and Waldwick PARs control the flows between PJM and the NYCA on the JK interface and ABC interface. These PARs are modeled in the OPF analysis as described in Attachment T of this Manual.
- **Ramapo PARs** — The Ramapo PARs control the flow between PJM and the NYCA on the Hopatcong-Ramapo 500 kV tie. These PARs are modeled in the OPF analysis as described in Attachment T of this Manual.
- **Hurley Avenue PAR** — The Hurley Avenue PAR controls the flow between the 115 kV and 69 kV networks at Hurley Avenue. This PAR [is allowed to be optimized in the OPF analysis in order to maximize the value of the objective function in the Auction and provide adequate protection to the 115 kV and 69 kV portions of the Central Hudson Gas & Electric Corporation transmission system in the Hurley Avenue vicinity.](#) ~~is modeled in the OPF analysis with fixed schedules consistent with recent historical DAM schedules from the previous like Capability Period~~
- **Michigan PARs** — The Michigan PARs at Bunce Creek, Lambton, and Keith (J5D PAR) control the flow between Michigan and Ontario. These PARs are modeled by determining the total of the average DAM Michigan PAR schedules from the previous like Capability Period rounded to the nearest 50 MW value. This value is then distributed evenly across the PARs.
- **Station 124 PARs** — The Station 124 PARs, located in Zone B (Genesee), control the flow on the Station 42 - Station 124 115 kV circuits. These PARs are modeled in the OPF analysis with fixed schedules consistent with recent historical DAM schedules from the previous like Capability Period.

Proxy Bus Scheduling

- See Attachment T of this Manual for the TCC Market representation of the PJM–NYISO Interconnection scheduling protocol
- See Attachment G of this Manual for bidding rules for using the HQ proxy bus as a POI or POW in a Centralized TCC or Reconfiguration Auction

Capacity Benefit Margin

The NYISO will not reserve any Capacity Benefit Margin during the Auction.

Transmission Reliability Margin

Transmission Reliability Margin (TRM) is defined as the amount of transfer capability necessary to ensure that the interconnected transmission network is secure under a reasonable range of uncertainties in system conditions. TRM accounts for the inherent uncertainty in system conditions and its effects on the Total Transfer Capability of the system and the need for operating flexibility to ensure reliable system operation as system conditions change.

The NYISO sells TCCs up to the limits of the transmission system, except for some estimate of TRM that the NYISO will observe in actual system operation. The NYISO’s Operations Department will reflect the TRM in the interface limits provided for the OPF analysis.

Monitored Facilities and Contingencies

The NYISO compiles a list of facilities and contingencies that are monitored for security analysis in

SCUC. These same monitored facilities and contingencies are modeled in the OPF analysis. Additional potential constraints may be added to maintain the integrity of the lower voltage system not controlled by the NYISO. These additional potential constraints consist of transmission line ratings on the lower voltage system. In addition, certain controls are allowed to be optimized in the OPF analysis to maintain voltage profiles at acceptable levels.

3.6.2 Reliability Requirements

Reliability requirements are normally translated into MW limits for thermal, voltage, and stability constraints for use in the security analysis, which are included in the OPF analysis. In addition, the NYISO will establish pre- and post-contingency voltage limits based on NYISO criteria for facilities, which are recognized in the OPF analysis.

The transmission system ratings used are consistent with the season that is covered by the Auction period. One-year and longer TCCs are sold based on summer ratings. Six-month TCCs sold for an Autumn Centralized TCC Auction use winter ratings, and six-month TCCs sold for a Spring Centralized TCC Auction use summer ratings.

Reference Bus Location

The Reference Bus location for the NYISO LBMP markets has been selected as the Marcy 345 kV substation, located near Utica, New York. This bus was selected for three primary reasons. First, the Marcy bus has no generators located there, thus, generators' bids will not directly affect the system marginal energy price, which is calculated relative to the Reference Bus. Second, there are many major transmission lines entering and leaving the Marcy bus, thus, the effect of the loss of any of these facilities on the system marginal energy price is reduced. Third, the selection of the reference bus has a significant impact on the three components of the LBMP. To achieve appropriate weighting of these three components, the reference bus for both delivery factors and generation shift factors should be the same, and that reference bus should be at or near the "electrical center" of the system (in this case, the center of the NYCA).

Losses

TCCs are loss-less quantities that require that the injection MW amount equals the withdrawal MW. However, on a transmission system, to deliver power from one location to another location, a MW injection different from the MW withdrawal must occur. The difference is losses.

In the OPF analysis, the NYISO cannot identify where generation will be produced to serve losses, since injection location of a TCC may not be a physical generator, thus, all power to serve losses is modeled as being supplied at the Reference Bus.

The assumption that all generation to serve losses will be produced at the Reference Bus results in power flows in the OPF from the Reference Bus to all locations where losses are served, in addition to the power flows produced by the TCCs awarded in the Auction. No TCCs are defined or awarded based on these power flows, but they are a necessary part of the simultaneous feasibility test.

Parallel Flows

The assumptions made in the power flows will have a significant effect on the OPF analysis. Parallel flows occur because of the dispatch of generation to serve load in areas external to the NYCA. This dispatch produces flows on transmission facilities throughout the transmission network, including all transmission facilities within the NYCA and on ties between the NYCA and neighboring control areas.

Depending on the direction of the parallel flow, the system transfer capability may be greater or less than the system transfer capability assumed in the OPF analysis. If changes in the NYISO's parallel flow assumptions cause the system transfer capability used in the DAM to be lower than the system transfer capability assumed in the OPF analysis, then the Congestion Rents collected by the NYISO in the DAM may not be sufficient to pay the NYISO's obligations to Primary Holders of TCCs. Alternatively, if the system transfer capability used in the DAM exceeds the system transfer capability used in the Auction, the NYISO may collect excess Congestion Rents in the DAM as a result.

The parallel flow assumptions used in the OPF analysis are those provided by the Operations Department at the time the TCC Auction model is developed.

Storm Watch

Storm Watch requires that the NYISO invoke certain contingencies in its Real-Time Market security analysis, in addition to the set of monitored facilities and contingencies employed for normal operation of the transmission system. These additional contingencies lower the transfer capability of the transmission system into southeastern New York.

Applying these lower transfer limits in the OPF analysis would likely reduce the TCCs available for purchase in the affected parts of the transmission system. The NYISO does not invoke Storm Watch in SCUC for the DAM, since Storm Watch events are normally in-day occurrences.

Since Congestion Rent payments to (or collections from) Primary Holders of TCCs are based on Day-Ahead Market LBMPs, the OPF analysis assumes only the set of monitored facilities and contingencies that are employed for normal operation of the transmission system.

3.6.3 Determination of Feasible Existing Transmission Capacity for Native Load

ETCNL represents certain grandfathered uses of the transmission system that existed prior to the formation of the NYISO. Several TOs had constructed transmission facilities to deliver energy from generation resources located outside of their service territories to their native load customers within their service territories. A TO's use of its facilities for this purpose differed from a Grandfathered ETA because it involved only one party and was therefore not memorialized in a transmission agreement. A number of ETCNL reservations were allocated to certain TOs prior to the start up of the NYISO to represent these existing grandfathered uses of the transmission system. These reservations are listed in [Attachment L of the OATT](#) (Table 3). TOs with ETCNL must offer the transmission capacity supporting the ETCNL reservations for sale in each Centralized TCC Auction unless the TO has converted the ETCNL into ETCNL TCCs or it was sold in a previous Centralized TCC Auction as TCCs that are still valid during the current Auction.

Prior to each Centralized TCC Auction, the NYISO determines the starting set of injections and withdrawals to be modeled in the upcoming Auction. These injections and withdrawals must correspond to a simultaneously feasible security-constrained power flow. The starting set of injections and withdrawals are based on the following that are active during the period applicable to the simultaneously feasible security-constrained power flow:

- a. Grandfathered Rights
- b. Grandfathered TCCs
- c. Available ETCNL
- d. Historic Fixed Price TCCs and, as it relates to the sale of TCCs in any round of a Centralized TCC Auction with a start date other than the first day of the Capability Period that commences following the completion of all rounds of such Auction, any modeling necessary to preserve the opportunity for future renewals/extensions of eligible Historic Fixed Price TCCs
- e. Non-Historic Fixed Price TCCs and any modeling necessary to preserve the opportunity for future renewals of eligible Non-Historic Fixed Price TCCs
- f. Temporary and final Incremental TCCs
- g. All other existing TCCs

In some cases, the starting set of injections and withdrawals may not correspond to a simultaneously feasible power flow in some period of time. In such cases, the available ETCNL will be reduced for that period to make this starting set correspond to a simultaneously feasible power flow. The reduction is made in accordance with Section 19.8.2 of [Attachment M of the OATT](#).

The available ETCNL for a particular Centralized TCC Auction is determined by subtracting the portions of each ETCNL reservation deemed to have been sold in previous Centralized TCC Auctions from the full nominal MW amounts of the ETCNL reservations if those TCCs will still be effective during the relevant

Auction period. After the available ETCNL for the upcoming Centralized TCC Auction is determined, the NYISO conducts a feasibility analysis to determine if the set of all existing uses of the transmission system and the available ETCNL correspond to a simultaneously feasible security constrained power flow. The transmission network model prepared for the upcoming Centralized TCC Auction is used for this feasibility analysis. The feasibility analysis is conducted in essentially the same manner as the TCC Auction power flow and optimization described in subsections of [Section 3.5](#) of this Manual, except for the treatment of bids. The result of the feasibility analysis is the simultaneously feasible level of each available ETCNL reservation (feasible ETCNL).

In preparation for a Spring Centralized TCC Auction where six-month (and longer duration, if applicable) TCCs will be sold, the NYISO conducts the feasibility analysis using the transmission network model representing the upcoming summer configuration utilizing summer transmission facility ratings. In preparation for an Autumn Centralized TCC Auction where six-month and longer duration TCCs will be sold, the NYISO conducts two independent feasibility analyses. One feasibility analysis is conducted using the transmission network model representing the upcoming summer configuration utilizing summer transmission facility ratings. The feasible ETCNL determined in this analysis is used in auction rounds where TCCs of one year or longer duration will be sold. The second feasibility analysis is conducted using the transmission network model representing the upcoming winter configuration utilizing winter transmission facility ratings. The feasible ETCNL determined in this second analysis is used in auction rounds where six-month TCCs will be sold.

When a single round one-year Sub-Auction as described in [Section 3.1.1](#) of this Manual is included in a Centralized TCC Auction, the NYISO will conduct an additional feasibility analysis using the transmission network model representing the summer configuration of the effective period of this Sub-Auction and utilizing summer transmission facility ratings.

After these initial feasible levels of ETCNL have been determined for a Centralized TCC Auction, each TO is given the opportunity to convert a portion of its feasible ETCNL to ETCNL TCCs, which will have a duration of six months and will have the same POI and POW as the original set of ETCNL. A TO may not convert more than the percentage specified by the NYISO in the Capacity Reservation Cap, which is limited by the OATT to a value no greater than 5%. The ETCNL TCCs will be held by the TO and treated like any other TCCs for settlement purposes, resulting revenues will be applied to Transmission Service Charge (TSC) costs.

Once the TOs have converted their ETCNL to TCCs, the NYISO performs one additional analysis to determine the final level of ETCNL for the Centralized TCC Auction. In this analysis, the ETCNL reserved as

TCCs is represented as fixed injections and withdrawals and the remaining ETCNL is represented in a disaggregated manner as described below. The reduction process is repeated using this disaggregated set of ETCNL. The feasible ETCNL resulting from this reduction process is used to determine the Auction revenues attributable to ETCNL.

Disaggregation of ETCNL

Each TO that holds ETCNL that specifies a zone as its POW may request that the NYISO represent that ETCNL in a disaggregated manner for the purpose of this final step of the ETCNL reduction process. For each ETCNL for which such a request is made, the NYISO will represent that ETCNL as a set of POI-POW pairs, which may be individually reduced. The POI for each such pair will be the original POI for that ETCNL, and the POWs will be each of the load buses in the zone that was the POW for that ETCNL. The quantity of energy injected and withdrawn at each such pair of a POI and a POW will be the number of MW of that ETCNL assigned to that TO in [Attachment L of the OATT](#) (Table 3) less the number of MW of that ETCNL that was deemed to have been sold in previous Centralized TCC Auctions, if those TCCs will still be effective during the upcoming Auction, less the number of MW of that ETCNL that was converted into ETCNL TCCs, multiplied by the bus load ratio share of the total load represented in the zone based on the load distribution in the NYCA transmission model obtained from the SCUC program. Under this approach, the MW reductions of the ETCNL with a POW in that zone are less because the disaggregated representation of ETCNL provides the OPF with more injection – withdrawal pair selections to target specific facility flows that require reduction and ETCNL Auction revenues are less severely impacted due to the reduction process.

TOs may request that the NYISO use this disaggregated representation of their ETCNL by contacting:

Manager, TCC Market Operations
New York Independent System Operator
10 Krey Boulevard
Rensselaer, NY 12144

3.6.4 Residual Capacity Revenue Rights

RCRRs are a means of defining the residual capacity of the transmission system and allocating the economic value of that transmission capacity to the customers of the TOs who own the transmission facilities that comprise it. A limited amount of this residual capacity may be reserved by the respective TOs as RCRR TCCs thereby excluding it from sale in a Centralized TCC Auction.

Prior to each Centralized TCC Auction and after the feasible levels of ETCNL have been determined for that Auction, the NYISO will determine the number of RCRRs between each of the following contiguous

pairs of Load Zones within the NYCA that will be allocated to the TOs:

- West – Genesee
- Genesee – Central
- North – Mohawk Valley
- Central – Mohawk Valley
- Mohawk Valley – Capital
- Capital – Hudson Valley
- Hudson Valley – Millwood
- Millwood – Dunwoodie
- Dunwoodie – New York City
- Dunwoodie – Long Island.

The NYISO conducts the RCRR evaluation analysis using the transmission network model prepared for the upcoming Centralized TCC Auction with all existing uses of the transmission system and the previously determined feasible ETCNL represented as existing TCCs as described in [Section 3.5.3](#) of this Manual, so that they will not be changed by the analysis. The evaluation analysis is similarly conducted as the TCC Auction power flow and optimization described in subsections of [Section 3.5](#) of this Manual. This allocation is described in detail in Section 19.5 of [Attachment M of the OATT](#).

3.6.5 Requests for TCC Auction Data

To support evaluation of the NYISO TCC market the NYISO will authorize access to TCC Auction Data (TAD) for TCC Auctions upon request. Access to the TAD is limited to individuals employed by or consultants to organizations that (1) are active TCC Market Participants or (2) are actively pursuing Incremental TCCs. Prior to each Centralized Auction, the NYISO will provide the TAD, by granting approved individuals authorized access to a secure site. Authorization to this secure site is facilitated with the processing of a Critical Energy Infrastructure Information (CEII) Request Form and Non-Disclosure Agreement (NDA).

TAD will be provided for the Spring and Autumn Centralized TCC Auctions and the associated Reconfiguration Auctions upon approval of a fully completed and duly executed NDA. In order for a TAD request to be considered, the individual must submit a completed CEII Request Form and NDA to the NYISO.

Each request must be specific to the individual submitting the request and to the information requested. Each person within an entity or organization who seeks access to the TAD must complete the CEII Request Form and NDA.

Requests for TAD must include the following information:

1. Full identification of the individual and the organization requesting the information
2. A description of the individual's role within the organization
3. A detailed description of the intended use of the requested information

The NYISO will not act upon the TAD request until all of the mentioned steps have been completed and the completed documents reviewed by the NYISO.

A link providing access to the CEII Request Form and NDA, including instructions, is located in the "Useful Links" section of the Transmission Congestion Contracts page of the NYISO website.

The TAD consists of the power flow cases used as the starting point for the Auction and the Auction's contingency analysis data. The power flow case is provided in Siemens' PSS®E raw data format. The contingency analysis data is provided in a non-program-specific format.

4. Auction Rules, Guidelines, and Procedures

The rules, procedures, and guidelines contained in this Manual have been established to govern the Auction process as conducted at various times by the NYISO, whereby Primary Holders of TCCs may offer those TCCs for sale and other MPs may bid to purchase TCCs. Attachment C of this Manual provides the following:

- a. The time period for which the Auctions governed by the Rules contained in this Manual are conducted by the NYISO, and
- b. The Effective Periods of TCCs purchased in the Centralized TCC and Reconfiguration Auctions, and
- c. The Classes and Rounds for the Centralized TCC Auction.

Time lines for the Centralized TCC Auction and Reconfiguration Auctions are provided in Attachment D of this Manual.

4.1 Rules for Offers to Sell TCCs

This section describes the rules and obligations for those MPs that intend to sell TCCs through the NYISO TCC Auction process.

4.1.1 Eligibility

To be eligible to submit offers to sell TCCs in the Centralized TCC Auction and the Reconfiguration Auctions, the Primary Holder offering TCCs for sale (Seller) must:

- a. Register as a Customer of the NYISO;
- b. Request eligibility to offer TCCs for sale in the Centralized TCC Auctions and the Reconfiguration Auctions; and
- c. Satisfy the creditworthiness criteria as set forth in [Attachment K of the Services Tariff](#).

4.1.2 Sale Agreements

Effective August 8, 2017: (i) Sale Agreements are no longer required in order to be eligible to submit offers to sell TCCs in the Centralized TCC Auctions or Reconfiguration Auctions; and (ii) all previously executed Sale Agreements are deemed to be terminated without the need for further action by the parties to such agreements.

4.1.3 Required Information

All Individual Offers to sell TCCs must specify the following, using the appropriate screens in the TCC AMS software:

- a. **Inventory ID** – This is the TCC contract number as provided via the TCC AMS as well as the TCC and Grandfathered Rights Report.
- b. **Number of TCCs offered** – This identifies the MW amount of certain TCCs offered for sale. The number of TCCs must be specified in a whole number and must be greater than zero.
- c. **Minimum Offer Price (\$/TCC)** – The minimum price (\$/TCC) that the Seller is willing to accept for the offered TCC. The minimum price must be specified to the nearest \$0.01. A minimum price of exactly \$0.00 is treated as \$0.001 during the OPF analysis to avoid ambiguity. All TCC Auction prices are in \$/TCC-period (e.g., \$/TCC-1-month, \$/TCC-6-month, and \$/TCC-12-month).
- d. **Period ID** - This whole number or combination of whole numbers which uniquely identifies all Period IDs associated with an Offer. This field is not required for a Centralized TCC Auction round or Single-Month Reconfiguration Auction round.

4.1.4 Revised Offers

Revised offers to sell TCCs are accepted if submitted through the appropriate screens, using the TCC AMS software, during the Offering Period. Each valid Offer provided by a Seller operates as a complete revocation of any/all Offer(s) previously submitted by that Seller during that Auction Bidding Period. The last valid offer, as indicated by the date and time stamp shown in the TCC AMS software, constitutes the Seller's only valid and binding offer to sell TCCs.

Valid offers to sell TCCs may also be withdrawn by submitting a withdrawal request through the appropriate screens, using the TCC AMS software, during the Offering Period. If such a withdrawal request is correctly, completely and timely submitted by a Seller, the last valid offer, as indicated by the date and time stamp shown in the TCC AMS software, will be withdrawn from the TCC AMS and have no further force or effect.

4.1.5 Market-Clearing Prices

All TCCs offered for sale in the Auctions are sold at the Market-Clearing Price. The Seller of TCCs offered in the Auctions is paid the Market-Clearing Price for each TCC sold. This Market-Clearing Price may be positive, negative, or zero. A positive Market-Clearing Price indicates that the NYISO must pay the Seller for the TCCs sold into the Auctions. A negative Market-Clearing Price indicates that the Seller must pay the NYISO for the TCCs sold into the Auctions. For a Balance-of-Period Auction, if an awarded TCC sale has a duration of more than one month, the Market-Clearing Price for such a multi-month TCC sale will equal the sum of the Market-Clearing Prices for each month's TCC with the same Point of Injection and Point of Withdrawal, which in aggregate cover the same period for which the multi-month TCC sale is valid.

4.1.6 Effective Period of TCCs being Offered

A Seller can offer for sale any number of TCCs in the Centralized TCC Auction and/or the

Reconfiguration Auction where the TCCs are valid for at least the entire Effective Period and the Seller is the Primary Holder of the TCCs for at least the entire Effective Period.

4.1.7 Offering a Portion of TCCs Owned

If a Seller owns more than one TCC that is effective between a POI and a POW, such Seller may offer any integer MW portion of the TCCs it holds between a POI and POW.

4.1.8 Offers

A Seller must make a separate offer to sell TCCs for each TCC contract number being offered (Individual Offer). All of a Seller's Individual Offers must be contained in one Electronic Offer per auction round. There is no limitation on the number of Individual Offers that may be contained in an Electronic Offer.

4.1.9 Awarding TCCs

Once a valid offer to sell TCCs has been submitted via the TCC AMS software for inclusion in the Centralized TCC Auction or the Reconfiguration Auction, the TCCs may be reconfigured by the NYISO or its designee from the original form into TCCs with different POIs and/or POWs according to the results of an OPF analysis performed by the NYISO. The OPF analysis is conducted prior to the final settlement of TCCs to determine the simultaneously feasible set of TCCs that will be awarded in the Centralized TCC Auction or any subsequent Reconfiguration Auction.

4.1.10 Overall and Individual Offer Validation

After using the appropriate screens as described in the [TCC AMS User's Guide](#) to submit an Offer or Bid/Offer Set which constitutes the Electronic Offer, the Electronic Offer will be invalidated for any of the following reasons:

- a. The Electronic Offer received is outside the Offering Period.
- b. Maximum offering exposure exceeds available credit security.

An Electronic Offer will also be invalidated when it contains an Individual Offer that fails one or more of the validation criteria listed below:

1. The Inventory ID was not provided.
2. The Period ID specified is not valid in the auction round.
3. More than one Period ID was specified on a single offer record (when the auction round is being administered in the Decoupled Mode.).
4. The quantity of TCCs offered is greater than the quantity held by the Seller for that TCC contract number.

5. The Seller makes multiple Individual Offers to sell TCCs for the same TCC contract number, combination of Period IDs and Minimum Offer Price.
6. The number of TCCs for which an offer has been made is less than or equal to zero.
7. The quantity of TCCs offered for sale is not a whole number.
8. The Minimum Offer Price is not provided.
9. The Minimum Offer Price is not specified to the nearest \$0.01.

4.2 Rules for Bids to Purchase TCCs

This section describes the rules and obligations for those MPs that intend to acquire TCCs through the NYISO TCC Auction process.

4.2.1 Eligibility

To be eligible to submit bids to purchase TCCs in the Centralized TCC Auction and the Reconfiguration Auctions, the potential purchaser of a TCC (Buyer) must:

- a. Register as a Customer of the NYISO;
- b. Request eligibility to submit bids to purchase TCCs in the Centralized TCC Auctions and the Reconfiguration Auctions; and
- c. Satisfy the creditworthiness criteria as set forth in [Attachment K of the Services Tariff](#).

4.2.2 Purchase Agreements

Effective August 8, 2017: (i) Purchase Agreements are no longer required in order to be eligible to submit bids to purchase TCCs in the Centralized TCC Auctions or Reconfiguration Auctions; and (ii) all previously executed Purchase Agreements are deemed to be terminated without the need for further action by the parties to such agreements.

4.2.3 Required Information

All Individual Bids to purchase TCCs must specify the following, using the appropriate screens in the TCC AMS software:

- a. **TCC Point of Injection (POI)** – This may be any single bus, the Reference Bus, neighboring control area proxy bus or Zone listed in Attachment E of this Manual for which a LBMP is posted for the DAM. The POI must be referenced on the Purchase Form with a Point Identifier (PTID) number.
- b. **TCC Point of Withdrawal (POW)** – This may be any single bus, the Reference Bus, neighboring control area proxy bus or Zone listed in Attachment E of this Manual for which a LBMP is posted for the DAM. The POW must be referenced on the Purchase Form with a PTID number.
- c. **Number of TCCs desired** – This identifies the MW amount of certain TCCs desired to be purchased. The number of TCCs must be specified in a whole number and must be greater than zero. TCC MW values are treated as up-to bids in the Centralized TCC Auction analysis,

- meaning that a successful bid may be cleared at a MW amount that is anywhere from zero MW to the full bid MW value, in whole MW.
- d. **Max Bid Price** – This identifies the dollar amount of the bid, specified in dollars per TCC for the Effective Period. The price identified must be specified to the nearest \$0.01. A bid price of exactly \$0.00 is treated as \$-0.001/TCC period during the OPF analysis to avoid ambiguity. All TCC Auction prices are in \$/TCC-period for example, \$/TCC-1-month, \$/TCC-6-month, \$/TCC-12-month, etc.
 - e. **Request to Bundle** – This identifies whether the Bidder desires the TCCs associated with the bid, if awarded, to be bundled or unbundled. This choice is irrevocable for the Effective Period of the TCCs.
 - f. **Period ID** - This whole number or combination of whole numbers which uniquely identifies all Periods IDs associated with a Bid. This field is not required for a Centralized TCC Auction round or Single-Month Reconfiguration Auction round.

4.2.4 Revised Bids

Revised bids are accepted if submitted using the appropriate screens in the TCC AMS software, during the Bidding Period. Each valid bid provided by a Buyer operates as a complete revocation of any and all bids previously submitted by the Buyer during that Auction Bidding Period. The last valid bid, as indicated by the date and time stamp shown in the TCC AMS, constitutes the Buyer's only valid and binding bid to purchase TCCs.

Valid bids to purchase TCCs may also be withdrawn by submitting a withdrawal request through the appropriate screens, using the TCC AMS software, during the Bidding Period. If such a withdrawal request is correctly, completely and timely submitted by a Buyer, the last valid bid, as indicated by the date and time stamp shown in the TCC AMS software, will be withdrawn from the TCC AMS and have no further force or effect.

4.2.5 Market-Clearing Price

In the Centralized TCC Auction or any Reconfiguration Auction, the winning Buyer is obligated to pay or entitled to receive the Market-Clearing Price, which may be less than or equal to the bid price. For a Balance-of-Period Auction, if an awarded TCC has a duration of more than one month, the Market-Clearing Price for such a multi-month TCC will equal the sum of the Market-Clearing Prices for each month's TCC with the same Point of Injection and Point of Withdrawal, which in aggregate cover the same period for which the multi-month TCC is valid.

4.2.6 Bid Price

Buyers of TCCs in the Centralized TCC Auction and/or the Reconfiguration Auction may submit positive, negative, or zero dollar bids. A negative dollar bid indicates that the Buyer is willing to accept TCCs only if the Market-Clearing Price is less than or equal to the negative dollar bid offered.

4.2.7 Permitted PTIDs

Buyers of TCCs in a Centralized TCC Auction and/or a Reconfiguration Auction may submit bids between any POI and POW listed in Attachment E of this Manual except those grouped together in Attachment F of this Manual. Buyers who submit bids utilizing the HQ Proxy Bus PTIDs as a POI or POW must conform to the rules for their use specified in Attachment G of this Manual.

4.2.8 Bids

A Buyer must make a separate and distinct bid to purchase TCCs for each POI and POW (Individual Bid). All Individual Bids must be contained in one Electronic Bid. The maximum number of Individual Bids permitted to be contained in an Electronic Bid is 1,000 per period.

4.2.9 Overall and Individual Bid Validation

After using appropriate screens in the TCC AMS software to submit a Bid or Bid/Offer Set which constitutes the Electronic Bid, the entire Electronic Bid will be invalidated for any of the following conditions:

- a. The Electronic Bid is received outside the Bidding Period.
- b. The Electronic Bid contains more than the maximum permitted number of Individual Bids. A Bid/Offer Set containing more than 1,000 bids in a single period will be invalidated by the TCC AMS. There is no limitation on the number of Individual Offers in a Bid/Offer Set.
- c. Collateral requirement for the Electronic Bid exceeds available credit security.

An Electronic Bid will also be invalidated when it contains an Individual Bid that fails one or more of the validation criteria listed below:

1. Request to bundle contains an invalid value or has not been specified a value.
2. The Period ID was not provided for an auction round in which more than one period exists.
3. The Period ID specified is not valid in the auction round.
4. More than one Period ID was specified on a single bid record (when the auction round is being administered in a Decoupled Mode).
5. The POI and/or POW does not correspond to a location for which the NYISO allows bidding in the auction round as listed in Attachment E of this Manual.
6. The POI and POW are both within the same group of POIs and POWs listed in Attachment F of this Manual.
7. The Individual Bid utilizes the HQ Proxy Bus PTIDs as a POI or POW and does not conform to the rules for their use specified in Attachment G of this Manual.
8. The number of TCCs for which a bid is made is not a whole number greater than zero.
9. Two or more Individual Bids for a given POI and POW and Period ID combination are entered at the same bid price.
10. The bid price is not specified to the nearest \$0.01.

4.3 Final Results of the Auctions

The NYISO will make the final results of the Centralized TCC Auction and the Reconfiguration Auctions available via the TCC AMS no later than 8:00 AM on the first calendar day of the Effective Period. The following information will be provided for each round:

- a. A list of binding transmission constraints encountered in the Centralized TCC Auction or the Reconfiguration Auction,
- b. Prices at each bus, Reference Bus, neighboring control area proxy bus, and Zone,
- c. All TCCs sold in the Centralized TCC Auction or the Reconfiguration Auction, including identity of the Seller, POI and POW, number of TCCs, Market-Clearing Prices, and, if the auction is a Balance-of-Period Auction, the month(s) for which the awarded TCCs are valid, and
- d. All TCCs awarded in the Centralized TCC Auction or the Reconfiguration Auction, including identity of the Buyer, POI and POW, number of TCCs, and Market-Clearing Price.

4.4 Technical Information Concerning Auction Model

The following sections pertain to the application of the system model used by the OPF in arriving at an Auction solution.

4.4.1 Existing Transmission Agreements

Each ETA, where the Transmission Customer has elected to retain the transmission rights in such agreement, is modeled in the OPF analysis as a fixed injection-withdrawal pair.

4.4.2 Valid TCCs

Each TCC that has not expired prior to the start date of the TCCs offered for sale for the relevant Auction period and that has not been previously sold for all or part of the upcoming Auction period and that is not offered for sale into the Centralized TCC Auction or the Reconfiguration Auction is modeled in the OPF analysis as a fixed injection-withdrawal pair.

4.4.3 Initial Optimal Power Flow

The NYISO will initialize the OPF analysis using the transmission system representation (including transmission limits) and uncompensated parallel flows consistent with the NYISO model for the DAM SCUC. The NYISO will then adjust the modeled uncompensated parallel flows to account for forecast conditions of the transmission system.

The NYISO will model the OPF analysis to maximize the value of the objective function as further described in [Section 3.5.3](#) of this Manual.

4.4.4 Existing Generators

All existing generators connected to the New York State Transmission System are modeled as synchronous condensers, providing only reactive support.

4.4.5 Phase Angle Regulators

Flows through PARs are set at contractual levels where such contractual levels apply. All other PARs are scheduled to maximize the bid-based value of the bids submitted. The modeling of specified PARs is discussed in [Section 3.6.1](#) of this Manual.

4.4.6 Scheduled Transmission Outages

A scheduled transmission outage that is scheduled to be out-of-service for a majority (>50%) of any one or more of the Effective Periods being represented in a six-month Sub-Auction or a Reconfiguration Auction shall also be represented as a transmission outage in the OPF analysis for the same Effective Period(s), unless the TO or TOs that would be financially responsible for the shortfall charges associated with a given outage have requested in writing that the transmission outage not be scheduled as out-of-service in the OPF analysis.

No later than 12:00 PM, five business days prior to the opening of the Auction Bidding Period for, as applicable, the first round of the six-month Sub-Auction or a Reconfiguration Auction, the NYISO will provide the TOs with a list of transmission facility outages scheduled as shown in the [NYISO Outage Scheduling Manual](#), which are scheduled out-of-service for a majority (>50%) in any one or more of the Effective Period(s) of TCCs being sold in, as applicable, the six-month Sub-Auction or Reconfiguration Auction. No later than 5:00 PM, four business days prior to the opening of the Auction Bidding Period for, as applicable, the first round of the six-month Sub-Auction or a Reconfiguration Auction, the TO responsible for the scheduled outage must designate in writing which of the scheduled outages will be modeled as in-service in, as applicable, the six-month Sub-Auction or Reconfiguration Auction, otherwise, all of the scheduled outages provided by the NYISO will be modeled as out-of-service.

No later than 12:00 PM, three business days prior to the opening of the Auction Bidding Period for, as applicable, the first round of the six-month Sub-Auction or a Reconfiguration Auction, the NYISO will post to the Transmission Congestion Contracts page of the NYISO website the TCC Auction modeling option chosen for each transmission facility outage that was scheduled out-of-service for a majority (>50%) in any of the Effective Periods of the TCCs being sold in, as applicable, the six-month Sub-Auction or Reconfiguration Auction. This will constitute the set of transmission facility outages that will be represented in the OPF analysis.

4.4.7 Astoria 3, 4, and 5 Units

The Astoria 3 (PTID # 23516), Astoria 4⁴ (PTID # 23517) and Astoria 5 (PTID # 23518) generators are capable of being connected to either the Astoria East 138 kV substation or the Astoria West 138 kV substation. Each generator can be connected to only one of these substations at a time. The connection point for each of these generators in the Day-Ahead modeling changes from time to time in response to the operational and reliability considerations at that time. The often used configuration of the Astoria generators in the DAM places Astoria 3 and Astoria 5 at the Astoria West 138 kV substation with Astoria 4 located at the Astoria East 138 kV substation. Each of these generators can be re-located to the other bus.

When the DAM configuration of the connection points for the Astoria 3, 4 or 5 units differs from the manner in which these units are modeled in the TCC Auction, unpredictable Day-Ahead congestion residuals can result. To avoid this unpredictability, bidding to purchase new TCCs using Astoria 3, Astoria 4, or Astoria 5 as the POI or POW is not allowed. The unused bidding capacity related to Astoria 3, Astoria 4, and Astoria 5 is incorporated into the capacity of the TCC bidding points at Astoria East and Astoria West and may be bid as follows:

- The capacity associated with the Astoria 3 TCC bidding point is represented at PTID # 323568 NYPA_ASTORIA_CC1 which is represented at the Astoria West substation.
- The capacity associated with the Astoria 5 TCC bidding point is represented at PTID # 323569 NYPA_ASTORIA_CC2 which is represented at the Astoria West substation.
- The capacity associated with the Astoria 4 TCC bidding point is divided equally between PTID # 323581 ASTORIA_EAST_ENERGY_CC1 and PTID # 323582 ASTORIA_EAST_ENERGY_CC2 which are represented at the Astoria East substation.
- The capacity available at PTIDs 323568, 323569, 323581 and 323582, which includes the capacity related to Astoria 3, Astoria 4, and Astoria 5, is provided in the TAD available, upon request, from the NYISO.
- This bidding process was implemented for the October 2011 Reconfiguration Auction, the Autumn 2011 Centralized TCC Auction Six Month rounds, and all subsequent TCC auctions.
- All currently effective TCCs which use Astoria 3, Astoria 4, or Astoria 5 as the POI or POW will remain effective until their expiration dates established at their original purchase. Primary Holders of these TCCs will be able to offer them for sale in TCC auctions consistent with their

⁴ Note that the Astoria 4 unit is not currently in service, however, the capability to bid on the transmission capacity associated with the PTID is supported as described.

effective dates.

4.5 Accounting Issues

At the conclusion of the TCC Auctions, the NYISO calculates and notifies the MPs of the costs (credits) that the TCC Sellers will receive and costs that the TCC Buyers are obligated to pay. This section discusses the associated accounting issues.

4.5.1 Award Reconciliation

Each Buyer who is awarded TCCs in the Auctions is obligated to pay or entitled to receive the product of the relevant Market-Clearing Price(s) multiplied by the number of TCCs awarded (i.e., the Total Purchase Price or Total Selling Price as defined in the Award Notice). For a Balance-of-Period Auction, if an awarded TCC has a duration of more than one month, the Market-Clearing Price for such a multi-month TCC will equal the sum of the Market-Clearing Prices for each month's TCC with the same Point of Injection and Point of Withdrawal, which in aggregate cover the same period for which the multi-month TCC is valid.

4.5.2 Revenue Distribution

All Auction revenues are distributed as follows:

- a. Each Seller is paid the Market-Clearing Price for each TCC sold into the Centralized TCC Auction or the Reconfiguration Auction where the Market-Clearing Price is positive; provided, however, that for a Balance-of-Period Auction, if the TCC sold has a duration of more than one month, the Market-Clearing Price for such a multi-month TCC will equal the sum of the Market-Clearing Prices for each month's TCC with the same Point of Injection and Point of Withdrawal, which in aggregate cover the same period for which the multi-month TCC is valid,
- b. Each purchasing MP is paid the Market-Clearing Price for each TCC received in the Centralized TCC Auction or the Reconfiguration Auction where the Market-Clearing Price is negative; provided, however, that for a Balance-of-Period Auction, if an awarded TCC has a duration of more than one month, the Market-Clearing Price for such a multi-month TCC will equal the sum of the Market-Clearing Prices for each month's TCC with the same Point of Injection and Point of Withdrawal, which in aggregate cover the same period for which the multi-month TCC is valid, and
- c. For the Centralized TCC Auction only, each TO is paid the Market-Clearing Price for each TCC sold into the Centralized TCC Auction as an Original Residual TCC or as ETCNL, where the Market-Clearing Price is positive.

For all Auctions, any remaining Auction revenues are distributed to the TOs pursuant to the methodology described in [Attachment N of the OATT](#).

4.5.3 Firm Commitment

All offers to sell and bids to buy TCCs in the Auctions: (i) represent firm and binding commitments to the NYISO by the Sellers and Buyers; and (ii) a representation that the Sellers and Buyers are financially able and willing to make any required payments to the NYISO in connection with any awards resulting therefrom.

4.5.4 Primary Holder

Each Buyer that is awarded a TCC in the Auctions becomes the Primary Holder of that TCC for the Effective Period.

4.5.5 TCC Purchase Award Notice

The NYISO will provide an Award Notice to each Buyer awarded TCCs in the Centralized TCC Auction or the Reconfiguration Auction via the TCC AMS according to the schedule set forth in Attachment D of this Manual. Generally, the NYISO will provide this Award Notice within five business days from the end of any Auction. This Award Notice will include the Market-Clearing Price, POI and POW for each TCC awarded, and the total purchase price for the TCCs. A Buyer is deemed to be in receipt of an Award Notice on the day the NYISO makes the Award Notice accessible to the Buyer via the TCC AMS.

TCCs purchased with a duration of two years are invoiced in annual installments. The first year invoice will provide the first year amount, which will be based on the Market-Clearing Price of the TCC purchased divided by two (rounded up to the nearest cent). A second year invoice, made available at a later date, will provide the second year amount, which will be based on the Market-Clearing Price of the TCC purchased divided by two (rounded down to the nearest cent). The “TCC Award Summary” report for a given Auction round that is available through the TCC AMS denotes the first and second year amounts described above as the “initial obligation” and the “future obligation”.

4.5.6 TCC Sale Award Notice

The NYISO will provide an Award Notice to each Seller who sold TCCs in the Centralized TCC Auction or the Reconfiguration Auction via the TCC AMS according to the schedule set forth in Attachment D of this Manual. Generally, the NYISO will provide this Award Notice within five business days from the end of any Auction. This Award Notice will include the Market-Clearing Price, POI and POW for each TCC sold, and the total selling price for the TCCs. A Seller is deemed to be in receipt of an Award Notice on the day the NYISO makes the Award Notice accessible to the Seller via the TCC AMS.

TCCs sold with a duration of two years are invoiced in annual installments. The first year invoice will

provide the first year amount, which will be based on the Market-Clearing Price of the TCC sold divided by two (rounded up to the nearest cent). A second year invoice, made available at a later date, will provide the second year amount, which will be based on the Market-Clearing Price of the TCC sold divided by two (rounded down to the nearest cent). The “TCC Award Summary” report for a given Auction round that is available through the TCC AMS denotes the first and second year amounts described above as the “initial obligation” and the “future obligation”.

4.5.7 Award Notice Disputes

Within two (2) business days after the Award Notice is accessible to a Market Participant, to the extent that the Market Participant challenges the calculation of the net total amount owed by, or owed to, the Market Participant, the Market Participant shall give written notice to the NYISO setting forth in reasonable detail the basis for any such challenge (Dispute) which challenge may reflect information included in the Award Notice if such information impacts the net total amount owed by, or owed to, the Market Participant.

If a Market Participant does not give written notice within the two (2) business day dispute period and the NYISO does not correct or otherwise adjust the Award Notice within such dispute period, the Award Notice shall be final.

If a Market Participant timely provides written notice of a Dispute, the expedited dispute resolution procedures set forth below shall apply; provided, however, that the Market Participant or the NYISO, depending on which party is obligated to pay, shall be obligated to pay the net total amount due as specified in the Award Notice in accordance with the requirements of [Section 4.6](#) of this Manual.

4.5.7.1 Five-Day Consultation Period

Following timely submission of a notice of Dispute, the NYISO and the Market Participant shall promptly confer and attempt to resolve the Dispute on an informal basis. If the parties are unable to resolve the Dispute by mutual agreement within five (5) calendar days, the Dispute shall be submitted to the NYISO's designated dispute resolution administrator (DRA).

4.5.7.2 Written Submissions to the DRA

Immediately following conclusion of the five-day consultation period described in [Section 4.5.7.1](#) of this Manual, the Market Participant shall submit to the DRA and the NYISO a concise written statement requesting expedited dispute resolution pursuant to this [Section 4.5.7](#) of this Manual. The written statement shall describe the nature of the Dispute, the issues to be resolved and the specific resolution requested by the Market Participant. The NYISO shall then have five (5) calendar days to submit a concise

written response to the DRA, which shall include a proposed disposition of the Dispute.

4.5.7.3 Appointment of an Arbitrator

Within five (5) calendar days following receipt of a request for expedited dispute resolution, the DRA shall appoint one arbitrator from a list maintained by the DRA of qualified arbitrators for matters that may be subject to the expedite dispute resolution procedures set forth in this [Section 4.5.7](#) of this Manual. The arbitrator shall be selected by the DRA by randomly selecting names from the list until an available arbitrator is found. If none of the arbitrators on the list is available, the DRA shall appoint a qualified arbitrator to preside over the Dispute. No person shall be eligible to act as an arbitrator who is a past or present officer, employee of, or consultant to any of the parties to the Dispute, or of an entity related to or affiliated with any of the disputing parties, or is otherwise interested in the matter to be arbitrated, except upon the express written consent of all parties to the Dispute. Any individual appointed as an arbitrator shall make known to the disputing parties any such disqualifying relationship or interest and a new arbitrator shall be appointed by the DRA, unless express written consent is provided by each party to the Dispute.

4.5.7.4 Arbitration

There shall be no right to discovery between the parties, including, but not limited to, depositions, interrogatories or other information requests. The arbitrator may request, and the parties shall produce, any information in addition to the written statements that is deemed by the arbitrator to be relevant to the issues presented. The arbitrator shall resolve the Dispute solely on the basis of the written statements and evidence submitted by the parties unless, in the sole discretion of the arbitrator, a hearing is deemed necessary. Any such hearing shall be limited to one (1) day and conducted in accordance with the procedures determined by the arbitrator. Absent agreement to the contrary by all parties to the Dispute, no person or entity shall be permitted to intervene. Except as otherwise set forth in this [Section 4.5.7](#) of this Manual, the arbitrator will follow the Commercial Arbitration Rules of the American Arbitration Association and the expedited procedures set forth in this [Section 4.5.7](#) of this Manual.

4.5.7.5 Arbitration Decision

Within fifteen (15) calendar days of the appointment of the arbitrator, the arbitrator shall select as an arbitration award the resolution proposed by one of the parties in their written submissions and shall render a concise written decision including findings of fact and the basis for the decision. All costs associated with the time, expenses, and other charges of the arbitrator shall be borne by the unsuccessful party. Each party shall bear its own costs, including any attorney and expert fees. No award shall be

deemed to be precedential in any other arbitration related to a different dispute.

4.5.7.6 Finality

The decision of the arbitrator shall be final and binding upon the parties, except that, within one year of the arbitration decision, a party to the Dispute may request that any federal, state regulatory or judicial authority (in the State of New York) having jurisdiction take such action as may be appropriate with respect to any arbitration decision that is based on fraudulent conduct or demonstrable bias of the arbitrator.

4.6 Payments

This section describes the overall payment process that determines how the TCC Auction revenues (payments and receipts) are shared among the TCC Auction participants.

4.6.1 Market Participant and NYISO Payment

Net payments from MPs to the NYISO and from the NYISO to MPs for all TCCs purchased and sold in a TCC Auction will be included on a monthly or weekly invoice issued as part of the NYISO's Consolidated Invoice process as indicated in Attachment D of this Manual. Please note that the invoice dates reflected in Attachment D of this Manual represent the expected invoice issuance date for the applicable invoice based on the information available at the time of the posting of Attachment D of this Manual. Per Section 2.7.3.2 of the [OATT](#), the due date for net payments to or from the NYISO for the applicable invoice shall be in accordance with the dates specified by the NYISO for the invoice at issue.

Please refer to the [Accounting and Billing Manual](#) for information on the Consolidated Invoice process and the [Settlement Data Applications User's Guide](#) for information on accessing Consolidated Invoice reports and data via the NYISO's Customer Settlements Interface System.

[Sections 4.5.5](#) and [4.5.6](#) of this Manual provide additional information regarding the invoicing procedures related to TCCs with a duration of two years.

4.6.2 Obligations and Entitlements

All TCCs awarded in an Auction entitle the Buyer to collect (or obligates it to pay), the difference in the Congestion Component of the Day-Ahead LBMP at the POW of the TCC and the Congestion Component of the Day-Ahead LBMP at the POI of the TCC, for each TCC awarded, for each hour of the Effective Period.

4.6.3 Transmission Owner Payment

TCC Auction revenues owed to the TOs that were determined pursuant to the methodology described in Section 20.3.7 of [Attachment N of the OATT](#) for the sale of residual transmission capability, as well as revenues owed for their release of Original Residual TCCs and ETCNL into the Centralized TCC Auction, will be included on a monthly or weekly invoice issued as part of the NYISO's Consolidated Invoice process as indicated in Attachment D of this Manual. Please note that the invoice dates reflected in Attachment D of this Manual represent the expected invoice issuance date for the applicable invoice based on the information available at the time of the posting of Attachment D of this Manual. Per Section 2.7.3.2 of the [OATT](#), the due date for net payments to or from the NYISO for the applicable invoice shall be in accordance with the dates specified by the NYISO for the invoice at issue.

Please refer to the [Accounting and Billing Manual](#) for information on the Consolidated Invoice process and the [Settlement Data Applications User's Guide](#) for information on accessing Consolidated Invoice reports and data via the NYISO's Customer Settlements Interface System.

4.7 Credit Requirements

In order to be eligible to submit offers to sell or bids to purchase TCCs in a TCC Auction, selling and purchasing MPs must satisfy the criteria set forth in [Attachment K of the Services Tariff](#).

4.8 Review and Verification of TCCs

Twice a year, the NYISO distributes TCC information so that each Market Participant may certify the completeness and accuracy of Grandfathered Rights, Grandfathered TCCs, and TCCs held by that Market Participant. If discrepancies exist, the NYISO will, if necessary, update its TCC information. The details below describe the process through which Market Participants certify TCC information.

Approximately three months before the start of a Centralized TCC Auction, the NYISO produces and distributes an Excel file for each Market Participant, showing its TCC information. The file excludes all TCC information related to contracts terminating prior to the starting effective date for the upcoming Capability Period.

With the TCC information, an accompanying letter is sent to each Market Participant requesting that a corporate officer certify, by a specified date, the completeness and accuracy of the data provided by the NYISO (see [Figure 8](#)~~Figure 8~~~~Figure 8~~~~Figure 8~~). A certification form is included with that request (see [Figure 9](#)~~Figure 9~~~~Figure 9~~~~Figure 9~~).

Upon receiving any discrepancies identified by Market Participants, the NYISO investigates the validity

of the discrepancy and documents its findings. If the NYISO confirms the validity of the data discrepancies, it will correct the TCC information used in the auctions going forward, re-prepare the Excel file and/or table showing the Market Participant's TCC information, and repeat the data validation process described above. If the NYISO cannot confirm the validation of data discrepancies submitted by a Market Participant, it will request additional information.

If it does not receive a reply, the NYISO will assume that the TCC information sent to a non-responding Market Participant is accurate based on available records. It is not necessary for Market Participants to wait for the NYISO to request updates to TCC information; revisions may be submitted at any time. When the NYISO receives such requests, it will investigate the discrepancy, document its finding, and make appropriate corrections as soon as possible.

Figure 8: Example of TCC Data Validation Letter

TCC Validation Letter

[Date]

Subject: Review and Verification of Transmission Congestion Contracts (TCCs) Data

Dear Market Participant:

To ensure the completeness and accuracy of the data used in the TCC auction and settlement processes, the NYISO requests, on a semi-annual basis, that a corporate officer of each Market Participant attest to the completeness and accuracy of the Grandfathered Rights, Grandfathered TCCs and TCCs held by the Market Participant. The semi-annual requests occur prior to the start of the summer and winter Capability Periods.

The attached Microsoft Excel workbook(s) contains your company's TCC information as reflected in the Automated TCC Market System that is effective from **[Month, Day, Year] through [Month, Day, Year]** (excluding all one-month contracts) and that will still be effective on **[Month, Day, Year]**. This information may contain highlighted items that reflect revisions recently received from a representative of your company.

Description of attached Excel workbooks sent in Summer in preparation for upcoming Autumn Centralized TCC Auction:

- "your company name - TCCs Spring 20YY.xls" – this file contains your company's TCCs that are effective from May 1, 20YY through October 31, 20YY. This file excludes all one-month contracts and all TCCs that are also effective Nov. 1, 20YY and beyond.

- “your company name - TCCs Autumn 20YY.xls” – this file contains your company’s TCCs that are effective on or after November 1, 20YY.

Description of attached Excel workbooks sent in Winter in preparation for the upcoming Spring Centralized TCC Auction:

- “your company name - TCCs Autumn 20YY.xls” – this file contains your company’s TCCs that are effective from Nov. 1, 20YY through April 30, 20YY. This file excludes all one-month contracts and all TCCs that are also effective May 1, 20YY and beyond.
- “your company name - TCCs Spring 20YY.xls” – this file contains your company’s TCCs that are effective on or after May 1, 20YY.

By way of this correspondence, the NYISO is requesting your review and verification of your company’s TCC information. By signing and returning the attached form(s), you are verifying that your company’s TCC information is complete and correct, thus, ensuring that your company’s Day-Ahead Market settlement of TCCs is accurate. Also, the NYISO can ensure that the reservation of transmission capacity represented by your company’s TCCs is reflected in the TCC auction transmission network model correctly. This will further ensure the accuracy of the transmission capacity available to be sold to Market Participants in the auctions.

To allow NYISO staff sufficient time to enter and verify revisions to the attached information, please respond by **[Month, Day, Year]**. If the NYISO does not receive a reply, the attached TCC information will be assumed accurate based on available records.

Please send your forms to:

Manager, TCC Market Operations
New York Independent System Operator
10 Krey Boulevard
Rensselaer, NY 12144

or email **[email address of Manager, TCC Market Operations]**.

Note: the TCC Data Validation Certification form is addressed to Robert E. Fernandez, General Counsel and Secretary, but it should be mailed to the above address or sent to the above email address. The form will be forwarded to Mr. Fernandez upon receipt by the TCC Market Operations department.

Thank you for your assistance in this matter.

Regards,
Manager, TCC Market Operations

Figure 9: Example of TCC Data Validation Certification Form

[DATE]

General Counsel
New York Independent System Operator
10 Krey Boulevard
Rensselaer, NY 12144

Dear _____:

I [NAME AND TITLE OF CORPORATE OFFICER] have reviewed the electronic spreadsheet entitled “[NAME OF COMPANY] - TCCs [SEASON] [YEAR].xls” (the “Spreadsheet”) that was provided to me by the staff of the New York Independent System Operator on [DATE], have knowledge of its contents and have knowledge of [NAME OF COMPANY]’s Grandfathered Rights and Transmission Congestion Contracts (“TCCs”).

I hereby attest that the Grandfathered Rights and TCCs and their associated transactions identified in the Spreadsheet accurately and completely reflect the following information for each of the entries provided:

1. Contract ID;
2. NYISO OATT Attachment L Reference Number (where applicable);
3. Primary TCC Holder;
- ~~3. Contract/Transaction Start and End Dates;~~
4. Point of Injection Identification Number;
5. Point of Withdrawal Identification Number;
6. Contract/Transaction Start and End Dates; and
- ~~6. Summer/Winter MW Values; and~~
- ~~7. Primary TCC Holder.~~

I further attest that the Spreadsheet accurately and completely identifies all of the Grandfathered Rights and TCCs held by [NAME OF COMPANY] that are effective on or after [start of the upcoming Capability Period].

Sworn by me this ____ day of [DATE]

[NAME AND TITLE OF CORPORATE OFFICER]

cc: TCC Manager (NYISO)

5. Accepted Revisions Process – Updates to Existing Transmission Facility Agreements (ETAs)

Table 1A of [Attachment L of the OATT](#) (Table 1A) lists the ETAs pursuant to which NYISO customers received transmission service before the NYISO's formation. Table 1A identifies these ETAs by providing, among other pieces of information, their MW, Point of Injection, Point of Withdrawal and expiration date. At NYISO inception, ETA signatories were granted Grandfathered Rights, the terms of which reflected the information contained in Table 1A, and had the opportunity to convert such Grandfathered Rights into Grandfathered TCCs.

An underlying ETA allowing modification may allow a Market Participant to extend, or terminate early, its related Grandfathered TCC or Grandfathered Right or, less frequently, change its Point of Injection or Point of Withdrawal. As a consequence, an ETA revision can impact NYISO settlements and TCC Auctions.

Depending on the effective date of an ETA revision, it may need to be reflected in NYISO settlements and TCC Auctions in the near-term. Section 17.9 of [Attachment K of the OATT](#) provides the NYISO with an "Accepted Revisions" process allowing it to reflect revisions to underlying ETAs in settlements and subsequent TCC Auctions through a timely and transparent updating procedure.

5.1 Rules for Processing an Accepted Revision

5.1.1 Market Participant Responsibilities

It is the responsibility of ETA signatories to use the Accepted Revisions process to keep the NYISO apprised of updates to underlying ETAs and to ensure the entries in Table 1A remain accurate. The NYISO is not a party to ETAs and has no reliable mechanism for learning when the parties to an ETA have amended its terms. Attachment S of this Manual provides a sample form which may be tailored as needed to provide the NYISO notification of a requested update to Table 1A based on an ETA revision or to correct an entry to conform to the ETA. All relevant documentation should accompany the request.

5.1.2 Processing of Request

The NYISO will review the documentation supporting the change and rely upon the representations made and information provided to it by the company(s) requesting the change. Revisions objected to by other ETA signatories will not be implemented until the objection is resolved. Notwithstanding confirmation from the parties, the NYISO will require adequate documentation with which to conclude the revision is reasonably supported.

Once the NYISO is satisfied that the proposed update to Table 1A is supported by appropriate documentation, the NYISO will post the Accepted Revision on its website and incorporate the Accepted Revision into settlements and TCC Auctions as appropriate. Accepted Revisions posted on the NYISO website are effective for NYISO settlements and TCC auctions. Annually, Accepted Revisions will be brought through the stakeholder process for filing.

5.1.3 Effectiveness

Accepted Revisions become effective on the second day following the written notice of changes in ETA or Table 1A information from a signatory to the ETA and the submission of all necessary and relevant agreements, amendments to agreements, or FERC orders supporting the revisions. If a signatory to the ETA disagrees with the revision it will not be implemented.

5.1.4 Auction Administration

TCC auctions will utilize Accepted Revisions that are in effect 30 or more days prior to the first round of the relevant Centralized or Reconfiguration auction.

If the update is a retroactive revision it will only influence auctions going forward. Finalized auctions will not be re-executed.

5.1.5 Market Place Notification

Reasonable notice of Accepted Revisions will be provided by posting the Accepted Revision on the Transmission Congestion Contracts page of the NYISO website within the Accepted Revisions portion of the web page. The posting will include a redline of the Table 1A revisions and effective date thereof. Marketplace notification will also be sent when Revisions are posted on the NYISO website. The NYISO will also typically provide informational announcements regarding Accepted Revisions at a NYISO Market Issues Working Group (MIWG) meeting subsequent to an Accepted Revision being posted on the NYISO website.

5.1.6 Incorporation into Tariff

The NYISO will annually present to its stakeholders revisions for incorporation into Table 1A, if any should occur. The filing will be a Section 205 filing with the Commission, using the normal shared governance stakeholder process. Accepted Revisions listed on the NYISO website are effective for NYISO settlement and TCC auction purposes; the 205 filing incorporates the previously Accepted Revision into the version of the OATT on file with the Commission.

5.1.7 Net Congestion Rent Calculations

Accepted Revisions must be in effect 30 or more days prior to inclusion in the initial calculation of related allocation factors. Allocation factors will not be recalculated to incorporate retroactive Accepted Revisions.

5.1.8 Settlement Impact

Revisions will be processed into settlements as of the second day the Accepted Revision is effective. The NYISO will make changes to its grandfathered transmission rights database retroactively. A retroactive revision will impact settlements only for open billing periods.

5.1.9 Historic Fixed Price TCC Offerings and Accepted Revisions

If the Accepted Revision results in a conversion offering for a Historic Fixed Price TCC (HFPTCC) which would be effective fewer than 30 days before an auction in which the expired capacity would otherwise be made available, the NYISO will hold the capacity out of the auction. The HFPTCC holder may elect to start the HFPTCC either the day following its expiration or at the beginning of the next capability period, in which case the capacity will continue to be withheld from auctions to support the HFPTCC. If the HFPTCC offering is declined, the capacity will be released in the first Reconfiguration or Centralized Auction that occurs 30 days or more after the Accepted Revision makes it available. HFPTCCs are covered in [Section 7](#) of this Manual.

6. Award of Incremental TCCs for Transmission Expansion

The NYISO may award Incremental TCCs to any person or entity (Expander) that requests them in connection with the reconfiguration or construction of new transmission facilities or other transmission facility improvements that increase the Transfer Capacity of the New York State Transmission System (Expansion). Incremental TCCs are TCCs between a Point of Injection (POI) and a Point of Withdrawal (POW). Incremental TCCs may be awarded between as many as three different POI/POW combinations (together referred to as an “Incremental TCC portfolio”) chosen by the Expander from among a series of available POI/POW combinations evaluated by the NYISO.

The term of awarded Incremental TCCs is, at the Expander’s choice, between 20 and 50 years, but not longer than the operating life of the Expansion; provided, however, that early termination of the full portfolio of final awarded Incremental TCCs is permitted as further described in [Section 6.7](#) of this Manual. When the award of Incremental TCCs for an Expansion consists of more than one POI/POW combination, a change of ownership will be permitted only for the full portfolio of final awarded Incremental TCCs, provided however; portions of a portfolio of Incremental TCCs may be sold in NYISO TCC auctions. When the award of Incremental TCCs for an Expansion consists of a single POI/POW combination, a change of ownership may be permitted for less than the full portfolio of final awarded Incremental TCCs. Incremental TCCs are determined and awarded in order of the actual commercial operation date of the Expansion. Incremental TCC holders are subject to NYISO credit requirements applicable to TCC holders.

This Section outlines the requirements that the Expander must complete to apply for an award of Incremental TCCs and the procedures that the NYISO will use to determine the award. This Section applies only to requests for Incremental TCCs submitted on or after Nov. 1, 2008, per Section 19.2.4 of the [Attachment M of the OATT](#).

6.1 Eligibility Requirements

The request for Incremental TCCs shall be submitted to the NYISO prior to the expected commercial operation date of the Expansion. In order to be considered for an award of Incremental TCCs, the expected commercial operation date must be within the current, or next like Capability Period.

The Expander shall have completed all engineering studies that are required under the OATT to evaluate the impact of an Expansion on the New York State Transmission System (e.g., System Reliability Impact Study, System Impact Study or Facilities Study). If the Expansion is required to be a member of a Class Year pursuant to [Attachment S of the OATT](#), then the Expander shall also have accepted its cost allocation and posted required security pursuant to [Attachment S of the OATT](#).

The Expander shall have completed all permits and regulatory approvals necessary to begin construction of the Expansion including but not limited to approval(s) required by the New York State Public Service Commission.

The Expander shall have submitted a completed “Request for Incremental TCCs” which is Attachment O of this Manual and shall have submitted all documents required by the Request for Incremental TCCs.

The NYISO shall not award Incremental TCCs:

- When the NYISO cannot calculate the effect on Transfer Capability associated with an Expansion in the Day-Ahead Market with reasonable certainty;
- For Expansions that involve controllable transmission facilities that are under the operational control of a Control Area operator other than the NYISO; or
- To the extent that an Expansion’s impact on Transfer Capability is solely dependent on a Generator’s operating state.

Examples of transmission capability related improvements that will not qualify for an award of Incremental TCCs are identified in Attachment P of this Manual.

6.2 Technical Data Requirements

As described in Attachment O of this Manual, the Expander must provide at a minimum:

- a. A detailed description of the Expansion.
- b. The physical location(s) and point(s) of interconnection of the Expansion with the New York State Transmission System.
 - The locations and points of interconnection by station name and voltage (kV) levels such as provided by a modified one-line of the station breaker diagrams.
 - Any such diagrams must clearly identify new, modified, and/or removed equipment.

Technical parameters of the Expansion must be of sufficient detail (e.g., new or changed impedance, operating ranges, etc.) to model the facilities or equipment associated with the Expansion in the NYISO TCC Auction Optimal Power Flow (OPF) program.

6.3 NYISO Review of Incremental TCC Award Request

NYISO will evaluate the submitted engineering studies to determine if the Expansion is eligible for an award of Incremental TCCs.

6.3.1 Identification of POI/POW Combination(s)

If the engineering studies,⁵ which underlie the Expansion, indicate increased system Transfer Capability across an Interface, then the request for Incremental TCCs would normally be expected to have one or more POI/POW combinations that are within or represent the Load Zones that are adjacent to that Interface.

If the engineering studies indicate increased system Transfer Capability across multiple Interfaces, then one or more POI/POW combination(s) would normally be expected to span the set of Load Zones that contain the points of interconnection of the Expansion.

For example, an Expansion from Point A to Point D would receive Incremental TCCs only from Point A to Point D and not for Points A to B, B to C, C to D unless the Expansion actually was interconnected into and through the intermediate points; in the example, B and C.

- a. For Expansions with points of interconnection that are solely within a single Zone (i.e., intra-zonal), the request for Incremental TCCs will normally be expected to have one or more POI/POW combination(s) that are within the Zone (i.e., from or to a single point or points and to or from the Zone, respectively).
- b. A single Expansion request for Incremental TCCs will be awarded Incremental TCCs between up to three POI/POW combinations.
- c. POI/POW combination requests are generally limited to established NYISO Day-Ahead Energy Market pricing points, (i.e., Locational Based Marginal Pricing (LBMP) points). An Expander who believes that its Expansion would qualify for or otherwise require new LBMP point(s) should make such a request as part of its overall request for Incremental TCCs.

6.3.2 Expansions that Modify Voltage or Transient Stability Interface Transfer Limits

Certain Expansions may increase system Transfer Capability across an Interface or Interfaces due to improvements of either voltage or transient stability transfer limits.

For a given Expansion, requests for Incremental TCCs over an Interface(s) are not exclusive of non-Interface based Incremental TCC requests.

This section discusses the award of Incremental TCCs for Expansions that modify voltage or transient stability transfer limits, based on the increase of Interface transfer limits used in the NYISO's Day-Ahead Market.

- a. An Expansion may be considered for an award of Incremental TCCs under this section only if that Expansion affects an existing NYISO Operations limit evidenced by either:

⁵ Such engineering studies are by their very nature only indicative of a particular outcome. The process for determining Incremental TCCs is covered in [Sections 6.3.3](#) and [6.3.4](#).

- An established limit in Interface Transfer Capabilities due to pre- or post-contingency low voltage limits or
- An established limit in Interface Transfer Capabilities due to voltage or transient stability transfer limits.

Additionally, the NYISO must have:

- Identified such Interface limit(s) in an approved NYISO “Operations Study” and
 - Modeled such Interface limit(s) in the NYISO’s Day-Ahead Market.
- b. If the Expansion proposes to increase Interface transfer limits as the basis for a request for Incremental TCCs, the NYISO will perform voltage and/or transient stability transfer limit studies to determine the improvement in those Interface Transfer Capabilities.
- c. Improvement in Interface Transfer Capabilities provided by an Expansion will be used to determine the Incremental TCCs; however, such an Expansion will not be awarded Incremental TCCs for capacity in excess of the equivalent thermal limit for any Interface impacted by the Expansion if the equivalent thermal limit is more constraining than the improved voltage or transient stability limit on any such Interface(s).

6.3.3 Non-Binding Estimates of Incremental TCCs

The Expander will prepare a complete request for a non-binding estimate.

The NYISO will provide up to three (3) non-binding estimates⁶ of the Incremental TCCs associated with any given Expansion.

For the first non-binding estimate request, the Expander may provide up to ten POI/POW combinations (with associated preference weights) which reflect the Expander’s relative preference for various Incremental TCCs which will be evaluated as a portfolio. For the Expander’s second or third non-binding estimate request, the Expander may submit up to three POI/POW combinations with associated preference weights. Using preference weights allows the award to recognize the relative value of provided POI/POW combinations when not all TCCs on all provided POI/POW combinations are feasible. If associated preference weights are not provided, they will be assumed to be equal.

The NYISO will use a model of the most recently completed Centralized TCC Auction OPF and update this model as necessary to represent the state of the New York State Transmission System both with and without the Expansion (Updated TCC Auction Model). In the Updated TCC Auction Model the NYISO will take into consideration any TCCs that have been identified in evaluations performed for Expansions that are planned to go into service earlier in the Capability Period than the Expansion in question.

The NYISO will use the following steps to determine the quantity of Incremental TCCs in the non-

⁶ These requests may be, but do not have to be, made at the same time. If the requests are staggered the Expander can consider the results between analyses.

binding estimate for the requested POI/POW combination(s).

- a. The NYISO will model the requested POI/POW combination(s) in the Updated TCC Auction Model to determine whether injections and withdrawals corresponding to the requested Incremental TCCs can be accommodated without the Expansion in place.
- b. The NYISO will model the requested POI/POW combination(s) in the Updated TCC Auction Model to determine whether injections and withdrawals corresponding to the requested Incremental TCCs can be accommodated with the Expansion in place.
- c. Any TCCs identified in the Expander's Non-Binding TCC Request which appear feasible as result of the NYISO's review of the Updated TCC Auction Model with the Expansion that did not appear feasible without the Expansion would be considered as Incremental TCCs and provided to the Expander as part of each non-binding estimate.

Non-binding estimates of Incremental TCCs shall be determined separately for the Summer and Winter Capability Periods based on the same requested POI/POW combinations.

6.3.4 Final Determination of Incremental TCCs

The Expander shall nominate an Incremental TCC portfolio from any one of the three non-binding estimates provided by the NYISO containing three or fewer POI/POW combinations. From this portfolio, the NYISO will determine the temporary or final award of Incremental TCCs using preference weights from the non-binding estimate chosen by the Expander (refer to [Section 6.4](#) of this Manual for explanation of the difference between temporary and final awards).

The NYISO shall not determine the temporary or final award of Incremental TCCs of an Expansion until the NYISO receives a completed Confirmation of Incremental TCC Award (Attachment Q of this Manual, Item 2) from the Expander.

The NYISO will use an Updated TCC Auction Model in determining temporary and final awards of Incremental TCCs. This Updated TCC Auction Model may differ from the Updated TCC Auction Model used in evaluating the Expander's non-binding estimates of Incremental TCCs.

The NYISO will not award an Expander Incremental TCCs that could have been accommodated using transfer capability that existed without the Expansion. The NYISO will use the following steps to determine the quantity of Incremental TCCs in the temporary or final award for the requested POI/POW combination(s).

- a. The NYISO will model the requested POI/POW combination(s) in an Updated TCC Auction Model to determine whether injections and withdrawals corresponding to the requested Incremental TCCs can be accommodated without the Expansion in place.
- b. The NYISO will model the requested POI/POW combination(s) in the Updated TCC Auction Model to determine whether injections and withdrawals corresponding to the requested Incremental TCCs can be accommodated with the Expansion in place.

- c. Any requested TCCs identified as a result of review of the Updated TCC Auction Model with and without the Expansion would be considered as Incremental TCCs and provided to the Expander as part of the temporary or final award, whichever is the case.
- d. The temporary or final award of Incremental TCCs will consist of all Incremental TCCs included in the chosen portfolio. The Expander will not be awarded a subset of the Incremental TCCs from a single portfolio.
- e. The NYISO shall make temporary and final awards of Incremental TCCs in whole number MW quantities. If the NYISO determines that an Expansion will create one or more non-whole number quantities of Incremental TCCs, the NYISO shall round each non-whole number Incremental TCC to a whole number in a manner that minimizes the risk of infeasibility caused by rounding with respect to the entire Incremental TCC award.

The temporary and final awards of Incremental TCCs associated with each Expansion shall be determined separately for the Summer and Winter Capability Periods.

6.3.5 Partial Outage Incremental TCCs for an Expander

In the case of an Expansion consisting of several transmission facilities which might independently be taken out of and returned to service or derated as the result of an outage, including the outage of an External transmission facility, Partial Outage Incremental TCC awards will be defined for operational states in which one or more portions of the transmission facilities comprising the entire Expansion have been taken out of service.

The Partial Outage Incremental TCCs will be defined by the NYISO as part of the process in which the final award portfolios of Incremental TCCs is determined for the Expansion in order for them to be known to the Expander in advance of an award.

The Partial Outage Incremental TCCs will only be used within the NYISO accounting systems to determine the settlements for an Expander, or any party or entity who assumes contractual responsibility for the outage charges of an Expansion, when one or more portions of the facilities comprising the Expansion are out-of-service or derated. Partial Outage Incremental TCCs are not awarded but they do relate to the award of Incremental TCCs.

Partial Outage Incremental TCCs could have different POI/POW combinations than the portfolio of Incremental TCCs. Similarly, there could be up to three partial-outage Incremental TCC POI/POW combinations for each outage state.

The Expander may provide up to five outage states for a given Expansion in order for the Partial Outage Incremental TCCs to be defined Attachment R of this Manual.

In the case of an Expander that does not provide the information required by Attachment R of this Manual, Partial Outage Incremental TCCs will be assumed to be equal to the portfolio of Incremental TCCs.

That is, the NYISO will not create Partial Outage TCCs if the Expander has not supplied the necessary information required by Attachment R of this Manual. An outage on an Expansion for which there are no Partial Outage TCCs will be charged an Outage Charge equal to the congestion rents otherwise payable on the portfolio of Incremental TCCs awarded for the Expansion for the hour(s) of the outage.

The NYISO will use an Updated TCC Auction Model to determine the Partial Outage Incremental TCCs.

For each outage state, NYISO will use the following steps to determine the quantity of Partial Outage Incremental TCCs for the POI/POW combination(s) that are appropriate for the given outage state.

- a. The NYISO will model the requested POI/POW combination(s) in the Updated TCC Auction Model to determine whether injections and withdrawals corresponding to the requested Incremental TCCs can be accommodated without the Expansion in place.
- b. The NYISO will model the requested POI/POW combination(s) in the Updated TCC Auction Model to determine whether injections and withdrawals corresponding to the requested Incremental TCCs can be accommodated with only the portions of the Expansion that are assumed to be in service in that outage state in place.
- c. Any TCCs identified as the result of the review of the Updated TCC Auction Model with and without one or more portions of the Expansion would be identified as Partial Outage Incremental TCCs associated with that outage state and provided to the Expander for information.
- d. Similarly to the final award of Incremental TCCs, the Partial Outage Incremental TCCs shall be in whole number MW quantities.

The Partial Outage Incremental TCCs shall be determined separately for the Summer and Winter Capability Periods for each outage state. Partial Outage Incremental TCCs will not be determined until the final award of Incremental TCCs.

6.4 Awarding of Incremental TCCs

The NYISO shall make separate determinations for temporary and final awards.

6.4.1 Temporary Award of Incremental TCCs

For an Expansion with a commercial operation date during a given Capability Period, the NYISO shall make a period appropriate, i.e., Summer or Winter, temporary award of Incremental TCCs as determined in [Section 6.3.3](#) of this Manual. An Expander may elect to accept or reject a temporary award of the portfolio of Incremental TCCs for an Expansion in its entirety. Partial acceptances shall not be permitted. Expanders shall accept or reject their temporary awards within 30 days of the date of the award notification. If an Expander elects to accept its temporary award, the NYISO shall process and record the temporary award into its TCC AMS as soon as reasonably possible after receipt of notice from the Expander indicating acceptance of the award. The temporary award begins from a date (“the effective date”) which shall be no

earlier than the actual commercial operation date. The temporary award ends at the effective date of the final award of Incremental TCCs (but see [Section 6.4.2](#) of this Manual for rules governing acceptance of final awards).

In the case of an Expansion that enters commercial operation fewer than 90 calendar days before the end of the Capability Period, the temporary award that is effective for the balance of that Capability Period may differ from the temporary award that is effective for the next Capability Period (or any portion thereof). A temporary award of Incremental TCCs shall be held only by the Expander and may not be sold or transferred through a bilateral transfer, through a Centralized TCC Auction, through a Reconfiguration Auction or otherwise.

The NYISO shall incorporate the temporary award of Incremental TCCs as of its effective date into its TCC AMS and shall not provide any settlements for temporary Incremental TCCs before their effective date.

If the NYISO is in the process of developing a temporary award of Incremental TCCs, the NYISO will not represent the Expansion in auctions that may be performed, to prevent capacity created by the Expansion from being sold in auctions before the award of Incremental TCCs can be made. Once the Incremental TCC analyses have been completed and the temporary and final Incremental TCCs have been awarded, declined or the request for Incremental TCCs has been withdrawn, will the NYISO model the Expansion in TCC auctions.

6.4.2 Final Award of Incremental TCCs

The final award of Incremental TCCs shall be determined subsequent to the commercial operation date and the Incremental TCCs shall be in effect on the first day of the following Capability Period; however,

- For Expansions entering commercial operation fewer than ninety (90) calendar days before the end of the Capability Period, the awarded Incremental TCCs shall be in effect, if accepted, on the first day of the next like Capability Period;
- For Expansions resulting in an increase of Interface transfer limit that must be approved by the Operating Committee pursuant to the terms of the ISO Agreement, and the Operating Committee's approval is granted fewer than 90 days before the end of the Capability Period, the Incremental TCCs shall be in effect, if accepted, on the first day of the next like Capability Period following the Operating Committee's approval of the increased Interface transfer limit.

Although the same POI/POW combinations and preference weights will be used to determine the temporary and final award of Incremental TCCs, the quantity of the final award of Incremental TCCs may differ from the quantity of the temporary award of Incremental TCCs.

Settlements for the final award of Incremental TCCs shall begin with its effective date.

An Expander may elect to accept or reject a temporary or final award of the portfolio of Incremental TCCs in its entirety. Partial Acceptances shall not be permitted. Expanders shall accept or reject their awards within 30 days of the date of the award notification. A final award of Incremental TCCs which the Expander declines, or fails to accept, within 30 days of the date of its award notification, shall be null and void.

- An Expander that elects to accept a final award of Incremental TCCs shall inform the NYISO, no later than the time that it accepts its final award, of the awarded Incremental TCCs duration. Incremental TCCs shall have a duration of no fewer than twenty and no more than fifty years, starting on the date that the final award becomes effective, provided that their duration may not exceed the expected operating life of the associated Expansion.

If the award of Incremental TCCs for an Expansion consists of more than one POI/POW combination, Secondary Market transfers of fewer than all of the final awarded Incremental TCCs associated with the Expansion shall not be allowed (i.e., an Expander may only make Secondary Market transfers of all of the Incremental TCCs for all of the POI/POW combinations that were included in a final award for a given Expansion). This restriction shall not prohibit the sale of fewer than all of the Incremental TCCs included in a final award through a Centralized TCC Auction or a Reconfiguration Auction for a final award consisting of more than one POI/POW combination.

If the final award of Incremental TCCs associated with a given Expansion consists of a single POI/POW combination, Secondary Market transfers of fewer than all of the final awarded Incremental TCCs associated with the Expansion may be permitted. POIs or POWs that originate from a single generating facility that is comprised of a set of individual units may be considered a single POI or POW for the purpose of this Secondary Market sale opportunity.⁷

To become Primary Holders, Secondary Market transferees of Incremental TCCs shall be subject to all existing NYISO credit requirements and may be subject to any future credit requirements that may be applied to TCCs with a duration longer than one year.

6.5 Multiple Expansions in Same Auction Period

Incremental TCCs associated with multiple Expansions with commercial operation dates within the same Centralized TCC Auction Period shall be determined and shall become effective in the order of the actual commercial operation date of each Expansion.

⁷ Examples of such configurations include a single generating facility that consists of a series of gas turbines in one location and a single combined cycle facility that is modeled by the NYISO system with several PTIDs representing each gas turbine and a portion of the steam facility.

6.6 Expansion Treatment

Once the Expansion enters commercial operation and the associated Incremental TCCs are awarded or declined, the Expansion will be modeled as in-service in all NYISO TCC auctions.

Any developer that owns an Expansion (or a portion of an Expansion) associated with a temporary or final award of Incremental TCCs shall pay an outage charge to the NYISO for those hours in which the Expansion is scheduled to be wholly or partially out of service in the DAM. The NYISO shall credit all such outage charges to the DAM Congestion Rents in the NYISO settlement system. All such outage charges shall be billed to the developer responsible for paying the outage charge.⁸

Outage charges shall be determined as follows:

- a. If the entire Expansion is modeled as out of service in the DAM, the outage charge shall be equal to the DAM Congestion Rents payment for the aggregate Incremental TCC award associated with the entire Expansion.
- b. If one or more portions of an Expansion are modeled as out of service in the DAM or derated by the outage of an External transmission facility, and Partial Outage Incremental TCCs have not been created, the outage charge shall be equal to the DAM Congestion Rents payment for the aggregate Incremental TCC award associated with the entire Expansion.
- c. If one or more portions of an Expansion are modeled as out of service in the DAM or are caused to be out of service or derated by the outage of an External transmission facility, and Partial Outage Incremental TCCs have been created for an out of service state or derating, an hourly outage charge shall be assessed. The hourly outage charge shall be calculated as follows:

$$\text{Outage charge} = A - B$$

Where:

“A” is the sum of the product for each POI/POW combination in the portfolio of Incremental TCCs of (i) the hourly Congestion Component at the POW minus the hourly Congestion Component at the POI; and (ii) the number of Incremental TCCs between that POI and POW associated with the Expansion, and

“B” is the sum, of the product, for each POI/POW combination in the Partial Outage TCCs associated with that out of service state or derating of the Expansion, of (i) the hourly Congestion Component at the POW minus the hourly Congestion Component at the POI; and (ii) the number of Partial Outage Incremental TCCs between that POI and POW associated with that out-of-service state or derating of the Expansion.

No outage charge will be assigned to Expanders for transmission facilities that are modeled as in-service in the DAM but are out of service in the Real-Time Market (RTM).

⁸ The outage charge will only be applied to Incremental TCCs awarded to developers (or any subsequent owner of the Expansion) who are not subject to [Attachment N of the OATT](#).

Outage charges shall apply for transmission facilities that are modeled as out of service in the DAM but are in-service in the RTM.

6.7 Early Termination of Incremental TCCs

An Expander (or its assignee) that is a Primary Holder of final awarded Incremental TCCs shall have the right to request an early termination of its Incremental TCCs; provided, however, that early termination is only permitted for the entire portfolio of Incremental TCCs associated with a given Expansion. Early termination of a portion of the portfolio of final awarded Incremental TCCs is not permitted.

To terminate Incremental TCCs, the Primary Holder must provide notice to the NYISO of its request for early termination at least one year prior to the desired termination date. The desired termination date must be the last day of a Capability Period. For example, a request for a termination date of October 31, 2016 must be received by the NYISO on or before October 31, 2015. Once received by the NYISO, a notice requesting early termination of Incremental TCCs is irrevocable.

Requests for early termination of Incremental TCCs must be made in writing and mailed by Certified, Return-Receipt U. S. Mail or by a reputable commercial courier service employing a parcel tracking system, to the following address:

Manager, TCC Market Operations
New York Independent System Operator
10 Krey Boulevard
Rensselaer, NY 12144

After receipt of a request for early termination, NYISO will provide timely notice to the market place of the desired effective date of the early termination.

To ensure that Centralized TCC Auctions following a notice of early termination start with a simultaneously feasible security constrained power flow, the NYISO may, as further described below, take the following actions if necessary to avoid adverse impacts that may be caused by the early termination: (i) phase in the termination of the Incremental TCCs; and/or (ii) revise the list of prohibited POIs and POWs or combinations of prohibited POIs and POWs for certain future TCC auctions conducted after the NYISO's receipt of a notice of early termination.

If the desired early termination date could produce auction infeasibility, the NYISO may phase in the termination of portions of the affected Incremental TCCs over as many as 12 months following the desired early termination date. The NYISO may establish up to two additional termination dates following the

initial desired termination date and assign portions of the Incremental TCCs to be terminated on each termination date. The additional termination dates shall occur on the last day of the subsequent Capability Period(s) that follow the initial desired termination date. For example, with respect to a request to terminate Incremental TCCs on October 31, 2016, if the entire portfolio of Incremental TCCs at issue could not be terminated on such date, the NYISO could, if necessary, establish additional termination dates on April 30, 2017 and October 31, 2017 to terminate the remaining portions of the Incremental TCCs that were not terminated on October 31, 2016.

In addition, the NYISO may prohibit the use of certain POIs and POWs or combinations of POIs and POWs at which TCCs with durations longer than one year may be available in a future TCC auctions conducted after the NYISO's receipt of the notice of early termination. Any such restrictions implemented by the NYISO will expire as of the first Capability Period following the last termination date of the Incremental TCCs.

7. Historic Fixed Price TCCs

As further described in Section 19.2.1 of [Attachment M of the OATT](#), Load Serving Entities (LSEs) with expiring or terminating Existing Transmission Agreements (ETAs) listed in Table 1 A of [Attachment L of the OATT](#) that conferred transmission rights on an LSE are eligible for Historic Fixed Price TCCs (HFPTCCs). HFPTCCs have the attributes of TCCs. HFPTCCs are only available to LSEs that hold expiring Grandfathered TCCs or Grandfathered Rights and can certify that they will be legally obligated to serve the load they historically served and that they need the HFPTCCs to serve that load. At the time they acquire HFPTCCs, an LSE may choose a five-year term followed by an option to obtain a second five-year term or a ten-year term, however, HFPTCCs are renewed on a yearly basis. LSEs that purchase Energy from the New York Power Authority (NYPA) under certain agreements may be eligible for five-year duration HFPTCCs followed by an option to obtain a second term of seven years as described in Section 19.2.1.1 of [Attachment M of the OATT](#).

As further described in Section 19.2.1.4 of [Attachment M of the OATT](#), an LSE that continued to purchase HFPTCCs throughout the entire full term for which the LSE initially had the right to purchase and renew HFPTCCs is eligible to purchase extensions of their HFPTCCs for one year at a time following the expiration of the initial full term thereof.

7.1 Procedure for Initially Converting ETAs into Historic Fixed Price TCCs

7.1.1 Applicability – Converting ETAs into Historic Fixed Price TCCs

Any LSE with transmission rights under an ETA in effect on November 19, 1999, listed on Table 1A of [Attachment L of the OATT](#) (as it may be amended), but which have not yet expired, shall have a right to obtain HFPTCCs with the same Point of Injection and Point of Withdrawal as that ETA at its expiration/termination.

Except as may be otherwise provided for in [Attachment M](#) or [Attachment K of the OATT](#), as specified in Attachment D of this Manual, approximately six months prior to the start of the Capability Period in which the ETA expires/terminates, the NYISO will provide, via email, a HFPTCC conversion offer letter to qualifying LSEs with ETAs that are due to expire/terminate during that Capability Period. This letter will include all of the appropriate documentation for the LSE to respond. Samples of conversion offer letters are included in Attachment L of this Manual.

To exercise the conversion right, the LSE must use the conversion offer letter to notify the NYISO, and the Transmission Owner that was (or is) a party to the ETA, in writing, of its decision to obtain HFPTCCs.

The LSE must provide this notice prior to a deadline that is set forth in Attachment D of this Manual, and provide a copy to the Transmission Owner regarding the decision.

7.1.2 Directions for Initially Obtaining Historic Fixed Price TCCs

Prior to the start of the Capability Period in which a qualifying ETA expires/terminates, the NYISO will provide, via email, a HFPTCC conversion offer letter and the forms and documentation necessary to obtain a HFPTCC. Samples of the letter and forms are included in attachments to this Manual as described below:

- For an LSE that is a NYISO customer and will hold the TCC directly – complete Attachment L-A of this Manual upon receipt of the conversion offer letter and forms from the NYISO.
- For an LSE that is not a NYISO customer or will have an ETA Agent hold the TCC for the benefit of the LSE – complete Attachment L-B1 of this Manual and have the ETA Agent complete Attachment L-B2 of this Manual upon receipt of the conversion offer letter and forms from the NYISO. The ETA Agent will be the holder of the HFPTCCs.

7.1.3 Effective Date for the Initial Historic Fixed Price TCC

The LSE converting the ETA into a HFPTCC may elect an effective date for the HFPTCC as either i) hour beginning 00 of the day following the day on which the ETA expires/terminates; or ii) the first day of the Capability Period that follows the Capability Period in which the ETA expires/terminates. The LSE selects the effective date on its request for conversion of the ETA into HFPTCCs.

7.1.4 Initial Term of a Historic Fixed Price TCC

An LSE with an expiring/terminating ETA that is obtaining a HFPTCC to be effective the day after the ETA expires/terminates or the start of the next Capability Period following the ETA's expiration/termination shall elect a term of either (i) five years, renewable for a second five-year term, or (ii) ten years. However, an LSE certifying to the NYISO that: (i) it purchases energy from NYPA under agreements that will expire in 2025; (ii) that it has an ETA listed in Table 1A that expired in 2013; and (iii) that it uses an ETA to hedge congestion costs associated with deliveries under its NYPA agreements may elect a term of five years, renewable for an additional seven-year term. The LSE must designate the term it chooses at the time that the request to convert the ETA to a HFPTCC is submitted. If the term chosen is for ten years, the purchase price will be calculated in accordance with Section 19.2.1 of [Attachment M of the OATT](#) and be static for ten years. If the term chosen is five years plus a second term, then the purchase price will be static for the first five years and recalculated for the second term and static for the second term.

7.2 Procedure for Annual Renewal of Historic Fixed Price TCCs During Initial Full Term

7.2.1 Applicability – Renewal of Historic Fixed Price TCCs

An LSE holding a HFPTCC that was converted from an ETA must renew its HFPTCC annually to continue not only its entitlement to the HFPTCC for the year but also to entitle it to future renewals of that HFPTCC for the duration of the HFPTCC.

As noted in Attachment D of this Manual, approximately six months prior to the last Capability Period in which LSE's current HFPTCCs remain valid, the NYISO will provide, via email, a HFPTCC renewal offer letter to LSEs that have HFPTCCs that are due to expire. This letter will include all of the pertinent information and documentation that will be required for an LSE to execute a renewal. Samples of renewal offer letters are included in Attachment M of this Manual.

To execute their renewal, the LSE must use the renewal offer letter to notify the NYISO, in writing, of its decision to renew HFPTCCs. The LSE must provide this notice prior to a deadline that is set forth in Attachment D of this Manual.

7.2.2 Directions for Annual Renewals of Historic Fixed Price TCCs

Prior to the anniversary date of the HFPTCC, the NYISO will provide, via email, a HFPTCC renewal letter and the forms and documentation necessary to renew the HFPTCC for one year. Samples of the letter and forms are included in attachments to this Manual as described below:

- For an LSE that is a NYISO customer and holds the TCC directly – complete Attachment M-C of this Manual upon receipt of the renewal letter and forms from the NYISO.
- For an LSE that is not a NYISO customer or has an ETA Agent hold the TCC for the benefit of the LSE – complete Attachment M-D1 of this Manual and have the ETA Agent complete Attachment M-D2 of this Manual upon receipt of the renewal letter and forms from the NYISO. The ETA Agent will be the holder of the renewed HFPTCCs.

7.2.3 Effective Date for a Historic Fixed Price TCC Renewal

The effective date for a one-year HFPTCC renewal is the first day following the last day of the existing one-year period of the HFPTCC being renewed.

7.3 Procedure for Annual Extension of Historic Fixed Price TCCs After Initial Full Term

7.3.1 Applicability – Extension of Historic Fixed Price TCCs

As set forth in Section 19.2.1.4 of [Attachment M of the OATT](#), an LSE that converted an expired or terminated ETA to HFPTCCs pursuant to Section 19.2.1 of [Attachment M of the OATT](#) and continued to purchase HFPTCCs throughout the entire full term for which the LSE initially had the right to purchase and

renew HFPTCCs is eligible to purchase extensions of their HFPTCCs for one year at a time following the expiration of the initial full term thereof. As set forth in Section 19.2.1.4 of [Attachment M of the OATT](#), certain LSEs that: (i) purchased HFPTCCs; and (ii) elected to terminate their HFPTCCs early with such early termination occurring prior June 1, 2018, are also eligible to purchase extensions of their HFPTCCs for one year at a time following expiration of the entire full term for which the LSE initially had the right to purchase and renew its HFPTCCs.

The MW quantity eligible for a one-year extension of HFPTCCs is capped at the original ETA MW, but not exceeding the MW of the historic Load continuing to be served. Each year, eligible LSEs may elect to purchase, or not purchase, an extension for each applicable one-year period. An eligible LSE may also modify the number of HFPTCCs that it seeks to extend for each one-year period (subject to the limitations described above).

As noted in Attachment D of this Manual, approximately seven months prior to, as applicable, the last Capability Period in which the initial full term of the LSE's HFPTCCs is valid or the last Capability Period in which the prior year's extension of HFPTCCs is valid, the NYISO will provide, via email, a HFPTCC extension offer letter to LSEs that have HFPTCCs which are due to expire and are eligible for extension. This letter will include all of the pertinent information and documentation that will be required for an LSE to execute a HFPTCC extension. Samples of extension offer letters are included in Attachment U of this Manual.

The LSE must use the extension offer letter to notify the NYISO, in writing, of its decision to purchase or decline to purchase a HFPTCC extension. The LSE must provide this notice prior to a deadline that is set forth in Attachment D of this Manual.

The purchase price for a one-year extension of HFPTCCs is calculated each year in accordance with Section 19.2.1.4 of [Attachment M of the OATT](#).

7.3.2 Directions for Purchasing Extensions of Historic Fixed Price TCCs

Prior to the anniversary date of the HFPTCC, the NYISO will provide qualifying LSEs, via email, a HFPTCC extension offer letter and the forms and documentation necessary to extend the HFPTCC for one year.

Samples of the offer letter and forms are included in attachments to this Manual as described below:

- For an LSE that is a NYISO customer and holds the TCCs directly – complete Attachment U-E of this Manual upon receipt of the extension offer letter from the NYISO.
- For an LSE that is not a NYISO customer or has an ETA Agent hold the TCC for the benefit of the LSE – complete Attachment U-F1 of this Manual and have the ETA Agent complete

Attachment U-F2 of this Manual upon receipt of the extension offer letter from the NYISO. The ETA Agent will be the holder of the extensions of HFPTCCs.

7.3.3 Notification Requirement of Annual Historic Fixed Price TCC Extension Purchase Decision

An eligible LSE must notify the NYISO annually of its decision to purchase or decline to purchase an extension of HFPTCCs for a given one-year period. If an LSE does not provide notice of a decision to purchase or decline to purchase a one-year extension of its HFPTCCs by the deadline specified in Attachment D of this Manual, then the LSE shall become ineligible to purchase any future extensions of its HFPTCCs.

7.3.4 Effective Date for Extensions of Historic Fixed Price TCCs

The one-year term of a HFPTCC extension is effective, as applicable, on the first day of the Capability Period following the last Capability Period in which the initial full term for which the LSE had the right to purchase and renew HFPTCC is valid or on the first day of the Capability Period following the last Capability Period in which the HFPTCC extension right is valid (regardless of whether the LSE purchased an extension of its HFPTCCs for such one-year period).

7.4 Historic Fixed Price TCC Deadlines

The deadline for receipt by the NYISO of requests to convert expiring/terminating ETAs to HFPTCCs or renew or extend HFPTCCs is published by the NYISO in Attachment D of this Manual, although the date may be otherwise extended by the NYISO. Requests to convert, renew, or extend must be submitted in either hard copy or electronic copy submitted via email. To the extent requests are incomplete or improperly completed upon receipt, the NYISO will consider the request to have been timely made if the required documentation is resubmitted (properly and completely) within a reasonable period set by the NYISO.

7.5 Historic Fixed Price TCC Certification Requirements

An LSE purchasing HFPTCCs (either initial conversions of ETAs or renewals or extensions) must certify in writing that it expects to: (i) be legally obligated to serve the Load it historically served under the applicable ETA (or a portion of that Load at least equal to the number of HFPTCCs that it seeks to purchase for the applicable period); and (ii) need the transmission capacity between the Point of Injection and Point of Withdrawal specified in the applicable ETA to serve that Load.

7.6 Payment for Historic Fixed Price TCCs

Payment of the purchase amount for the first year of an ETA converted to a HFPTCC, the one-year renewal of a HFPTCC, or the one-year extension of a HFPTCC shall be due and payable as follows:

- 25% of the required payment shall be due and payable on or before the date set forth in Attachment D of this Manual, unless such date is otherwise extended by the NYISO; and
- 75% of the required payment shall be due on the payment due date set forth in Attachment D of this Manual. Such date will, as a general matter, be set in the Capability Period immediately preceding the Capability Period in which the HFPTCC becomes effective.

7.7 Credit Obligations for Historic Fixed Price TCCs

All credit requirements (as described in Section 26, [Attachment K of the Services Tariff](#)) applicable to HFPTCCs must be satisfied. Certain requirements must be satisfied prior to the effective date of the HFPTCC.

7.8 Posted Historic Fixed Price TCC Information

The NYISO will post the following information on the Transmission Congestion Contracts page of the NYISO website after awarding HFPTCCs (conversion, renewal, or extension):

1. the quantity of HFPTCCs awarded (in MW)
2. the Point of Injection and Point of Withdrawal for each HFPTCC awarded
3. the price paid for each HFPTCC (\$/MW-year)

7.9 Change in ETA Agent to Hold Historic Fixed Price TCCs

In the event an LSE changes its ETA Agent, the LSE and the new ETA Agent must submit documentation substantially in the form of the applicable Attachments submitted when originally purchasing the HFPTCC at issue (i.e., Attachment L, Attachment M, or Attachment U of this Manual, as applicable) and any other information required by the NYISO. Upon receipt, the NYISO will update its records to reflect the change in ETA Agent.

7.10 Historic Fixed Price TCC Revenue Distribution to Transmission Owners

Revenues owed to the TOs, as determined pursuant to the methodology described in Section 20.4 of [Attachment N of the OATT](#), for the initial purchase, renewal, or extension of HFPTCCs, are distributed to the TOs in accordance with the time line for the relevant Centralized TCC Auction during which such initial purchases, renewals, and extensions occur.

8. Non-Historic Fixed Price TCCs

Non-Historic Fixed Price TCCs (NHFPTCCs) are available to LSEs from any valid TCC Auction bidding point to a Load Zone in which they serve Load, provided that the size of the Load that the LSE currently serves, and expects to be legally obligated to continue to serve in that Load Zone, is at least as large as the LSE’s Grandfathered, Rights, Grandfathered TCCs, HFPTCCs and previously purchased NHFPTCCs sinking in that Load Zone. NHFPTCCs are effective on the first day of the Capability Period that follows the Centralized TCC Auction in which they were made available for purchase. They are priced at the Market-Clearing Price of the Two-Year TCC also sold in that Centralized Auction. Their initial term is for two years with one-half the Two-Year TCC clearing price being due in each year of the initial two-year term.

NHFPTCCs can be renewed annually for a total NHFPTCC duration of ten years. Annual renewals are priced at recent Auction Market-Clearing Prices for a One-Year TCC. An LSE that chooses not to renew its NHFPTCC forfeits future renewal rights for that NHFPTCC. For example, an LSE that holds ten NHFPTCCs and renews seven NHFPTCCs is limited to seven for all future renewals of those NHFPTCCs.

Refer to Section 19.2.2 of [Attachment M of the OATT](#) “Awards of Non-Historic Fixed Price TCCs” for additional details on NHFPTCCs.

8.1 Procedure for the Purchase of Non-Historic Fixed Price TCCs

8.1.1 LSE Eligibility to Purchase Non-Historic Fixed Price TCCs

Eligible LSEs may use this procedure to purchase NHFPTCCs when offered by the NYISO.

The maximum number of NHFPTCCs that an LSE is eligible for with a POW in Load Zone z shall be equal to the following:

$$\mathbf{AHL}_z - \mathbf{TCC}_z$$

Where:

- AHL_z** = The LSE’s average hourly Load in Load Zone z over the six most recently concluded Capability Periods (Average Time Frame). The average hourly Load will be calculated from the first day during the Average Time Frame when the LSE began to serve Load in Load Zone z to the end of the Average Time Frame. If the LSE served no Load in Load Zone z during the Average Time Frame, the LSE shall not be eligible to purchase NHFPTCCs with Load Zone z as a POW.
- TCC_z** = The total quantity of Grandfathered TCCs, Grandfathered Rights, HFPTCCs, and NHFPTCCs held by or on behalf of the LSE with a Point of Withdrawal in Load Zone z during the effective period of the NHFPTCCs being sought by the LSE.

8.1.2 Applicability – Initial Purchase of Non-Historic Fixed Price TCCs

NHFPTCCs are available for purchase during a Centralized TCC Auction no less frequently than every other year.

The process of purchasing a NHFPTCC begins in the months prior to the start of the Centralized TCC Auction during which they are being made available.

LSEs must complete Notification of Intent to Purchase and Certification documents which are Attachment J-A or Attachment J-B1 of this Manual. The LSE must be a NYISO customer to use Attachment J-A of this Manual. Further information regarding the process for becoming a NYISO customer is set forth in [Section 3.4.1](#) of this Manual. An LSE may also designate an Agent who is a NYISO customer to nominate and hold the TCCs on its behalf. LSEs designating an Agent will complete Attachment J-B1 of this Manual and Agents will complete Attachment J-B2 of this Manual.

LSEs or Agents indicate their purchase (“nomination”) of NHFPTCCs in the TCC AMS after prices have become available. LSEs indicate their purchase in the “allocation round” of that Auction. This round follows the round of the Auction which establishes the price of the NHFPTCC. Final NHFPTCCs awarded, and thus invoiced, are determined by the NYISO subsequent to the LSE’s nomination.

LSEs must also have provided to the NYISO or see that their Agent provides a valid Binding Agreement to Purchase Non-Historic Fixed Price TCCs as set forth in Attachment I of this Manual. Unless the submitted information has changed or unless directed by the NYISO, a previously submitted agreement remains valid.

8.1.3 Notification of Intent to Purchase Non-Historic Fixed Price TCCs and Certification

To obtain a NHFPTCC in the Applicable Capability Period:

- For an LSE that is a NYISO customer and will hold the TCC directly – complete Attachment J-A of this Manual.
- For an LSE that is not a NYISO customer or will have an Agent hold the TCC for the benefit of the LSE – complete Attachment J-B1 of this Manual and have the Agent complete Attachment J-B2 of this Manual. The Agent will be the holder of the NHFPTCCs.

In the Notification of Intent to Purchase and Certification document, LSEs make several certifications during this registration process. One purpose of the certification is to determine the number of new NHFPTCCs the LSE is eligible to purchase. LSE eligibility for new NHFPTCCs is limited by the amount of the Load served by Load Zone. The number of new NHFPTCCs which may be purchased with a POW (which will be a Load Zone) may not exceed the number of NHFPTCCs which it is eligible to purchase as calculated in accordance with [Section 8.1.1](#) of this Manual.

NHFPTCC purchases will be limited to the withdrawal zone(s) listed in the Notification of Intent to Purchase and Certification document for any single allocation round.

The deadline for receipt by the NYISO of the Notification of Intent to Purchase and Certification documents is published by the NYISO in Attachment D of this Manual, although the date may be otherwise extended by the NYISO. This notification document may be submitted in either hard copy or electronic copy submitted via email. Incorrect, incomplete, or untimely documents will be rejected. The NYISO will allow resubmission of corrected documents and will consider the request to have been timely made if the resubmitted documentation is properly and completely received by the deadline.

8.1.4 Effective Date for the Initial Non-Historic Fixed Price TCC

The effective date for the NHFPTCC is the first day of the Capability Period immediately following its purchase or renewal.

8.1.5 Payment for the Initial Non-Historic Fixed Price TCC

Payment for NHFPTCCs (calculated in accordance with Section 19.2.2.3.3 of [Attachment M of the OATT](#)) shall be due and payable on date(s) listed in Attachment D of this Manual, subject to terms in the Binding Agreement to Purchase NHFPTCCs document (Attachment I of this Manual).

8.1.6 Credit Obligations for Initial Purchase of Non-Historic Fixed Price TCCs

All credit requirements (as described in Section 26, [Attachment K of the Services Tariff](#)) applicable to NHFPTCCs must be satisfied. Credit requirements required to be satisfied prior to the effective date of the applicable NHFPTCCs must be satisfied on or before the date for nominations set forth in Attachment D of this Manual, unless such date is otherwise extended by the NYISO.

8.1.7 Initial Term of Non-Historic Fixed Price TCCs

All NHFPTCCs have an initial term of two years. Purchased NHFPTCCs may be renewed annually in one-year terms for a total duration of no more than ten years. An LSE that chooses not to renew its NHFPTCC, or fails to pay for an initial or renewed NHFPTCC, forfeits its entitlement to further renewals of that NHFPTCC.

8.1.8 Annual Renewal Declarations for Non-Historic Fixed Price TCCs

LSEs holding NHFPTCCs, and Agents appointed for the purpose of obtaining NHFPTCCs, intending to renew such TCCs, shall submit annual renewal notifications to the NYISO for such NHFPTCCs. Reductions in the number of NHFPTCCs that LSEs or Agents renew, over those initially purchased (by path), will continue for future renewals of that NHFPTCC.

8.1.9 Change in Agent to Hold Initial Purchase of Non-Historic Fixed Price TCCs

In the event an LSE changes its Agent, it must submit documentation substantially in the form of Attachment J-B1 of this Manual and any other information required by the NYISO. Upon receipt, the NYISO will update its records to reflect the change in Agent.

8.1.10 Prices for Initial Purchases of Non-Historic Fixed Price TCCs

The purchase price of NHFPTCC may be calculated from the Nodal Prices appearing in the designated two-year round in the Centralized TCC Auction. The designated round is noted in the auction calendar. The purchase price shall be equal to the following:

$$\text{MAX}((\text{POW}_z - \text{POI}_p), 0)$$

Where:

- POW_z** = The Nodal Price from the designated two-year round for the intended Point of Withdrawal, Load Zone *z*, as displayed in the TCC AMS (the Nodal Price is also published on the Transmission Congestion Contracts page of the NYISO website).
- POI_p** = The Nodal Price from the designated two-year round for the Point of Injection (*p*) chosen, as displayed in the TCC AMS (the Nodal Price is also published on the Transmission Congestion Contracts page of the NYISO website).

The purchase price will be no lower than zero.

8.1.11 Process Order of Operations for Initial Purchases of Non-Historic Fixed Price TCCs

- NYISO publishes Attachment D of this Manual for upcoming spring or autumn Centralized TCC Auctions containing actionable dates for the purchase of NHFPTCCs
- LSEs submit Notification of Intent to Purchase and Certification documents (Attachment J-A1 or J-B1 of this Manual); Agents, if applicable, submit Attachment J-B2 of this Manual by the deadline specified in Attachment D of this Manual
- NYISO determines allocation availability and posts in TCC AMS by calendar deadline
- LSE or Agent submits Binding Agreement to Purchase NHFPTCC document (Attachment I of this Manual) by the deadline specified in Attachment D of this Manual
- NYISO provides the Nodal Prices for the purpose of NHFPTCC purchases by the deadline specified in Attachment D of this Manual
- LSE or Agent nominates NHFPTCC in TCC AMS by the deadline specified in Attachment D of this Manual
- NYISO posts NHFPTCC awards by the deadline specified in Attachment D of this Manual
- Payment due by the deadline specified in Attachment D of this Manual

8.2 Non-Historic Fixed Price TCC Reduction Process

The NYISO will reduce the number of NHFPTCCs that an LSE can purchase to the extent necessary to avoid infeasibility. The NYISO will use the same optimization model as it uses in the Centralized TCC

Auctions for such reductions, except that the nominated NHFPTCCs will not be represented as fixed injections and withdrawals but will be represented by a bid curve.

The NYISO will use the same reduction process it uses when reducing the transmission capacity assigned to reducible Existing Transmission Capacity for Native Load and Grandfathered Transmission Congestion Contracts to ensure feasibility as described in Section 19.8.2 of [Attachment M of the OATT](#).

Attachment C of this Manual specifies the percentage of transfer capability that will be made available for sale in each Auction round and in the NHFPTCC Allocation Round. As described in greater detail in [Section 3.5.3](#) of this Manual, the NYISO applies a scaling factor to distribute available system capacity across multiple rounds to ensure that only the specified proportion of the remaining transfer capability of the system is made available to support the purchase of TCCs including NHFPTCCs. This mechanism scales each Bid for purposes of running the auction software round by round. Nominated NHFPTCC will also be scaled. The feasibility determination for NHFPTCCs uses the scaled nominated NHFPTCCs.

In the feasibility determination, the TCC auction software will use, in the objective function, revised coefficients for the optimization formula:

N = The set of nominated NHFPTCCs

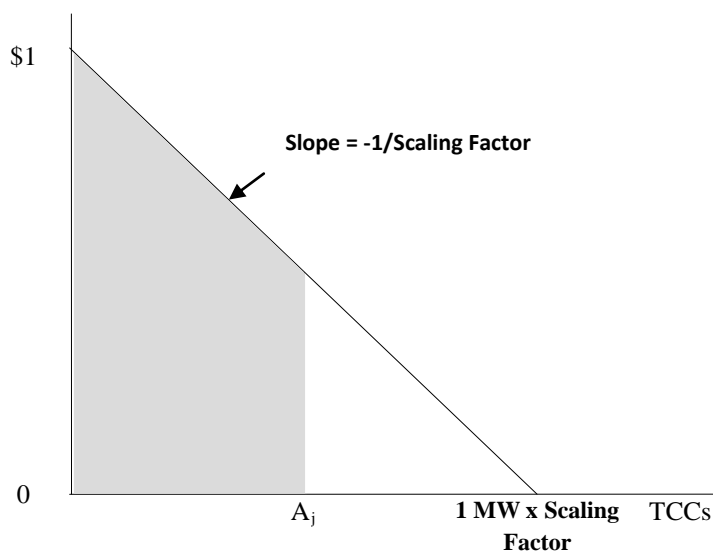
j = Any individual nominated NHFPTCC

A_j = The quantity of each scaled nominated NHFPTCC after reduction

B_j = Curve for each scaled nominated NHFPTCC j

As a result, the objective function will maximize the area under the curve for each scaled nominated NHFPTCC, summed over all nominated NHFPTCCs, subject to the simultaneous feasibility constraint. This area, under curve B_j for one scaled nominated NHFPTCC j , is illustrated in the following diagram:

Figure 10: Reduction Curve for Nominated Non-Historic Fixed Price TCCs



Following the reduction process, the NYISO reverses the effect of the scaling factor by multiplying the quantity of each scaled nominated NHFPTCC after reduction by the inverse of the scaling factor. These values will then be truncated to the nearest whole MW prior to being awarded as NHFPTCCs in the NHFPTCC Allocation Round.

8.3 Procedure for the Renewal of Non-Historic Fixed Price TCCs

8.3.1 LSE Eligibility to Renew Non-Historic Fixed Price TCCs

Eligible LSEs may use this procedure to renew NHFPTCCs.

The maximum number of NHFPTCCs that an LSE is eligible to renew with a POW in Load Zone z shall be equal to the following:

$$AHL_z - TCC_z$$

Where:

AHL_z = The LSE's average hourly Load in Load Zone z over the six most recently concluded Capability Periods (Average Time Frame). The average hourly Load will be calculated from the first day during the Average Time Frame when the LSE began to serve Load in Load Zone z to the end of the Average Time Frame. If the LSE served no Load in Load Zone z during the Average Time Frame, the LSE shall not be eligible to purchase NHFPTCCs with Load Zone z as a POW.

TCC_z = The total quantity of Grandfathered TCCs, Grandfathered Rights, Historic Fixed Price TCCs, and NHFPTCCs held by or on behalf of the LSE with a Point of Withdrawal in Load Zone z during the effective period of the NHFPTCCs being renewed.

8.3.2 Applicability – Renewal of Non-Historic Fixed Price TCCs

LSEs may use this procedure to renew previously-purchased NHFPTCCs. The process begins in the months prior to the same seasonal Centralized TCC Auction during which it purchased the NHFPTCC.

LSEs must complete a Notification of Intent to Renew and Certification document, Attachment K-A or Attachment K-B1 of this Manual, during this registration process.

The LSE must be a NYISO customer to use Attachment K-A of this Manual. An LSE may also designate an Agent who is a NYISO customer to renew and hold the TCCs on its behalf. LSEs designating an Agent will complete Attachment K-B1 of this Manual and Agents will complete Attachment K-B2 of this Manual.

LSEs or Agents indicate their renewal (“renewal”) of NHFPTCCs in the TCC AMS after prices have become available. Renewal NHFPTCCs awarded, and thus invoiced, are determined by the NYISO subsequent to the LSE’s renewal.

LSEs must also have provided to the NYISO or see that their Agent provides a valid Binding Agreement to Purchase NHFPTCCs (Attachment I of this Manual). Unless the submitted information has changed or unless directed by the NYISO, a previously submitted agreement for purchases remains valid for renewals.

8.3.3 Notification of Intent to Renew Non-Historic Fixed Price TCCs and Certification

To renew a NHFPTCC in the Applicable Capability Period:

- For an LSE that is a NYISO customer and will hold the TCC directly – complete Attachment K-A of this Manual.
- For an LSE that is not a NYISO customer or will have an Agent hold the TCC for the benefit of the LSE – complete Attachment K-B1 of this Manual and have the Agent complete Attachment K-B-2 of this Manual. The Agent will be the holder of the NHFPTCCs.

In the Notification of Intent to Renew and Certification document, LSEs make several certifications. One purpose of the certification is to determine the number of NHFPTCCs the LSE is eligible to renew. LSE eligibility for renewal NHFPTCCs is limited by the size of the Load served in a Load Zone.

The number of renewal NHFPTCCs which may be renewed with a point of withdrawal (which will be a Load Zone) is determined in accordance with [Section 8.1.1](#) of this Manual. The term AHL_z is updated to the six most recently concluded Capability Periods as of the renewal date.

NHFPTCC renewals are limited to the NHFPTCC that were initially purchased as listed in the TCC AMS and NYISO OASIS and were requested in the Notification of Intent to Renew and Certification document for this allocation round.

The deadline for receipt by the NYISO of the Notification of Intent to Renew and Certification document

is published by the NYISO in Attachment D of this Manual, although the date may be otherwise extended by the NYISO. This notification document may be submitted in either hard copy or electronic copy submitted via email. Incorrect, incomplete, or untimely documents will be rejected. The NYISO will allow resubmission of corrected documents and will consider the request to have been timely made if the resubmitted documentation is properly and completely received by the deadline.

8.3.4 Effective Date for the Renewed Non-Historic Fixed Price TCC

The effective date for the renewed NHFPTCC is the first day of the Capability Period immediately following its renewal.

8.3.5 Payment for Renewed Non-Historic Fixed Price TCC

Payment for a renewed NHFPTCC (calculated in accordance with Section 19.2.2.3.3 of [Attachment M of the OATT](#)) shall be due and payable on the date listed in Attachment D of this Manual, subject to terms in the Binding Agreement to Purchase NHFPTCCs document (Attachment I of this Manual).

8.3.6 Credit Obligations for Renewed Non-Historic Fixed Price TCCs

All credit requirements (as described in Section 26, [Attachment K of the Services Tariff](#)) applicable to the renewal of NHFPTCCs must be satisfied. Credit requirements required to be satisfied prior to the effective date of the applicable renewal of NHFPTCCs must be satisfied on or before the date for renewals set forth in Attachment D of this Manual, unless such date is otherwise extended by the NYISO.

8.3.7 Renewal Term of Non-Historic Fixed Price TCCs

An LSE may renew a NHFPTCC annually in one-year terms for a total duration of no more than ten years. An LSE that chooses not to renew its NHFPTCC, or fails to pay for an initial or renewed NHFPTCC, forfeits its entitlement to further renewals of that NHFPTCC.

8.3.8 Annual Renewal Declarations for Non-Historic Fixed Price TCCs

LSEs holding NHFPTCCs, and Agents appointed for the purpose of obtaining NHFPTCCs, intending to renew such TCCs, shall submit annual renewal notifications to the NYISO for such NHFPTCCs. Reductions in the number of NHFPTCCs renewed over those initially purchased (by path), will continue for future renewals of that NHFPTCC.

8.3.9 Change in Agent to Hold Renewed Non-Historic Fixed Price TCCs

In the event an LSE changes its Agent, it must submit documentation substantially in the form of

Attachment K-B1 of this Manual and any other information required by the NYISO. Upon receipt, the NYISO will update its records to reflect the change in Agent.

8.3.10 Prices for Renewal Purchases of Non-Historic Fixed Price TCCs

The renewal price of NHFPTCC may be calculated from the Nodal Prices appearing in the designated one-year round in the Centralized TCC Auction. The designated round is noted in the auction calendar. The renewal price shall be equal to the following:

$$\text{MAX}((\text{POW}_z - \text{POI}_A), 0)$$

Where:

POW_z = The Nodal Price from the designated one-year round for the Point of Withdrawal, Load Zone z from the initial purchase, as displayed in the TCC AMS (the Nodal Price is also published on the Transmission Congestion Contracts page of the NYISO website).

POI_A = The Nodal Price from the designated one-year round for the Point of Injection (A) from the initial purchase, as displayed in the TCC AMS (the Nodal Price is also published on the Transmission Congestion Contracts page of the NYISO website).

The purchase price will be no lower than zero.

8.3.11 Process Order of Operations for Renewals of Non-Historic Fixed Price TCCs

- NYISO publishes Attachment D of this Manual for upcoming spring or autumn Centralized TCC Auctions containing actionable dates for the renewal of NHFPTCCs
- LSEs submit Notification of Intent to Renew and Certification documents Attachment K-A1 or K-B1 of this Manual; Agent, if applicable, submits Attachment K-B2 of this Manual by the deadline set forth in Attachment D of this Manual
- NYISO determines allocation availability and posts in TCC AMS by the deadline set forth in Attachment D of this Manual
- Only if changes to a previously submitted purchase agreement are required, LSE or Agent submits Binding Agreement to Purchase NHFPTCCs document (Attachment I of this Manual) by the deadline set forth in Attachment D of this Manual
- NYISO provides the Nodal Prices for the purpose of NHFPTCC renewal by the deadline set forth in Attachment D of this Manual
- LSE or Agent renews NHFPTCCs in the TCC AMS by the deadline set forth in Attachment D of this Manual
- NYISO posts NHFPTCC renewal awards by the deadline set forth in Attachment D of this Manual
- Payment for renewals of NHFPTCCs due by the deadline set forth in Attachment D of this Manual