

Transmission Congestion Contracts Manual

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ATTACHMENTS

Attachments A through T are posted on the “TCC Data & Information” section of the NYISO website: (Markets & Operations>TCC>TCC Manual). These attachments are updated on a regular basis to show current and upcoming Auction information.

Attachment A: Binding Agreement to Sell TCCs in the NYISO-Administered TCC Auctions

Attachment B: Binding Agreements to Purchase TCCs in the NYISO-Administered TCC Auctions

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 TCC Centralized Auction and/or a TCC 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 Initial Purchase Documents

Attachment K: Non-Historic Fixed Price Renewal Documents

Attachment L: Historic Fixed Price Conversion Documents

Attachment M: Historic Fixed Price 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: Sample Notice of Request for Revision to OATT Attachment L

Attachment T: TCC Market PJM-NYISO Interconnection Scheduling Protocol

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Revision History

Version	Date	Revisions
2.0	MM/DD/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 has been integrated into the Manual as Section 4.8 ➤ Technical Bulletin #152 has been integrated into the Manual as Attachment T ➤ Technical Bulletin #207 has been integrated into the Manual as Section 4.4.7 ➤ Technical Bulletin #222 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”

		<ul style="list-style-type: none"> ➤ 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”
1.3	05/31/2007	Global change <ul style="list-style-type: none"> ➤ Changed POC from Kathy Whitaker, Manager, Auxiliary Market Operations to Manager, TCC Market Operations.
1.2	03/14/2007	Global change <ul style="list-style-type: none"> ➤ Removed 10 Krey Blvd address for Manager, AMO, and replaced with 3890 Carman Road address.
1.1	02/09/2006	Section 3.63 <ul style="list-style-type: none"> ➤ Editorial correction to Qk variable description Section 3.9.2 <ul style="list-style-type: none"> ➤ Minor edits under Storm Watch and revised reference to “Table 3” Sections 3.9.5, 4.2.1, 4.3.1 <ul style="list-style-type: none"> ➤ Updated NYISO address information Section 3.9.3, para 8 <ul style="list-style-type: none"> ➤ New paragraph “Disaggregation of ETCNL” discussing the disaggregation option, and NYISO contact information to request a disaggregation. Section 4.5.7 <ul style="list-style-type: none"> ➤ Update language to describe changes in the normal configuration of the Astoria units.
1.0	08/25/2005	Initial Release

1. INTRODUCTION

The New York Independent System Operator's Transmission Congestion Contract (TCC) Manual (the Manual) contains the rules, procedures, and guidelines that will be followed by the New York Independent System Operator (the NYISO) and its Customers concerning the TCC Auctions administered by the NYISO pursuant to the NYISO Services Tariff. In addition this Manual contains rules, procedures and guidelines for allocation of non-auction awards of fixed priced TCCs and Incremental TCCs. TCC Auction provisions are discussed in [Attachment M of the NYISO Open Access Transmission Tariff](#) (OATT) effective September 1, 2000, and amended thereafter.

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 monthly 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 (Reconfiguration Auction).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 TCC Data & Information Web Page

This Manual is designed to be used in conjunction with the Manual Attachments and informational postings included on the NYISO TCC Data and Information web page. While the Manual provides the rules and procedures for participating in the TCC auctions, the TCC Data and Information web page also provides useful information.

The TCC Data and Information web page is located in the Markets & Operations section of the NYISO web site under the Market Data heading (see [Figure 1-1](#))

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

Figure 1-1 TCC Data & Information Web Page

Markets & Operations

Market Data

Market & Operational Data [+]

TCC

ICAP

Demand Response

Ancillary Services

Interregional Data

System Conditions

Services

Financial Services [+]

Customer Registration

Market Training [+]

Market Monitoring [+]

Reliability Compliance

Support

Customer Support

Submit A Help Ticket

Documents

Tariffs

Manuals & Guides

Technical Bulletins

Legal & Regulatory

Studies & Reports

Planning

Planning Studies

Services & Requests

Documents & Resources

Interregional Planning

Conferences & Workshops

Questions & Comments

Committees

General Information

Management Committee

TCC Data & Information

Transmission Congestion Contracts (TCCs) enable energy buyers and sellers to hedge transmission price fluctuations. A TCC holder has the right to collect or the obligation to pay congestion rents in the Day-Ahead Market for energy associated with transmission between specified points of injection and withdrawal. The NYISO offers a number of TCC products to meet the needs of NYCA Transmission Customers, and also conducts periodic auctions where TCCs may be bought and sold. The auctions maximize the value of TCC awards, based on the bids and transmission line and contingency constraints. An Optimal Power Flow program is used to determine the TCCs awarded in an auction.

TCC Market Login

Select the link below to login to the TCC Market Application. Please Note: You will need a digital certificate to access this application.

[Login To TCC Market »](#)

[TCC Upload/Download »](#)

Useful Links

- [View Binding Constraints](#)
- [View Nodal Prices](#)
- [View Awards Summary](#)
- [View Nomination Details](#)
- [Summary Of Transmission Contracts](#)

TCC Auction Data:

TCC model data may be requested by completing a CEII request form and NDA at the link below:

[CEII Request Form](#)

TCC

- [Information and Announcements](#)
- [Historic Fixed Price TCCs](#)
- [Non-Historic Fixed Price TCCs](#)
- [Incremental TCCs](#)
- [DAM Marginal Losses and Congestion](#)
- [Accepted Revisions to OATT 18.1](#)
- [TCC Auctions prior to August 2006](#)
- [TCC Manual](#)
- [TCC Automated Market System User's Guide](#)

Filter: [View Details](#)

Type	Document Name	Modified
<p>To view documents, please select from the folder structure on the left.</p>		

The TCC Data & Information web page includes a collection of folders and links that provide convenient access to important information related to TCC Products and the TCC Auctions.

Convenience links located on the TCC Data & Information web page include the following:

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

- View Awards Summary – this link accesses the public Awards Reports summaries, by auction and auction round.
- View Nomination Details – this link accesses 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 Reports.
- CEII Request Form – this link accesses the form for requesting TCC Auction Data (see Section 3.5.5). The CEII Request Form includes a Non-Disclosure Agreement.

The folders on the TCC Data & Information web page contain documentation relevant to TCC Products and current, upcoming, and past TCC Auctions.

- 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 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 August 2006 and beyond are available through the TCC Automated Market System.
- TCC Manual – this folder includes the current TCC Manual and Attachments, and an archive folder of past TCC Manual Attachments.
- TCC Automated Market System User's 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.

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2. OVERVIEW

A TCC represents the right to collect, or the obligation to pay, the Day-Ahead Market (DAM) Congestion Rents associated with 1 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 difference in the Congestion Component of the DAM, Locational Based Marginal Price (LBMP) at the POW of the TCC and the Congestion Component of the DAM LBMP at the POI of the TCC, for each hour of the Effective Period.

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 1 MW of power between the buses specified in the TCCs. Payments to Primary Holders of TCCs are primarily funded through Congestion Rents collected in the DAM. 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. 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 MPs². 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 Transmission Owners (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.

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

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 [Attachment M of the NYISO OATT](#), the Centralized TCC Auction format will ultimately change to an end-state, or as otherwise referred to as a multi-durational 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 (Optimal Power Flow) analysis, 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., FERC Electric Tariff, Original Volume No. 1, Open Access Transmission Tariff”, including Attachments K, L, M, and N](#)
- [“New York Independent System Operator, Inc. FERC Electric Tariff Original Volume No. 2, NYISO Market Administration And Control Area Services Tariff”](#)
- [“NYISO Accounting & Billing Manual”](#)
- [The NYISO website \(www.nyiso.com, “Products”, “Transmission Congestion Contract – TCC”\) for timelines, announcements, and Auction related postings](#)
- [NYISO Customer Registration Packet](#)
- [Transmission Congestion Contracts Automated Market System User’s Guide](#)
- [Credit Management System User’s Guide](#)

3. TCC AUCTION PROCESS

The TCC Auctions are conducted by the NYISO on behalf of the Market Participants (MPs). These Auctions cover long and short power system operating horizons and are called:

- a. **Centralized TCC Auctions** – Seasonal based on TCC availability and feasibility. Other terms that may be used for these auctions include “Capability Period Auctions” and “Initial TCC Auctions”.
- b. **Reconfiguration Auctions** – Monthly to provide a platform for short term purchases and sales.

This section describes these Auctions and how they are conducted.

3.1 Introduction

This section includes a description of the Centralized TCC Auctions and the Reconfiguration Auctions.

3.1.1 Centralized TCC Auctions

The Centralized TCC Auction consists of a series of Sub-Auctions. The NYISO conducts these Sub-Auctions in several rounds. The transmission capacity that has been offered for sale is auctioned in not less than four rounds, unless the TOs unanimously consent to fewer rounds. 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 Existing Transmission Capacity for Native Load (ETCNL) not reserved by the TO, and any other TCCs offered for sale by a Primary Holder.

The NYISO will run a security-constrained Optimal Power Flow (OPF) to determine the simultaneous feasibility of TCCs to be awarded. The power flow model will treat all Grandfathered Rights and Grandfathered TCCs (that have not been offered for sale in the Auction); Residual TCCs sold through a Direct Sale (that have not been offered for sale in the Auction); and RCRR and feasible ETCNL not reserved by the TO as fixed injections and withdrawals. As each ETA terminates and is not converted into a Historic Fixed Price TCC, the Grandfathered Rights or TCCs associated with the ETA will be offered for sale into the Auction. The revenues associated with the Auction of these TCCs will be allocated among the TOs according to [Attachment N of the NYISO OATT](#).

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 Auction will determine prices for feasible TCCs. All bidders awarded TCCs in an Auction round will pay or be paid the 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.

3.1.2 Reconfiguration Auctions

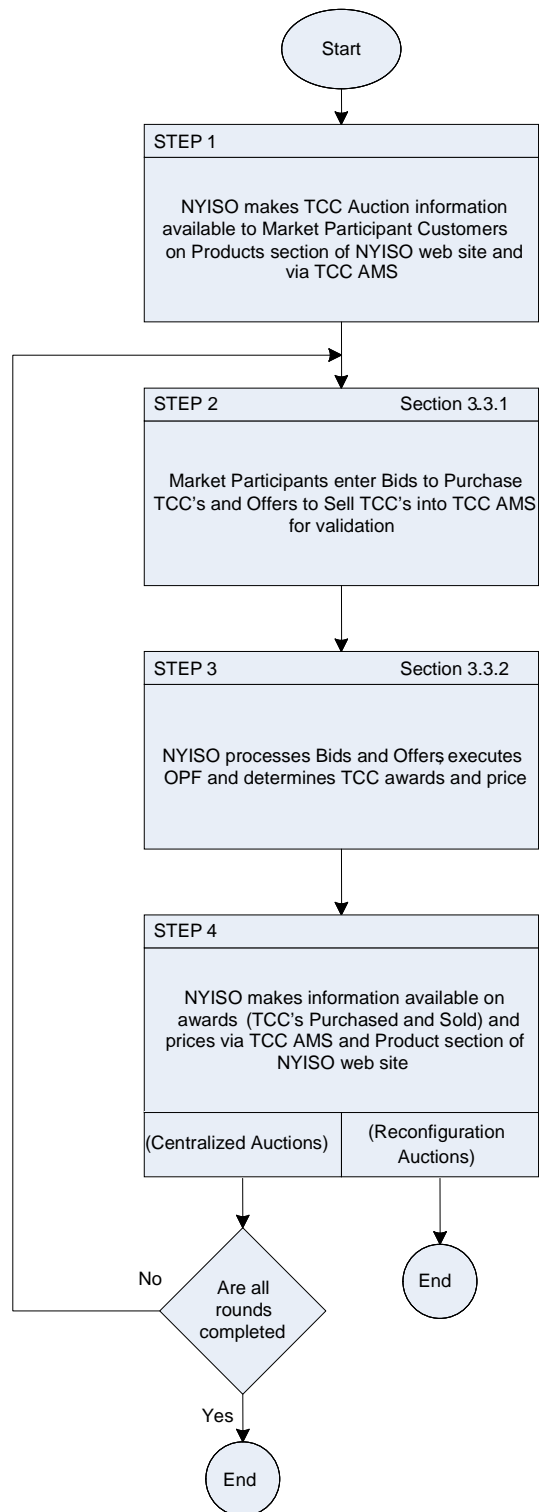
The NYISO will conduct Reconfiguration Auctions on a monthly basis. Primary Holders of TCCs that are valid for the next month may offer those TCCs for sale in the Reconfiguration Auction for that month. TCCs awarded in a Reconfiguration Auction will be valid for one month.

In the 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.

3.1.3 Auction Process

The Auction Process is represented in the block diagram in [Figure 3-1](#) below.

Figure 3-1 Centralized and Reconfiguration (Monthly) Auction Process



3.2 Pre-Auction Activities

Prior to the TCC Auctions, the NYISO and the Market Participants (MPs) will establish the durations of the TCCs that can be auctioned. This section describes the Auction preparation process.

3.2.1 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. It is not necessary to complete each step in the order shown. Application information should arrive at the NYISO 60 business days in advance of an Auction date, to allow NYISO Stakeholder Services to process applications.

- a. A Participant must first register as a Customer of the NYISO, by completing the NYISO Registration Packet, located on the NYISO website at:

http://www.nyiso.com/public/services/nyiso_registration/index.jsp

This process may require up to 60 business days prior to TCC Market entry.

- b. An eligible Customer must sign the NYISO OATT. This document is included in the Registration Packet and should be submitted at the time of registration.
- c. An eligible Customer must sign the Market Administration and Control Area Services Tariff (Services Tariff), which indicates the ability to submit service bids and transaction schedules to the NYISO. Signing the Services Tariff also indicates an eligible customer is able to submit service bids on its own behalf or on the behalf of others. This document is included in the NYISO Registration Packet, and should be signed and submitted at the time of registration.
- d. The appropriate **Binding Agreement to Purchase** and/or **Binding Agreement to Sell** TCC agreement must be signed and submitted before the Customer can participate in any TCC Auction. The agreements are located on the NYISO TCC Data & Information web page as Attachment A and B of this Manual:

<http://www.nyiso.com/public/products/tcc/index.jsp>

Attachment A - Binding Agreement to Sell TCCs in the NYISO-Administered TCC Auctions

Attachment B - Binding Agreements to Purchase TCCs in the NYISO-Administered TCC Auctions

- e. Customers participating in the TCC Market must adhere to the rules, in [Section 4](#) of this Manual.

3.2.2 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, 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 NHFPTCC 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 takes one week. Bids and offers are submitted on Fridays through Mondays, (unless it is a Holiday), results are 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.

3.2.3 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 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 5% of the available transmission system capability in each round of an Auction.

3.2.4 Informational Posting Prior to an Auction

Approximately two weeks prior to the start of an Auction, the NYISO posts the following information on the TCC Data & Information section 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., Reconfiguration, Centralized TCC). For a Centralized TCC Auction, the number of rounds to be conducted which is 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 duration and the proportion for that duration which is in Attachment C of this Manual.
- d. Total monthly nodal congestion per MW calculated from Day-Ahead Market (DAM) results. This may be found listed in the DAM Marginal Losses and Congestion folder on the TCC Data & Information webpage.
- e. Any special rules or conditions that may apply to this Auction, which may include Auction assumptions. This may be found listed in the Info and Announcements folder on the TCC Data & Information webpage.

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 Section 15 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.

3.2.5 Credit Requirements

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

3.2.6 Offsetting Credit Policy

If an MP holds TCCs that can be used to offset each other (same PTIDs, same remaining Effective Period, 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.

Table 3.1 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 Section 26.4.2.3 of the Market 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.

3.3 Conducting Individual Rounds of a Centralized TCC Auction

A Centralized TCC Auction consists of the following two steps, which follow each round of the Auction:

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

A general flow diagram for TCC Auctions is provided in [Figure 3-1](#).

3.3.1 Bid and Offer Submittal and Validation

The bid and offer submittal and validation step will follow the time line as set in Attachment D 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.

A Primary Holder who wishes to offer TCCs for sale in the Auction, but who does not wish to sell those TCCs for less than a threshold value, must specify a minimum offer price when using the appropriate screens in the TCC AMS software. However, if the Market-Clearing Price in that round of the Auction is less than the MP's minimum offer price for those TCCs, those TCCs will not be sold in the Auction.

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 Market Data > Reports & Information > General Information > NYISO Bid Data, with the MP organization masked.

3.3.2 Optimal Power Flow Analysis

The OPF analysis and posting step will begin when the bid submittal and validation process ends. This step will follow the time line defined in Attachment D. 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

3.3.3 Optimal Power Flow Input Preparation

Prior to the start of each Centralized TCC Auction, 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. 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 3.5.1](#) 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 3.5.3](#) of this Manual.

TCCs Not Offered for Sale and Grandfathered Rights

Each TCC and each Grandfathered Right not offered for sale 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 Summary of Transmission Contracts, a report generated in the TCC AMS software, lists the number of outstanding TCCs and Grandfathered Rights. The POIs and POWs for each TCC will be compiled and updated by the NYISO. The capacity and TCCs not offered for sale will include:

- a. All Grandfathered Rights that have not expired prior to the effective date of the upcoming Auction period
- b. All Grandfathered TCCs that have not expired prior to the effective date of the upcoming Auction period and which have not been offered for sale
- c. All other TCCs that have not been offered for sale in this round
- d. All other TCCs awarded in previous rounds of the Centralized TCC Auction that have not been offered for sale in this round. A listing of TCCs purchased in previous rounds of a current auction can be found on the TCC Data & Information page on the NYISO web site under “View Awards Summary”.
- e. ETCNL TCCs
- f. RCRR TCCs.
- g. Fixed Price TCCs that have not expired prior to the effective date of the upcoming Auction period
- h. Temporary and Final Incremental TCCs

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. In addition, it is possible that only one bidder would be awarded all the TCCs purchased 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 sold in all remaining rounds of the Auction, 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, 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:

$$\text{Round 1: } 100\% / 10\% = 10$$

$$\text{Round 2: } (100\% - 10\%) / 20\% = 4.5$$

$$\text{Round 3: } (100\% - 10\% - 20\%) / 30\% = 2.333$$

Round 4: (100% - 10% - 20% - 30%) / 40% = 1.0

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

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 then model each TCC offered for sale by adding a 1 MW injection and withdrawal to the power flow model employed in the previous round.

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

Objective Function

In order to define the objective function for the Auction, NI_m is defined as the net injection at each bus m in the power flow corresponding to the set of all outstanding TCCs as of the conclusion of this round of the Auction, as follows:

$$NI_m = \sum_{i \in T} A_i P_i X_{ij} - \sum_{k \in U} B_k Q_k Y_{kl} + NI_m^0,$$

Where:

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

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

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

X_{ij} = 1, if bus j is the injection bus specified in the bid i ,
 -1, if bus j is the withdrawal bus specified in bid i ,
 0, otherwise,

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

B_k is the proportion of Offer k that is awarded in the Auction,

Q_k is the number of TCCs that the offeror submitting Offer k offers to sell in that offer,

Y_{kl} = 1, if bus l is the injection bus specified in the Offer k ,
 -1, if bus l is the withdrawal bus specified in Offer k ,
 0, otherwise, and

NI_m⁰ is the net injection at bus m in the power flow corresponding to the set of all TCCs not offered for sale in this round of the Auction, calculated by summing the number of TCCs not offered for sale in this round of the Auction that specify bus m as an injection point, and subtracting the number of TCCs not offered for sale in this round of the Auction that specify bus m as a withdrawal point.

Then the objective function for 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

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:

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

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

and subject to the constraint that the set of net injections NI_m must be able to be accommodated using a simultaneously feasible contingency-constrained power flow.

This objective function determines the proportion of each bid that is awarded with the objective of maximizing the benefit to purchasers and sellers of TCCs, subject to the constraint that injections and withdrawals either corresponding to all TCCs that have been awarded in this round of the Auction, or preceding this round of the Auction, must be simultaneously feasible.

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.

3.3.4 Executing OPF

The 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, 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.

3.3.5 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 TCCs will be truncated to the nearest whole MW prior to being awarded as TCCs in this round of the Auction.

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

To determine the offers sold in the round, the NYISO multiplies the awarded sales determined in the OPF analysis by the inverse of the offer-scaling factor. These scaled down TCCs will be truncated to the nearest whole MW prior to being awarded as TCCs 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.

3.3.6 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 NYISO Market Administration And Control Area 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 $\$300 - \$100 = \$200$.

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.

3.3.7 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:

- POI to the Zone containing the POI (POI Zone)
- POI Zone to the Zone containing the POW (POW Zone)
- 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 3-2](#) and in [Table 3.2](#), [Table 3.3](#), and [Table 3.4](#), below.

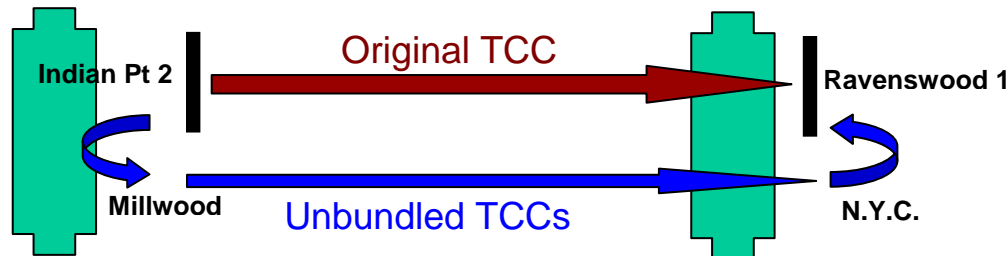


Figure 3-2 Unbundled TCC in its Standard Components

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

Table 3.2 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.

Table 3.3 Same Zone

Original TCC	Unbundled TCC
POI: 25 MW into the Arthur Kill 3 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

POW: 25 MW out of Arthur Kill 2 Generator bus in the 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.

Table 3.4 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.

3.3.8 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 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 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-day period has expired without initiation of a dispute process as described in the agreements. See Attachments A and B for further explanation of the dispute process.

3.4 Monthly Reconfiguration Auctions

Each month, the NYISO conducts a monthly Reconfiguration Auction 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 Auction. In addition, MPs may submit bids to purchase TCCs in the Auction. The monthly Reconfiguration Auction consists of one round.

3.4.1 TCCs Which Can Be Offered for Sale

Any MP holding TCCs for the month for which the Auction is being conducted may offer those TCCs for sale. No one is required to offer TCCs for sale into a monthly Reconfiguration Auction.

3.4.2 Monthly Reconfiguration Auction Time Line

Each monthly Reconfiguration Auction will follow the time line in Attachment D which is posted on the TCC Data & Information page of the NYISO website for the Auction.

3.4.3 Validation of TCCs Offered for Sale

Following the time line in Attachment D for the Auction, a Primary Holder may offer TCCs for sale in the upcoming Auction. As TCCs are offered for sale, the NYISO will verify the offer per [Section 4.1.10](#) of this Manual.

3.4.4 Bid Submittal and Validation

The responsibilities of the Bidders and the NYISO are contained in [Section 4.2.9](#) of this Manual.

3.4.5 Optimal Power Flow Analysis

The OPF analysis will follow the time line as posted in Attachment D for the Auction. The NYISO will perform the same tasks as described in [Section 3.3.2](#) of this Manual, with the following exceptions, which relate to the preparation of input to the OPF model: All of the system transfer capability, except for that reserved for TCCs that have not been offered for sale, will be available to support TCCs purchased. Therefore, the scaling factor for the Auction will equal 1.0.

3.4.6 Information Posted Following the Auction

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 updated following the completion of Monthly Reconfiguration Auctions.

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

- (2) The POI and POW
- (3) The number of TCCs
- (4) Duration of the purchase or sale
- (5) Market-Clearing Price (\$/TCC-period)

The NYISO will post the above information for each TCC and Grandfathered Right held by a Primary Owner prior to the beginning of each Effective Period.

3.5 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.

3.5.1 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 Transmission Systems 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 (LIPA's) transmission system. The PARs at Barrett and Northport (PS2) are allowed to be optimized in the OPF analysis in order to maximize the value of TCC bids awarded in the Auction and provide

adequate protection to LIPA's 138 kV and 69 kV transmission facilities during both normal and contingency conditions. The PAR at Pilgrim is modeled in the OPF analysis with a fixed schedule consistent with recent historical DAM schedules from the previous like Capability Period.

- **Internal Con Edison PARs** — The Dunwoodie, Tremont (Parkchester), Corona, East River (East 13th Street), Academy, Astoria Annex, Freshkills, Vernon, 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 TCC bids awarded 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 (Y49). These PARs are modeled with fixed schedules chosen to support the Grandfathered Rights/TCCs associated with Points of Withdrawal on Long Island.
- **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.
- **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 Public Service Electric & Gas and Con Edison on their direct tie lines. 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 Branchburg-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 115kV and 69kV networks at Hurley Avenue. This PAR 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.

Proxy Bus Scheduling

- See Attachment T for TCC Market PJM – NYISO Interconnection Scheduling Protocol
- See Attachment G 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.

3.5.2 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 by approximately 1000 MW. Storm Watches occur several hours a year.

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 occur in the First Settlement (i.e., Day-Ahead), the OPF analysis assumes only the set of monitored facilities and contingencies that are employed for normal operation of the transmission system.

3.5.3 Determination of Feasible Existing Transmission Capacity for Native Load

ETCNL (Existing Transmission Capacity for Native Load) 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 filed at FERC. 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 NYISO 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:

- a. Grandfathered Rights
- b. Grandfathered TCCs
- c. Available ETCNL
- d. Existing TCCs that are valid for any part of the duration of any TCCs to be sold in the Centralized TCC Auction.
- e. Fixed Price TCCs
- f. Incremental 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 NYISO 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 upcoming Auction. 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 3.3](#) 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.

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 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 ISO 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 NYISO 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

3.5.4 Residual Capacity Revenue Rights

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 3.3.3](#) 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 3.3](#).

3.5.5 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”) and Non-Disclosure Agreement (“NDA”) Request form.

TCC Auction Data 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 non-disclosure agreement. In order for a TAD request to be considered, the individual must complete, sign, date, and return the CEII and NDA request form 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/NDA request forms.

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 general activities of the organization and the individual that will use the requested information
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.

The Critical Energy Infrastructure Information (“CEII”) and Non-Disclosure Agreement, including instructions, are located in the “Tools and Services” section of the link provided below.

http://www.nyiso.com/public/markets_operations/services/customer_support/index.jsp

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 in 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. Satisfy the creditworthiness criteria as set forth in Attachment K of the NYISO Market Services Tariff
- b. Complete and submit the Binding Agreement to Sell Transmission Congestion Contracts Attachment A, (Sale Agreement copy) to the address listed below.

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

4.1.2 Sale Agreements

Sale Agreements must be received by the NYISO via an overnight mail service or a delivery service requiring the signature of the addressee, according to the schedule established by Attachment D of this Manual. All Sale Agreements must be delivered by 5:00 PM on the scheduled dates established by Attachment D of this Manual. A Sale Agreement submitted in advance of any Centralized TCC Auction and/or Reconfiguration

Auction is valid for all subsequent Centralized TCC Auctions and Reconfiguration Auctions.

Upon receipt of a completed Sale Agreement, and meeting the NYISO Credit Policy requirements, the NYISO then will provide the customer access to the TCC Automated Market System.

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 listed in the current Summary of Transmission Contracts as provided via the TCC AMS.
- 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 for example, \$/TCC-1-month, \$/TCC-6-month, \$/TCC-12-month, etc.

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.

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.

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 Selling Partial TCCs

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 Class.

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 TCC credit.

An Individual offer to sell TCCs will be invalidated for any of the following reasons:

1. The quantity of TCCs offered is greater than the quantity held by the Seller for that TCC Contract number.
2. The Seller makes multiple Individual Offers to sell TCCs for the same TCC contract number and Minimum Offer Price.
3. The number of TCCs for which a bid has been made is less than or equal to zero.
4. The quantity of TCCs offered for sale is not a whole number.
5. The TCC Contract number is not provided, except for TCCs awarded in previous rounds of the Centralized TCC Auction.
6. The Minimum Offer Price is not provided.
7. 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. Satisfy the creditworthiness criteria as set forth in Attachment K of the NYISO Market Services Tariff; and,
- b. Complete and submit the Binding Agreement to Purchase Transmission Congestion Contracts Attachment B, (Purchase Agreement copy) to the address listed below.

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

4.2.2 Purchase Agreements

Purchase Agreements must be received by the NYISO via an overnight mail service or a delivery service requiring the signature of the addressee, according to the schedule established by Attachment D of this Manual. All Purchase Agreements must be delivered by 5:00 PM on the scheduled dates established by Attachment D of this Manual. A Purchase Agreement submitted in advance of any Centralized TCC Auction and/or Reconfiguration Auction is valid for all subsequent Centralized TCC Auctions and Reconfiguration Auctions.

Upon receipt of a completed Purchase Agreement, the NYISO will provide the customer access to use of the TCC AMS software as a MP.

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.

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.

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.

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.

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.
- c. Bid numbers are not provided as required.
- d. Maximum bidding exceeds available TCC credit.

Individual Bids for TCCs will be invalidated for any of the following reasons:

1. The POI and/or POW does not correspond to a location for which the NYISO posts an LBMP from the DAM results listed in Attachment E of this Manual.
2. The POI and POW are both within the same group of POIs and POWs listed in Attachment F of this Manual.
3. 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.
4. The number of TCCs for which a bid is made is not made a positive whole number.
5. The number of TCCs for which a bid has been made is less than or equal to zero.
6. Two or more Individual Bids for a given POI and POW are entered at the same bid price.
7. 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. For each Class of TCCs sold, 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 and Market-Clearing Price, 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 Agreement

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 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 Security Constrained Unit Commitment (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 bid-based value of the bids submitted into the Centralized TCC Auction or the Reconfiguration Auction, while maintaining flows and voltage on transmission facilities within acceptable NYISO limits.

4.4.4 Existing Generators

All existing generators connected to the New York 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 3.5.1](#) of this Manual.

4.4.6 Scheduled Transmission Outages

Scheduled transmission outages, where the outage is for the majority of the Effective Period, are scheduled as transmission outages during the entire Effective Period in the OPF analysis, 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 the first round of the six-month rounds of a Centralized TCC Auction and prior to the Auction Bidding Period for a monthly 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%) of the Effective Period of TCCs being sold. No later than 5:00 PM, four business days prior to the opening of the Auction Bidding Period, the TO responsible for the scheduled outage must designate in writing which of the scheduled outages will be modeled as in-service in the 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, the NYISO will post to the TCC Data & Information area of its website the TCC Auction modeling option chosen for each transmission facility outage that was scheduled out-of-service for a majority (>50%) of the Effective Period of the TCCs being sold in the 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.

⁴ Note that the Astoria 4 unit is currently retired, however, the capability to bid on the transmission capacity associated with the PTID is supported as described.

- 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 TCC Auction Data (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 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).

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,
- 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, 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 a 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 NYISO OATT.

4.5.3 Firm Commitment

All offers to sell and bids to buy TCCs in the Auctions represent firm commitments to the NYISO by the Sellers and Buyers.

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

Within five business days from the end of any Auction, 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. This Award Notice will include the Market-Clearing Price, POI and POW for each TCC awarded, and the total purchase price for the TCCs.

4.5.6 TCC Sale Award Notice

Within five business days from the end of any Auction, 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. This Award Notice will include the Market-Clearing Price, POI and POW for each TCC sold, and the total selling price for the TCCs.

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 Payment

All payments are due to the NYISO within three business days from the date of the Award Notice. Such payments include payments for TCCs awarded where the Market-Clearing Price is positive and payments for TCCs offered where the Market-Clearing Price of the TCCs offered is negative.

4.6.2 NYISO Payment

The NYISO will make payments within six business days from the date of the Award Notice. Such payments include payments for TCCs offered for sale where the Market-Clearing Price is positive and payments for TCCs awarded where the Market-Clearing Price is negative, if these positions have been collateralized two business days prior to payout.

4.6.3 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.

4.6.4 Transmission Owner Payment

Revenues owed to the TOs, that were determined pursuant to the methodology described in [Attachment N of the NYISO OATT](#) for the sale of residual transmission capability, are distributed to the TOs in accordance with the time line for the Auction. Revenues owed to the TOs for their release of Residual TCCs and ETCNLs into the Centralized TCC Auction will be distributed to the TOs according to the schedule in the timeline for the Auction.

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 NYISO Market Services Tariff.

4.8 NYISO Market Participant Review and Verification of Transmission Congestion Contracts (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 update its TCC information. The details below describe the process through which Market Participants certify TCC information.

Approximately three months before the start of the spring and autumn Centralized TCC auctions, 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 attached data (see [Figure 4-1](#)). A certification form is included with that request (see [Figure 4-2](#)).

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 4-1 Example of TCC Data Validation Letter

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

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, 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 [Day, Date, 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:

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

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. 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,

TCC Manager
TCC Market Operations

Figure 4-2 Example of TCC Data Validation Certification Form

TCC Data Validation Certification Form

[DATE]

General Counsel and Secretary
New York Independent System Operator, Inc.
10 Krey Blvd.
Rensselaer, New York 12144

Dear ____:

I **[NAME AND TITLE OF CORPORATE OFFICER]** have reviewed the electronic spreadsheet entitled “[**NAME OF COMPANY**]-TCCs-[**DATE**].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 identified in the Spreadsheet **[and in Tables 1 and 3 of Attachment L and Tables 1 and 2 of Attachment M from the OATT]** 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. Contract Start and End Dates;
4. Point of Injection Identification Number;
5. Point of Withdrawal Identification Number;
6. Summer/Winter MW Values;
7. Primary TCC Holder; and
8. Reference Contract ID (where applicable).

I further attest that the Spreadsheet **[and Tables 1 and 3 of Attachment L and Tables 1 and 2 of Attachment M from the OATT]** accurately and completely identify all of the Grandfathered Rights and TCCs held by [**NAME OF COMPANY**] that are effective by **[start of the upcoming capability period]**.

Sworn by me this ____ day of **[DATE]**
[NAME AND TITLE OF CORPORATE OFFICER]

Witnessed by:
[NAME OF NOTARY PUBLIC]
Notary Public for the State of _____ **[SEAL]**
County of _____
My Commission Expires _____
cc: TCC Manager (NYISO)

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5. ACCEPTED REVISIONS PROCESS – UPDATES TO EXISTING TRANSMISSION FACILITY AGREEMENTS (“ETAs”)

OATT Section 18.1.1, Attachment L, Table 1A, (“Table 1A”) lists the Long Term Transmission Wheeling Agreements and Existing Transmission Facility Agreements (“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 Transmission Congestion Contracts.

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. OATT Section 17.9, Attachment K, 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 Attachment L, 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 Attachment L, 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. Biannually, 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 Attachment L 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 TCC webpage in the Accepted Revisions folder. The posting will include a redline of the Attachment L entry and details of its effective dates and updated entries. Marketplace notification will also be sent when Revisions are posted on the NYISO website.

5.1.6 Incorporation into Tariff

The ISO will biannually present revisions to Attachment L Table 1A to its stakeholders, if any should occur. The filing will be a Section 205 filing with the Commission, using the traditional 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 published Table 1A.

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 ISO 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.

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6. AWARD OF INCREMENTAL TCC'S 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 a “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. When more than one Incremental TCC⁵ is awarded for an Expansion, a change of ownership will be permitted only for the full portfolio of awarded Incremental TCCs, provided however; portions of a portfolio of Incremental TCCs may be sold in NYISO TCC auctions. 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 2C 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 NYISO’s 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 to the NYISO OATT, then the Expander shall also have accepted its cost allocation and posted required security pursuant to Attachment S.

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.

⁵ Each POI/POW combination is “one” Incremental TCC. Each Incremental TCC will have a specified number or quantity of MW.

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 ISO shall not award Incremental TCCs:

- When the ISO 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 ISO; 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, 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 studies⁶, which underlie the Expansion, indicate increased system Transfer Capability across an Interface, then the request for Incremental TCCs would

⁶ 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.

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 Energy 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:
 - 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 Energy 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 estimates⁷ 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-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.

⁷ 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.

- 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 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, 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 a Merchant Expander

In the case of a merchant 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 merchant Expansion in order for them to be known to the merchant 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 a merchant Expander, or any party or entity who assumes contractual responsibility for the outage charges of a merchant 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 merchant 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 a merchant Expander that does not provide the information in Attachment R, 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 Attachment R information. 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 merchant 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. The temporary award begins from a date (“the effective date”) which shall be no earlier than 10 business days following the date the NYISO was notified of the actual commercial operation date and the developer has accepted its award through the submission of Attachment Q (but in no case 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 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 Automated TCC Market System 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 transmission facility in auctions that may be performed to preserve 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, the NYISO will 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 ISO, 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.

Secondary market transfers of fewer than all of the Incremental TCCs associated with a given Expansion that were included in a final award 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. To become Primary Holders, secondary market transferees of Incremental TCCs shall be subject to all existing ISO 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.

6.6 Expansion Treatment

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

Any merchant 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 ISO for those hours in which the merchant Expansion transmission facility is scheduled to be wholly or partially out of service in the Day-Ahead Market (DAM). The ISO 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 merchant 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

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

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 merchant Expanders for transmission facilities that are modeled as in-service in the DAM but are out of service in the Real-Time Market (RTM).

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

7. HISTORIC FIXED PRICED TCCs

LSEs with expiring or terminating ETAs listed in OATT Attachment 18 that conferred transmission rights on an LSE are eligible for Historic Fixed Price TCCs (HFPTCC). See OATT Attachment 18:

http://www.nyiso.com/public/markets_operations/documents/tariffs/index.jsp

Historic Fixed Price TCCs 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 Historic Fixed Price TCC to serve that load. At the time they acquire a HFPTCC, LSEs may choose five or ten year durations, 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 twelve-year duration HFPTCCs as described in OATT Section 19.2.1.1.

Refer to OATT Section 19.2.1 “Converting Transmission Capacity Associated with Expired, Terminated, or Expiring ETAs into Historic Fixed Price TCCs” for details on HFPTCCs.

7.1 Conversion of 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.

As noted in Attachment D (“Current Auction Timelines”), approximately 6 months prior to the start of the the Capability Period in which the ETA expires the NYISO will provide, via email, a HFPTCC Conversion Offer Letter to qualifying LSEs with Existing Transmission Agreements that are due to expire 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. When the term “**Applicable Capability Period**” is used in these procedures it means the Capability Period in which the ETA expires.

To exercise the conversion right, the LSE must use the conversion offer letter to notify the ISO, 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 established by the ISO and noted in Attachment D (“Current Auction Timelines”), and provide a copy to the Transmission Owner regarding the decision.

The ISO will post the following information on the NYISO TCC Data & Information page of the NYISO Website after awarding converted or renewed HFPTCCs:

1. the quantity of TCCs awarded (in MW)
2. the Point of Injection and Point of Withdrawal for each HFPTCC awarded
3. the price paid for each HFPTCC

7.2 Renewal of Historic Fixed Price TCCs

As noted in Attachment D (“Current Auction Timelines”), approximately 6 months prior to the Applicable Capability Period the NYISO will provide, via email, a HFPTCC Renewal Offer Letter to LSEs that have HFPTCCs which 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 notify the ISO, and the Transmission Owner that was (or is) a party to the ETA, in writing, of its decision to renew HFPTCCs. The LSE must provide this notice prior to a deadline that is established by the ISO and noted in Attachment D (“Current Auction Timelines”).

7.3 NYISO Procedure For Converting ETAs Into Historic Fixed Price TCCs

7.3.1 Applicability

The opportunity to convert ETAs to HFPTCCs occurs on a rolling basis approximately 6 months prior to the start of the Applicable Capability Period.

For example, an LSE with an ETA expiring in June 2010 (during the Summer 2010 Capability Period) would refer to these procedures to convert the expiring ETA soon after November 2009.

7.3.2 Directions for Obtaining Historic Fixed Price TCCs

To obtain a HFPTCC for an ETA that will be terminating in the Applicable Capability Period:

- For an LSE that is a NYISO customer and will hold the TCC directly – complete Attachment L-A.
- 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 and have the ETA Agent complete Attachment L-B2. The ETA Agent will be the holder of the HFPTCCs.

7.3.3 Deadline

The deadline for receipt by the NYISO of requests to convert to HFPTCCs ETAs terminating on a date that falls within the Applicable Capability Period is published by the NYISO in Attachment D of this Manual, although the date may be otherwise extended by the NYISO. Requests to convert must be submitted in hard copy (or by fax or email copy, with a hard copy to follow within a reasonable time). 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.

7.3.4 Effective Date for the Historic Fixed Price TCC

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

7.3.5 Payment for Historic Fixed Price TCC

Payment for HFPTCCs (calculated in accordance with Section 19.2.1 of Attachment M of the OATT) to be converted from ETAs terminating on a date that falls within the Applicable Capability Period shall be due and payable as follows:

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

7.3.6 Date by Which Credit Obligations Must be Satisfied

All credit requirements (as described in Section 26, Attachment K of the Market Services Tariff) applicable to HFPTCCs shall be satisfied prior to the effective date of the HFPTCC.

7.3.7 Term

An LSE with an ETA that will terminate during the Applicable Capability Period that is obtaining a HFPTCC to be effective the day after the ETA terminates or the start of the next Capability Period following the ETA's termination shall elect a term of either (i) 5 years, renewable for a second 5-year term, or (ii) 10 years. However, an LSE certifying to the NYISO that: (i) it purchases energy from the New York Power Authority ("NYPA") under agreements that will expire in 2025; (ii) that it has an ETA listed in Table 1A that expires 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 5 years, renewable for a 7-year term. The LSE must designate the renewal term it chooses at the time that the request to convert the ETA to a Fixed Price TCC is submitted. If the term chosen is for ten years, the payment price will be calculated in accordance with Section 19.2.1 of Attachment M of the OATT and be static for 10 years. If the term chosen is 5 years plus a second term, then the payment price will be static for the first 5 years and recalculated for the second term and static for the second term.

7.3.8 Annual Renewal Declarations

LSEs holding HFPTCCs and ETA Agents appointed for the purpose of obtaining HFPTCCs converted from ETAs shall submit annual renewal notifications to the NYISO for such HFPTCCs in accordance with Section 7.4 of this Manual.

7.3.9 Change in ETA Agent to Hold Historic Fixed Price TCC

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

7.4 NYISO Procedure For Annual Renewal Of Historic Fixed Price TCC(s)

7.4.1 Applicability

An LSE holding a HFPTCC that was converted from an ETA must renew its HFPTCC annually to continue not only its entitlement to the TCC for the year but also to entitle it to future renewals of that TCC for the duration of the HFPTCC. This opportunity occurs on a rolling basis. Parties renew approximately 6 months prior to the Applicable Capability Period.

For example, an LSE with a HFPTCC which has an anniversary date in June 2010, would refer to these procedures to renew soon after November 2009.

7.4.2 Directions for Renewing 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. Examples 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 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 and have the ETA Agent complete Attachment M-D2 upon receipt of the renewal letter and forms from the NYISO. The ETA Agent will be the holder of the renewed Fixed Price TCCs.

7.4.3 Deadline

The deadline for receipt by the NYISO of a renewal request for a HFPTCC is published by the NYISO in Attachment D of this Manual, although the date may be otherwise extended by the NYISO. The renewal deadline is approximately 6 months prior to the Applicable Capability Period. Annual renewal declarations must be in hard copy (or by fax or email, with a hard copy to follow within a reasonable time).

7.4.4 Payment for Historic Fixed Price TCC Renewal

Payment (calculated in accordance with Section 19.2.1 of Attachment M of the OATT) for the one-year renewal of a HFPTCC shall be due and payable as follows:

- 25% of the 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 payment shall be due on the payment due date for HFPTCCs 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 renewed HFPTCC becomes effective.

7.4.5 Date by Which Credit Obligations Must be Satisfied

All credit requirements (as described in Section 26, Attachment K of the Market Services Tariff) applicable to HFPTCCs shall be satisfied prior to the effective date of the HFPTCC.

7.4.6 Change in ETA Agent to Hold Historic Fixed Price TCC

In the event an LSE changes its ETA Agent, it must submit documentation substantially in the form of Attachment M-D1 and any other information required by the NYISO. Upon receipt, the NYISO will update its records to reflect the change in ETA Agent.

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8. NON-HISTORIC FIXED PRICED TCCS

Non-Historic Fixed Price TCCs (“NHFPTCCs”) are available to Load Serving Entities from any point on the Transmission system 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. An LSE that renews its NHFPTCC at a MW value that is less than the current MW value of the NHFPTCC it is renewing is limited to the smaller MW for all future renewals of that NHFPTCC.

Refer to OATT Section 19.2.2 “Awards of NHFPTCCs” for additional details on Non-Historic Fixed Price TCCs.

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

8.1.1 LSE Eligibility

Eligible Load Serving Entities (“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 Point of Withdrawal (“POW”) in Load Zone z shall be equal to the following:

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

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 MWs 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

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. 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 and Agents will complete Attachment J-B2. Instructions for becoming a NYISO customer may be found at <https://nyiso.wufoo.com/forms/nyiso-direct-customer-registration/>.

LSEs or Agents indicate their purchase (“nomination”) of NHFPTCCs in the TCC Automated Market System (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. Unless the submitted information has changed or unless directed by the NYISO, previously submitted Agreements remain valid. This document is available in Attachment I of this Manual.

8.1.3 Notification of Intent to Purchase 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.
- 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 and have the Agent complete Attachment J-B2. 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 size 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 Section 8.1.1.

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 the TCC Manual, although the date may be otherwise extended by the NYISO. This Notification document may be submitted by fax or email, and must be followed by a hard copy original within a reasonable time. 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 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 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 as follows:

- Payment due on date listed in TCC Manual Attachment D calendar
- Subject to terms in Binding Agreement to Purchase NHFPTCCs document, Attachment I of the TCC Manual

8.1.6 Date by Which Credit Obligations Must be Satisfied

All credit requirements (as described in Section 26, Attachment K of the Market Services Tariff) applicable to NHFPTCCs commencing at the start of the Capability Period shall be satisfied on or before the date for nominations set forth in Attachment D of the this Manual, unless such date is otherwise extended by the NYISO.

8.1.7 Term

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 10 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

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 Point of Withdrawal), will continue for future renewals of that NHFPTCC.

8.1.9 Change in Agent to Hold Non-Historic Fixed Price TCC

In the event an LSE changes its Agent, it must submit documentation substantially in the form of Attachment J-B1 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 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 and NYISO OASIS.
- POI_p** = The Nodal Price from the designated two year round for the Point of Injection chosen, as displayed in the TCC AMS and NYISO OASIS.

The purchase price will be no lower than zero.

8.1.11 Process Order of Operations

- NYISO publishes auction calendar Attachment D of the 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 J-A1 or J-B1; Agents submit J-B2 by calendar deadline (Attachment J, TCC 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, TCC Manual) by calendar deadline
- NYISO provides the Nodal Prices for the purpose of NHFPTCC purchases and posts in TCC AMS by calendar deadline
- LSE or Agent nominates NHFPTCC in TCC AMS by calendar deadline
- NYISO posts NHFPTCC awards by calendar deadline
- Payment due by calendar deadline

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 NYISO 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 3.3.3, 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

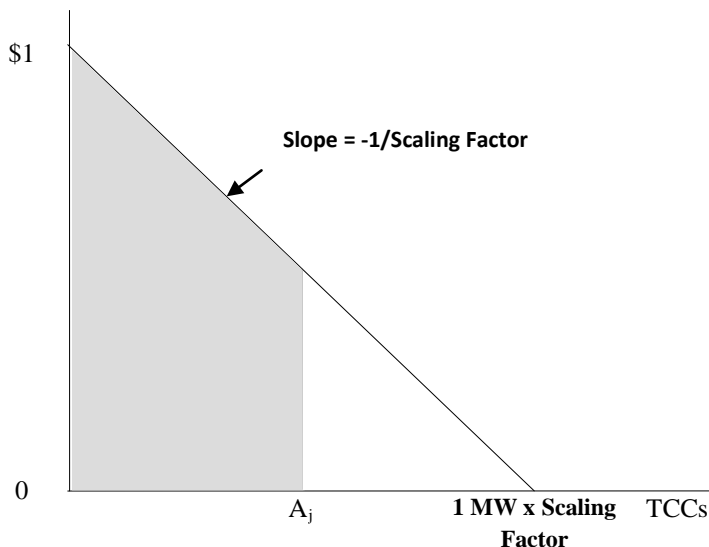
j = Any individual nominated NHFPTCC

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 8-1 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

Eligible Load Serving Entities (“LSEs”) may use this procedure to renew NHFPTCCs.

The maximum number of NHFPTCCs that an LSE is eligible to renew with a Point of Withdrawal (“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 MWs 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 allocated.

8.3.2 Applicability

Load Serving Entities (“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 procedure, during this registration process.

The LSE must be a NYISO customer to use Attachment K-A. 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 K-B1 of this registration and Agents will complete Attachment K-B2 of this registration process.

LSEs or Agents indicate their renewal (“nomination”) of NHFPTCCs in the TCC Automated Market System (AMS) after prices have become available. Renewal 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 NHFPTCCs. Unless the submitted information has changed or unless directed by the NYISO, previously submitted Agreements for purchases remain valid for renewals. This document is available in Attachment I of the this Manual.

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

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.
- 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 and have the Agent complete Attachment K-B-2. 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 using the formula in 8.1.1. 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 the TCC Manual, although the date may be otherwise extended by the NYISO. This Notification document may be submitted by fax or email copy, and must be followed by a hard copy original within a reasonable time. 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 as follows:

- Payment due on date listed in TCC Manual Attachment D calendar
- Subject to terms in Binding Agreement to Purchase NHFPTCCs document, Attachment I of this Manual

8.3.6 Date by Which Credit Obligations Must be Satisfied

All credit requirements (as described in Section 26, Attachment K of the Market Services Tariff) applicable to the renewal of NHFPTCCs commencing at the start of the Capability Period shall be satisfied on or before the date for nominations set forth in Attachment D of the NYISO TCC Manual, unless such date is otherwise extended by the NYISO.

8.3.7 Term

An LSE may renew a NHFPTCC annually in one year terms for a total duration of no more than 10 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

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 Point of Withdrawal), will continue for future renewals of that NHFPTCC.

8.3.9 Change in Agent to Hold Non-Historic Fixed Price TCC

In the event an LSE changes its Agent, it must submit documentation substantially in the form of Attachment K-B1 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 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 and NYISO OASIS.

POI_A = The Nodal Price from the designated one year round for the Point of Injection from the initial purchase, as displayed in the TCC AMS and NYISO OASIS.

The purchase price will be no lower than zero.

8.3.11 Process Order of Operations

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