NEW YORK INDEPENDENT SYSTEM OPERATOR

# TRANSMISSION SERVICES MANUAL

## REDLINE

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# Transmission Services Manual

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| **2.0** | | **Summary of Changes**<br><br>**All Sections**<br>▪ Document Format Change<br>▪ Replaced all instances of ISO with NYISO w/exception to the Forms in the Appendices<br>▪ Replaced all instances of Exhibits w/Figures and Tables, respectively.<br>▪ Updated acronym usage.<br>▪ Spelling, grammar, and syntax changes.<br><br>Changed all instances of SCD to RTD all instances of BME to RTC, and all instances of Hour-Ahead Market to RTS or Real-Time.<br><br>**Tech Bulletins Merged:**<br>o 20, Decremental Bids for Import and Wheel-Through Transactions, (Create new Sec 7.1.9)<br>o 21, Grandfathered Transmission Rights Transactions in the MIS, (Create new Sec 6.3.4)<br>o 27, NERC Electronic Tagging under NYISO Operation, (Add to Section 7.3)<br>o 38, Transmission Service Charge Development & Updating, (Add to Sec 4.2.4)<br>o 39, Using Distribution Factor Tables to Estimate Transmission Charges, (Add to Sec 4.2.4)<br>o 57, Unbundling Transmission Congestion Contracts, (Create new Section 5.2.8)<br>o 66, Calculation and posting of ATC and TTC, as applied to the New York Control Area (NYCA) (Merged w/ Sections 7.4.1, 7.4.2, 7.4.3, & 7.4.4)<br>o 84, Discounting of on & off-peak external Transmission Service Charge (TSC) rates<br>o 89, Prescheduling of transactions for external LBMP or bilateral wheel- throughs. (Create new Sec 7.1.10)<br>o 90, Submitting and managing preschedule requests (Merged into MPUG)<br><br>**By Section and Attachment**<br>1 Overview- No Changes<br><br>2. Types of Transmission Service<br>Corrections/revision to Tariff references<br>Minor editorial changes<br><br>3. Eligibility and Communications Requirements<br>Corrections/revision to Tariff references<br>Minor editorial changes<br><br>4. Transmission Service Rates and Charges<br>Corrections/revision to Tariff references<br>Minor editorial changes<br><br>▪ Tech Bulletins Merged:<br>o 38, Transmission Service Charge Development & Updating, (Add to Sec 4.2.4)<br>o 39, Using Distribution Factor Tables to Estimate Transmission Charges, (Add to Sec 4.2.4) |

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|---|---|---|
| | | o 84, Discounting of on & off-peak external Transmission Service Charge (TSC) rates<br><br>5. New language added to 5.0.<br>Deletion of sections 5.1 through 5.4.5.<br><br>▪ Tech Bulletins Merged:<br>o 57, Unbundling Transmission Congestion Contracts, (Create new Section 5.2.8)<br>*Replaced sections related to auction revenue allocation to reflect recent FERC approval of congestion rent shortfall allocation process<br><br>6. Existing Agreements<br>Corrections/revision to Tariff references<br>Minor editorial changes<br><br>▪ Tech Bulletins Merged:<br>o 21, Grandfathered Transmission Rights Transactions in the MIS, (Create new Sec 6.3.4)<br><br>7. Transmission Transactions<br>▪ Corrections/revision to Tariff references<br>▪ Minor editorial changes<br>▪ Tech Bulletins Merged:<br>o 20, Decremental Bids for Import and Wheel-Through Transactions, (Create new Sec 7.1.9)<br>o 27, NERC Electronic Tagging under NYISO Operation, (Add to Section 7.3)<br>o 66, Calculation and posting of ATC and TTC, as applied to the New York Control Area (NYCA) (Merged w/ Sections 7.4.1, 7.4.2, 7.4.3, & 7.4.4)<br>o 89, Prescheduling of transactions for external LBMP or bilateral wheel throughs. (Create new Sec 7.1.10)<br>o 90, Submitting and managing preschedule requests (Merged into MPUG)<br><br>~~Attachment~~Appendix A: Sub-Zone Boundary Definitions-Unchanged<br>Appendix~~Attachment~~ B: Service Agreements for Transmission Service-Unchanged<br>Appendix~~Attachment~~ C: Wholesale TSC Information-Unchanged<br>Appendix~~Attachment~~ D: Deleted.<br>Appendix~~Attachment~~ E: Deleted. |
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| **1.0** | **9/2/99** | **Initial Release** |

# 1. Overview

## References

~~NYISO~~New York Independent System Operator/Transmission Owner ~~/~~(NYISO/ TO)
AGREEMENT- Appendices A-1 and A-2

This section describes the New York State (NYS) Transmission System and the facilities under NYISO jurisdiction.

## 1.1. New York State Transmission System

The NYS Transmission System serves 48,000 square miles of NYS.~~New York State~~. The backbone of the system operates at 345 kV. The NYS Transmission System includes:

- Transmission Facilities Under NYISO Operational Control
- Transmission Facilities Requiring NYISO Notification
- All remaining transmission facilities within the New York Control Area (New York Control Area).

Figure1.1-1 shows the 765, 345, and 230 kV backbone of the NYS Transmission System and its interfaces to neighboring power systems.

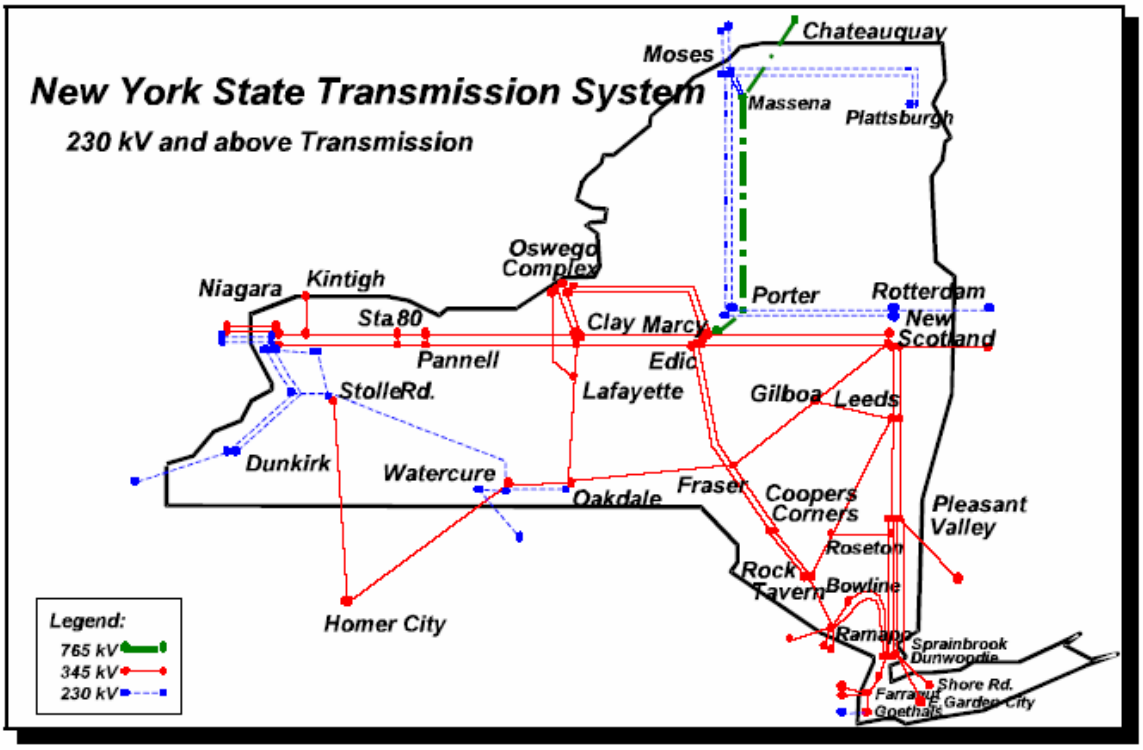



**Figure1.1-1: NYS Transmission System - Backbone**

It is important to emphasize that service on all transmission facilities in the State of New York will be made available through the NYISO, regardless of whether the facilities are under NYISO Operational Control or require notification of the NYISO. Under the NYISO Tariff, non-discriminatory access will be provided to all transmission facilities. If a Market Participant believes that non-discriminatory access is not being provided to a facility, it can pursue relief through the NYISO, the market monitoring function, or directly at the Federal Energy Regulatory Commission (FERC).

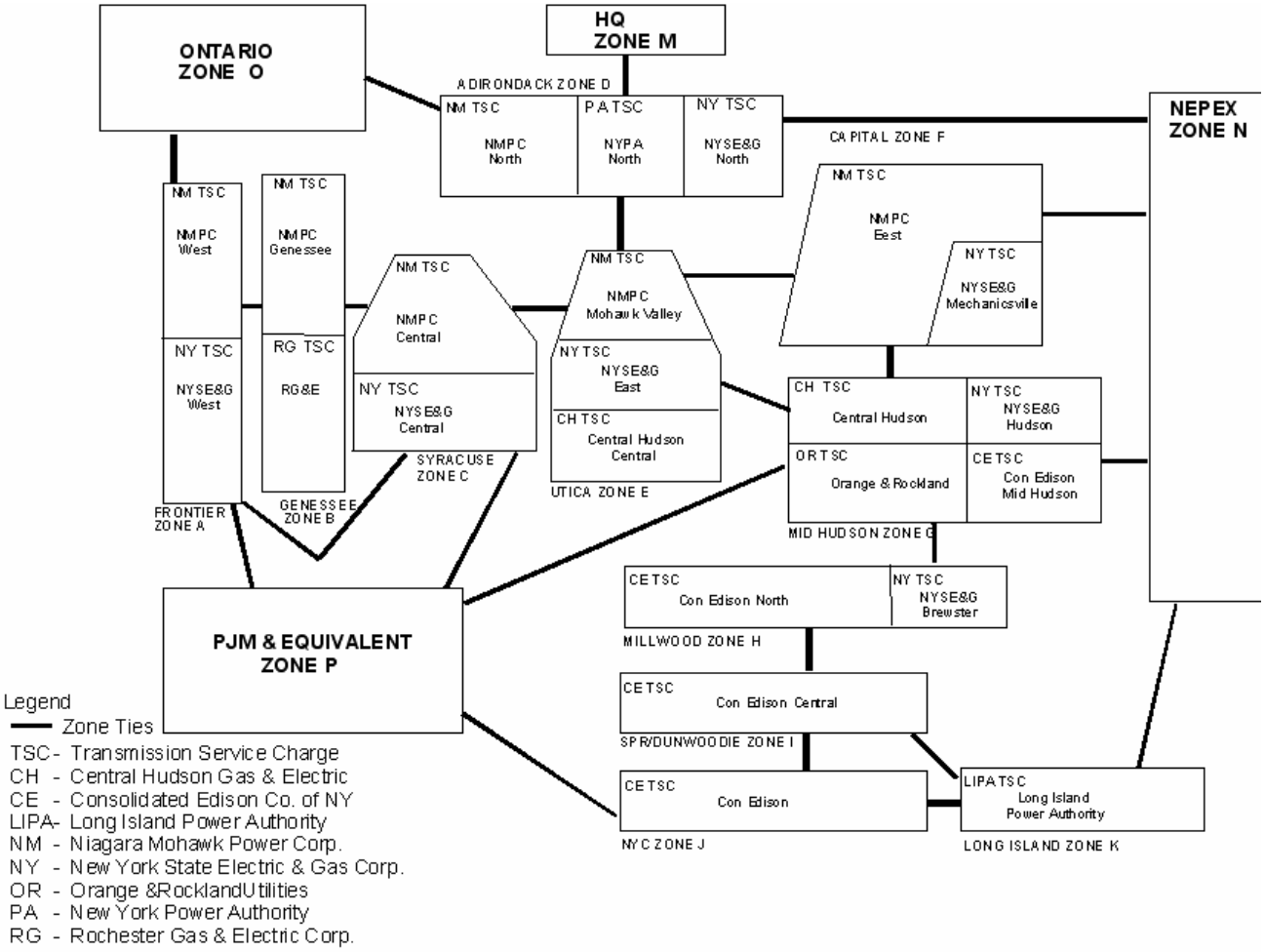



**Figure 1.1-2: Transmission Service Areas**

### 1.1.1. Transmission Service Areas

Twenty-three (23) transmission service areas (sub-zones) contained within eleven (11) zones internal to the NYCA, and four (4) zones external to the NYCA are used for accounting purposes under Locational Based Marginal Pricing (LBMP). The diagram in Figure 1.1-2 shows the internal sub-zones and their aggregation into zones A through K

from western New York to eastern and southeastern New York. The four external zones are labeled M through P. The bold solid lines, connecting the zones may represent multiple transmission facilities.

The zonal boundaries are drawn along transmission system interfaces that typically have power transfer limits. The boundaries (interfaces) with limits may have congestion. The zonal boundaries also run along borders of ~~transmission owners'~~TOs' interconnections. Sub-zone boundaries are drawn along transmission owners' borders within a zone. Each sub-zone is wholly contained within a zone.

~~**Attachment**~~ **Appendix** A in this manual provides a list of the transmission facilities on the boundary of each of the internal sub-zones. ~~Also, t~~This ~~exhibit~~ figure provides the zone in which each sub-zone is located.

## 1.2. NYISO Operational Control & Notification

The ~~ISO~~ NYISO will direct the operation of the Transmission Facilities Under ~~ISO~~ NYISO Operational Control to maintain these facilities in a reliable state, as defined by the Reliability Rules. The NYISO does not operate the entire transmission system in the state of New York. In general, the NYISO has operational control over key transmission facilities (defined as "Transmission Facilities under ~~ISO~~ NYISO Operational Control") and must be notified of any change in status for facilities denoted "Transmission Facilities Requiring NYISO Notification~~".~~." For a description of the notification process, refer to the ***NYISO Manual for Outage Scheduling***. The ~~ISO~~ NYISO shall approve operational decisions concerning these facilities, made by each Transmission Owner before the ~~Transmission Owner~~TO implements those decisions. In accordance with ~~ISO~~ NYISO Procedures, the ~~ISO~~ NYISO shall direct each ~~Transmission Owner~~ TO to take certain actions to restore the system to the Normal State. Operational Control includes ~~security~~ security-monitoring, adjustment of generation and transmission resources, coordination, and approval of changes in transmission status for maintenance, determination of changes in transmission status for reliability, coordination with other Control Areas, voltage reductions, and Load Shedding. Each ~~Transmission Owner~~TO continues to physically operate and maintain its facilities.

The transmission facilities of the ~~Transmission Owners~~TOs listed in Appendix A-1 of the ~~ISO/~~NYISO/ TO Agreement, "Listing of Transmission Facilities Under ~~ISO~~ NYISO Operational Control~~",~~," are subject to the Operational Control of the NYISO. This listing may be amended from time-to-time as specified in the ~~ISO/~~NYISO/TO Agreement.

The transmission facilities of the ~~Transmission Owners~~TOs listed in Appendix A-2 of the ~~ISO/~~NYISO/TO Agreement, "Listing of Transmission Facilities Requiring ~~ISO~~ NYISO Notification," whose status of operation must be provided to the ~~ISO~~ NYISO by the TOs~~Transmission Owners~~ prior to the TOs~~Transmission Owners~~ making operational changes to the state of these facilities. This listing may be amended from time-to-time as specified in the ~~ISO/~~NYISO/TO Agreement.

# 2. Types of Transmission Service

## References

NYISO Open Access Transmission Tariff (OATT), Volume 1, ~~Appendix~~~~Appendix~~Attachments A & B

NYISO Open Access Transmission Tariff (OATT), Volume 2, Section II and Section III

This section describes the types of transmission service available through the NYISO OATT. All customers will pay a charge to cover the embedded cost of the transmission system in the state (generally a Transmission Service Charge (TSC), except for customers operating under grandfathered pre-existing wholesale transmission agreements). Customers may pay congestion charges reflecting the marginal economic cost of their specific transaction. Customers scheduling bilateral transactions will pay congestion costs through a Transmission Usage Charge (TUC). Customers buying in the centralized energy market will pay a congestion charge as part of the applicable energy price at their location Locational Based Marginal Pricing (LBMP).

## 2.1. Point-to-Point Transmission Service

The ~~ISO~~ NYISO will provide Firm and Non-Firm Point-To-Point Transmission Service pursuant to the applicable terms and conditions of the NYISO OATT over the transmission facilities of the parties to the ~~ISO/~~NYISO/Transmission Owner (TO) Agreement. Point-To-Point Transmission Service is for the receipt of Capacity and Energy at designated Point(s) of Receipt and the transmission of such Capacity and Energy to designated Point(s) of Delivery.

Firm Point-To-Point Transmission Service is service for which the Transmission Customer has agreed to pay the Congestion Rent associated with its service. Non-Firm Point-To-Point Transmission Service is service for which the Transmission Customer has not agreed to pay Congestion Rent. A Transmission Customer may fix the price of Congestion Rent associated with its Firm Point-To-Point Transmission Service by acquiring sufficient Transmission Congestion Charges ~~TCCs~~ with the same Points of Receipt and Delivery as its Transmission Service.

### 2.1.1. Firm Point-to-Point Transmission Service

All requests for Firm Point-to-Point Transmission Service will be deemed to have the same reservation priority. Customers that elect to purchase “firm” transmission service for a bilateral transaction commit to pay a TUC ~~which~~that may include congestion charges. Their schedules will not be cut except for system reliability reasons. Firm Point-to-Point Transmission Service will have the same priority as Network Service. All Firm Point-to-Point Transmission Service will have equal priority over Non-Firm Point-to-Point Transmission Service under the OATT.

Schedules for the Transmission Customer's Firm Point-to-Point Transmission Service in Real-Time, must be submitted to the ~~ISO~~ NYISO no later than seventy-five (75)~~ninety (90~~) minutes prior to the dispatch hour. Schedules submitted later than seventy-five (75)~~ninety (90)~~ minutes prior to the dispatch hour shall not be accepted in the Real-Time schedule. Schedules of any Capacity and Energy that is to be delivered must be stated in increments of 1,000 KWh per hour. The ~~ISO~~ NYISO will furnish to the Delivering Party's system operator, if applicable, hour-to-hour schedules equal to those furnished by the Receiving Party and shall deliver the Capacity and Energy provided by such schedules. Should the Transmission Customer, Delivering Party, or Receiving Party revise or terminate any schedule, such party shall notify the ~~ISO~~ NYISO prior to the close of the Real-Time Market, and the ~~ISO~~ NYISO shall have the right to adjust accordingly the schedule for Capacity and Energy to be received and to be delivered.

The Transmission Customer taking Firm Point-To-Point Transmission Service may change its Receipt and Delivery Points to obtain service on a non-firm basis or request a modification of the Points of Receipt or Delivery on a firm basis. The Transmission Customer may purchase Transmission Service to make sales of Capacity and Energy from multiple generating units that are on the NYS Transmission System. For such a purchase of Transmission Service, the resources will be designated as multiple Points of Receipt, unless the multiple generating units are at the same generating plant, in which case the units would be treated as a single Point of Receipt. The ~~ISO~~ NYISO shall provide firm deliveries of Capacity and Energy from the Point(s) of Receipt to the Point(s) of Delivery. Each Point of Receipt shall be set forth in the Firm Point-To-Point Service schedule submitted by the Transmission Customer.

Transmission Customers taking Firm Point-To-Point ~~Transmission Customers~~ service are charged re-dispatch costs in accordance with Attachment J of the NYISO ~~Tariff~~OATT and Attachment B of the NYISO Services Tariff. In the event ~~of~~ that a Curtailment on the NYS Transmission System, or a portion thereof, is required to maintain reliable operation of such system, Curtailments will be made on a non-discriminatory basis to the Transaction(s) that effectively relieve the Constraint. If multiple transactions require Curtailment, to the extent practicable and consistent with Good Utility Practice, the ~~ISO~~ NYISO will ~~proportionately~~ allocate the Curtailment proportionately among Network Customers and Transmission Customers taking Firm ~~ISO~~ NYISO ~~Open Access Transmission Tariff~~ Point-To-Point Transmission Service. All Curtailments will be made on a non-discriminatory basis~~,,~~; however, Non-Firm Point-To-Point Transmission Service shall be subordinate to Firm Transmission Service.

### 2.1.2. Non-Firm Point-to-Point Transmission Service

Non-Firm Point-to-Point Transmission Service shall be available when there is no Congestion between the Point(s) of Receipt and the Point(s) of Delivery for the Transaction. In all instances, Non-Firm Point-to-Point Transmission Service shall have a

lower priority than Firm Point-to-Point Transmission Service and Network Service. Non-Firm Point-to-Point Transmission Service shall have an equal priority with Network Service from a secondary resource.

If a non-firm transaction is scheduled and congestion appears later, the transmission service will be reduced or terminated. In that case, the generator's decremental bid will be automatically considered as a bid in the real-time market unless the generator indicates otherwise. The load, if it is located in-state, will ~~either~~ be supplied either from the LBMP market or voluntarily curtailed ~~on the basis of~~based on a price-sensitive load bid. If the load is located ~~out-of-state~~out-of-state, (i.e., if the non-firm transaction is a Wheels-Through or Export transaction) it will be responsible for its own alternative supply arrangements.

A customer requesting non-firm Transmission Service that cannot be accommodated in the Day-Ahead Schedule because of Congestion may upgrade to Firm Point-to-Point Transmission Service up to seventy-five (75)~~ninety (90)~~ minutes prior to a given hour by rescheduling the Transaction and agreeing to pay the Congestion Rents associated with the Transaction.

Parties requesting Non-Firm Point-To-Point Transmission Service for the transmission of firm power do so with the full realization that such service is subject to availability and to Curtailment or Interruption. The ~~ISO~~ NYISO shall specify the rate treatment and all related terms and conditions applicable in the event that a Transmission Customer (including Third-Party Sales by the TO~~Transmission Owner~~) exceeds its non-firm capacity reservation. Non-Firm Point-To-Point Transmission Service shall include transmission of Energy and Capacity on an hourly and daily basis under Schedule 8 of the NYISO OATT.

The ~~ISO~~ NYISO reserves the right to Curtail, in whole or in part, Non-Firm Point-To-Point Transmission Service for reliability reasons when, an Emergency or other unforeseen condition threatens to impair or degrade the reliability of the NYS Transmission System. The ~~ISO~~ NYISO reserves the right to Interrupt, in whole or in part, Non-Firm Point-To-Point Transmission Service for economic reasons if the NYS Transmission System experiences Congestion. Where required, Curtailments, or Interruptions will be made on a non-discriminatory basis to the transaction(s) that effectively relieve the Constraint~~,~~; however, Non-Firm Point-To-Point Transmission Service shall be subordinate to Firm Point-to-Point Transmission Service and Network Integration Transmission Service. The ~~ISO~~ NYISO will provide advance notice of Curtailment or Interruption where such notice can be provided consistent with Good Utility Practice. The process of Curtailment of Non-Firm Point-To-Point Transmission Service for Imports, Exports, and ~~Wheels~~ Wheel-Throughs may cause these non-firm transactions to incur incidental Congestion charges due to inter-Control Area Curtailment procedures.

### 2.1.3. Availability of Service

The ~~ISO~~ NYISO will provide Firm and Non-Firm Point-To-Point Transmission Service over the transmission facilities of the parties to the ~~ISO/~~NYISO/TO Agreement, to any Transmission Customer that has met the requirements and conditions specified in Section II.16 of the NYISO ~~Tariff.~~ OATT.

The ~~ISO~~ NYISO shall offer a standard form Firm or Non-Firm Point-To-Point Transmission Service Agreement to an Eligible Customer when the customer first submits a Completed Application for Firm or Non-Firm Point-To-Point Transmission Service, respectively. Executed Service Agreements that contain the information required shall be filed with the Federal Energy Regulatory Commission (FERC) in compliance with applicable FERC regulations.

The minimum term for all Point-To-Point Transmission Service shall be one (1) hour and the maximum term shall be specified in the respective Service Agreement. Schedules for all of the Transmission Customer's Point-to-Point Transmission Service in the Day-Ahead market must be submitted to the ~~ISO~~ NYISO no later than 5:00 a.m. of the day prior to ~~{the Dispatch Day?}~~ commencement of service. Schedules submitted after 5:00 a.m. will not be accepted in the Day-Ahead Schedule. Schedules of any Capacity and Energy that is to be delivered must be stated in increments of 1,000 kWh per hour between each Point of Receipt and corresponding Point of Delivery. Each Transmission Customer within the NYCA with multiple requests for Transmission Service at a Point of Receipt, each of which is under 1,000 kWh per hour, may consolidate its service requests (schedules) at a common Point of Receipt into units of 1,000 kWh per hour. The ~~ISO~~ NYISO will furnish to the Delivering Party's system operator, hour-to-hour advisory schedules equal to those furnished by the Receiving Party. Should the Transmission Customer, Delivering Party, or Receiving Party revise or terminate any schedule, such party shall notify the ~~ISO~~ NYISO prior to the close or the Real-Time Market, and the ~~ISO~~ NYISO shall have the right to adjust accordingly the schedule for Capacity and Energy to be received and delivered.

Schedules for all of the Transmission Customer's Point-to-Point Transmission Service in real-time must be submitted to the ~~ISO~~ NYISO no later than seventy-five (75)~~ninety (90)~~ minutes prior to the (dispatch) hour. Schedules submitted later than seventy-five (75)~~ninety (90)~~ minutes prior to the dispatch hour shall not be accepted in the real-time schedule. Schedules of any Capacity and Energy that is to be delivered must be stated in increments of 1,000 KWh per hour. The ~~ISO~~ NYISO will furnish to the Delivering Party's system operator, if applicable, hour-to-hour schedules equal to those furnished by the Receiving Party and shall deliver the Capacity and Energy provided by such schedules. Should the Transmission Customer, Delivering Party, or Receiving Party revise or terminate any schedule, such party shall immediately notify the ~~ISO~~ NYISO prior to the close of the Real-Time Market, and the ~~ISO~~ NYISO shall have the right to adjust accordingly the schedule for Capacity and Energy to be received and be delivered.

The ~~ISO~~ NYISO continuously redispatches all resources subject to its control ~~in order~~ to meet Load and to accommodate requests for Firm Transmission Service ~~through the use of~~by using SCUC and ~~SCD~~RTD. The ~~ISO~~ NYISO will post information regarding transmission transfer capability availability on the Market Information System. ~~{OASIS.???}~~

## 2.2. Network Integration Transmission Service

The ~~ISO~~ NYISO will provide Firm Transmission Service over the NYS Transmission System to the Network Customer for the delivery of Energy from its designated Network Resources to serve its Network Loads on a basis that is comparable to ~~the~~a ~~Transmission Owner's~~ TO's use of the NYS Transmission System to reliably serve its Native Load Customers. The Network Customer may use the NYS Transmission System to deliver Energy to its Network Loads from resources that have not been designated as Network Resources. Such Energy shall be transmitted, on an as-available basis (i.e., when there is no Congestion between the non-Network Resource and the Network Load), at no additional charge.

### 2.2.1. Nature of Network Service

Network Integration Transmission Service is a Transmission Service that allows Network Customers to efficiently and economically utilize Network Resources (as well as other non-designated generation resources) to serve their Network Load located in the NYCA and any additional Load that may be designated. The Network Customer taking Network Integration Transmission Service must obtain or provide Ancillary Services.

Network Integration Transmission Service will be provided when the Network Customer agrees to pay the Congestion Rent associated with its requested service. The Network Customer may fix the price of its Network Integration Transmission Service by purchasing TCCs corresponding with designated Network Resources and its Network Load. Network Integration Transmission Service allows the Network Customer to integrate, economically dispatch, and regulate its current and planned Network Resources to serve its Network Load in a manner comparable to that in which the individual ~~Transmission Owner~~ TO utilizes their respective transmission system~~s~~ to serve their Native Load Customers. Network Integration Transmission Service also may be used by the Network Customer to deliver economy Energy purchases to its Network Load from non-designated resources on an as-available basis (i.e., when there is no Congestion) without additional charge.

### 2.2.2. Availability of Network Service

The ~~ISO~~ NYISO will provide Network Integration Transmission Service to any Eligible Customer, provided ~~that~~ the Eligible Customer completes the following:

- ~~an~~An ~~a~~Application for service.

- ~~complete the appropriate~~Appropriate technical arrangements with the ~~ISO~~ NYISO and ~~the~~ TOs~~Transmission Owner(s).~~
- ~~executes~~Executes a Service Agreement or requests in writing that the ~~ISO~~ NYISO file a proposed unexecuted Service Agreement with the Commission.
- ~~executes~~Executes a Network Operating Agreement with the NYISO.

An Eligible Customer requesting service must submit an Application to the ~~ISO~~ NYISO as far in advance as possible ~~in advance of~~for the month in which service is to commence. Applications should be submitted by entering required information on the NYISO's Market Information System ~~(OASIS)~~.

# 3. Eligibility & Communications ~~Requirements~~

## References

NYISO Open Access Transmission Tariff (OATT) - Volume ~~2, Section 7~~1, Section11.0

NYISO Market Administration and Control Area Services Tariff (Services Tariff) - Volume 2, Sections 4.~~9~~5 & 5.8

This section describes the eligibility and communications requirements for Market Participants.

## 3.1. Eligibility for NYISO Service~~s~~

To submit schedules for Transmission Service and Ancillary Services, purchase Transmission Congestion Contracts (TCCs) in the Centralized TCC Auction as described in ~~Section~~ section 5 of this manual, or in some cases purchase TCCs in a Direct Sale or purchase, or supply Ancillary Services, or Energy in the LBMP Market, Eligible Customers must satisfy the requirements described below which deal with:

- Eligible Customers
- Suppliers and Transmission Customers
- Load Serving Entities (LSEs)

### 3.1.1. Eligible Customers

#### Definition: Eligible Customer

An Eligible Customer is any electric utility (including a Transmission Owner (TO) and any power marketer), Federal power marketing agency, or any person generating Energy for sale or resale. Such entity is eligible only if the service is provided pursuant to a state requirement that the ~~Transmission Owner~~TO offer the unbundled transmission service~~,~~ or pursuant to a voluntary offer of such service by the ~~Transmission Owner~~TO. Any retail customer taking unbundled transmission service pursuant to a state requirement that the ~~Transmission Owner~~TO offer the transmission service, or pursuant to a voluntary offer of such service by the ~~Transmission Owner~~TO, is an Eligible Customer.

***Creditworthiness~~:~~***

The ~~ISO~~ NYISO requires reasonable credit review procedures to determine the ability of the Transmission Customer to meet its obligations related to transmission service. This review shall be made in accordance with ~~standard commercial practices. In addition,~~ the ~~ISO~~ NYISO ~~may require the Transmission Customer to provide provide~~creditworthiness requirements established by the NYISO pursuant to Attachment W of the OATT and

~~maintain in effect during the termterm~~Attachment K of the ~~Service Agreement, an unconditional and irrevocable letter of credit as security to meet its responsibilities and obligations. An alternative form of security may be proposed by the~~ Services Tariff.

***Reciprocity:***

An Eligible Customer agrees to provide transmission service on its facilities used for the transmission of Energy in interstate commerce or between a state and another country. This reciprocity requirement applies not only to the Eligible Customer that obtains service under the NYISO OATT, but also to all parties to a transaction that involves the use of Transmission Service under the NYISO OATT, including power sellers, buyers and any intermediaries, such as power marketers.

***Minimum Technical Requirements:***

An Eligible Customer must demonstrate that it is capable of performing all functions required by the NYISO OATT including operational communications, financial, and settlement requirements.

### ~~3.1.2.~~ Suppliers and Transmission ~~Customer Any alternative form of security must be acceptable to the ISO~~ NYISO ~~and consistent with commercial practices established by the Uniform Commercial Code that protects the ISO against the risk of non-payment.~~

### ~~3.1.3.~~

### 3.1.2. ~~All Eligible~~ Customers ~~must satisfy the following requirements prior to scheduling or settling (transacting) with the NYISO.~~

~~Compliance with reasonable credit review procedures in accordance with standard commercial practices.~~

~~Provide and maintain in effect during the term of the Service Agreement, an unconditional and irrevocable letter of credit.~~

~~Each Eligible Customer will be considered creditworthy if any of the following apply:~~

~~Its long-term unsecured debt securities are, and remain, adequately rated a minimum of BBB or Baa2 by Standards & Poor's or Moody's, respectively.~~

~~It either prepays for service or provides an irrevocable standby letter of credit issued by a domestic or Canadian bank with a minimum A (Standard & Poor's or Dominion), or A2 (Moody's) long-term unsecured debt rating, for an amount equal to the estimated sum of charges pursuant to~~ In addition to Section 7 ~~for the highest three (3) individual months over rolling twelve-month periods.~~

~~It has a qualified long-term payment history with the ISO or an individual Transmission Owner.~~

~~The Transmission Customer's parent company guarantees responsibility for all financial obligations. The parent company must conform to the minimum ratings specified above.~~

~~Any service hereunder may be terminated on sixty (60) days prior notice by the ISO prior to, or any time after, the commencement of the service if the Transmission Customer fails to, or can no longer, demonstrate its creditworthiness. Each Transmission Customer is responsible for providing the information specified in this Section.~~

~~Reciprocity~~

~~An Eligible Customer agrees to provide transmission service on its facilities used for the transmission of Energy in interstate commerce or between a state and another country. This reciprocity requirement applies not only to the Eligible Customer that obtains service under the NYISO Tariff, but also to all parties to a transaction that involves the use of Transmission Service under the NYISO Tariff, including power sellers, buyers and any intermediaries, such as power marketers.~~

~~Minimum Technical Requirements~~

~~An Eligible Customer must demonstrate that it is capable of performing all functions required by the NYISO Tariff including operational communications, financial, and settlement requirements.~~

~~Suppliers & Transmission Customers~~

~~In addition to Section 2.1.1,~~ In addition to section 3.1.1 above, Suppliers and Transmission Customers must also ~~must~~ satisfy the communication requirements of ~~S~~section ~~2.2,~~ 3.2 below and the metering requirements of NYISO Services Tariff prior to transacting with the NYISO.

### 3.1.3. Load Serving Entities

In addition to ~~S~~sections ~~2.1.1,~~ 3.1.1 and ~~2.1.2,~~ 3.1.2 above, each LSE also must satisfy the following requirements prior to transacting with the NYISO:

- All requirements and conditions contained within the retail access plan filed with the New York State (NYS) Public Service Commission (PSC) by the ~~Transmission Owner~~TO in whose service territory the LSE's Load is located to the extent the LSE is participating in a retail access program
- All ~~New York State~~ NYS application and license requirements, and any other authorization required by ~~New York State~~NYS to serve retail Load, and
- The LSE must be:

- o %Aggregating or serving Load that is of an amount greater than or equal to one megawatt-hour in each hour as measured between a single Point of Injection and a single Point of Withdrawal, or
- o %makingMaking purchases from the Locational Based Marginal Pricing (LBMP) Market at a single bus of an amount greater than or equal to one megawatt-hour in each hour.

## 3.2. Communications Requirements

There are two distinct classes of communications requirements recognized in the NYISO Services Tariff:

- Communication and Metering Requirements for Operation and Reliability (Control Area Services), and
- Communication Requirements for Market Participation. Services.

### 3.2.1. Communication & and Metering Requirements for Operation & and Reliability

The NYISO will arrange for and maintain reliable communications and metering facilities between the NYISO and the Transmission OwnersTOs in the NYCA and the Control Area Operators of all neighboring interconnected Control Areas. Such facilities may consist of data circuits, voice lines, metering (at the NYCA end of a facility), and other facilities deemed necessary by the NYISO to maintain reliable communication links for the sole purpose of transmitting operations and reliability data and instructions. The NYISO is responsible for the specification, installation, and maintenance of the required facilities. Refer to the ***NYISO*** Manual for ***Control Center Requirements Manual*** for details and procedures.

The total cost of communications facilities between the NYISO and the SecuritySecurityReliability Coordinators of neighboring Control Areas is shared between the two parties and the total cost of the communications facilities between the NYISO and the TOsTransmission Owners and the portion of the cost of Inter-Control Area Communication facilities attributable to the NYISO is collected from all Eligible Customers as a portion of the Scheduling, System Control, and Dispatch Ancillary Services charge (NYISO Tariff –OATT - Rate Schedule 1) as described in the ***NYISO*** Manual for ***Ancillary Services Manual***. Transmission Owners with communications requirements, which exceed those required by the NYISO, must procure and maintain such additional facilities at their own expense.

Generators, Suppliers, and Loads are required to exchange certain operations and reliability data with the NYISO in accordance with applicable NYISO operating and reliability

requirements, and in conjunction with any requirements for interconnection with the TO~~Transmission Owner~~.

In addition, Suppliers wishing to participate in ~~Real-Time Dispatch~~real-time dispatch or in the ~~Regulation Market~~Regulation Service must make provision to receive command and control information from the NYISO. Those Generators or Suppliers currently providing this capability via a TO,~~Transmission Owner~~ may continue to do so. Those requiring installation of this capability must contract with the interconnected TO~~Transmission Owner~~ to obtain service and must comply with applicable TO~~Transmission Owner~~ data and other technical requirements.

Suppliers with multiple units at a single location must maintain a consistent representation of the plant with the NYISO with respect to aggregation of units for purposes of bidding. If an aggregate Bid is to be provided for a group of units and those units are participating in Real-Time dispatch or regulation, then the NYISO will model those units as a group for purposes of dispatch, control, and security modeling. The NYISO will provide a single aggregate Base Point Signal and unit control error. If, however, the Supplier wishes to dispatch units individually, then it must configure both its bidding and data interfaces accordingly. Each Supplier must initially specify the configuration of the plant for purposes of bidding aggregation and must then maintain bidding and data interfaces consistent with that configuration. Similar modeling, control and bidding constraints apply to an LSE wishing to operate NYISO-dispatchable loads.

### 3.2.2. Communication Requirements for Market Participants

Eligible Customers may access the NYISO's Bid/Post System. Information on that interface is described in the ***NYISO Market Participant User's Guide.***

# 4. Transmission Service Rates ~~&~~and Charges

## References

NYISO Open Access Transmission Tariff (OATT) - Volume ~~2~~1, Sections 3.0, 7B.1, 7B.2, and 7.3A

NYISO Open Access Transmission Tariff (OATT) - Volume ~~2~~1, Attachment H

NYISO Open Access Transmission Tariff (OATT) - Volume ~~2~~1, Schedules 7, 8, and 9

This section describes the transmission service rates and charges.

Refer to the ***NYISO Accounting & Billing Manual*** for a detailed description of the cost calculations.

## 4.1. Transmission Usage Charge

Transmission Usage Charge (TUC) payments are made by the Transmission Customer to cover the cost of Marginal Losses and, during periods of time when the transmission system is ~~Constrained~~constrained, the marginal cost of ~~Congestion~~congestion. The TUC is equal to the product of: (1) the Locational Based Marginal Pricing (LBMP) at the Point of Withdrawal (POW) minus the LBMP at the Point of Injection (POI) (in $/MWh~~);~~ ), and (2) the scheduled or delivered Energy (in MWh). Transmission Customers pay the TUC monthly, based on the aggregate hourly Day-Ahead schedules and Real-Time operation. Charges depend primarily on the amount of energy involved and the LBMPs at the POI~~Points of Injection~~ and the POW~~Points of Withdrawal~~. The following TUC elements are discussed:

- Components of TUC
- Day-Ahead TUC
- Real-Time TUC
- Treatment of Transmission Losses

### 4.1.1. Components of the TUC

The NYISO charges each Transmission Customer, which has a ~~Bilateral Transaction~~ bilateral transaction accepted by the NYISO, a TUC. The TUC is charged and payable monthly. The TUC consists of a Marginal Losses Component and a Congestion Component. It is assessed on an Energy (MWh) basis to all Transmission Customers undertaking ~~Bilateral Transactions~~bilateral transactions, including ~~Transactions~~Transactions transactions to supply Load within the New York Control Area (NYCA), Wheel~~s~~-Through~~s~~, and Exports.

There is an exception. Parties using Grandfathered Rights will not have to pay the Congestion Component of the TUC, but will be assessed charges as specified in ~~Section~~ section 6 of this manual.

The monthly TUC is calculated as the sum of:

- the hourly Day-Ahead TUCs for Bilateral Transactions scheduled Day-Ahead, adjusted for any NYISO directed physical curtailments, and
- the hourly Real-Time TUCs for Bilateral Transactions scheduled ~~Hour-Ahead~~in Real-Time or modifications to Bilateral Transactions scheduled Day-Ahead, adjusted for any NYISO directed physical curtailments.

### 4.1.2. Day-Ahead TUC

The NYISO calculates hourly Day-Ahead TUCs for each hour in the Day-Ahead Market utilizing the hourly Day-Ahead LBMPs that are generated in the Security Constrained Unit Commitment (SCUC). These Day-Ahead TUCs are used to calculate charges for all Bilateral Transaction schedules accepted by the NYISO in the Day-Ahead schedule.

The hourly Day-Ahead TUC is calculated based on the scheduled MWh quantity and the LBMP at the Points of Withdrawal and Injection.

The LBMP at the POW~~Points of Withdrawal~~ and POI~~Points of Injection~~ correspond to the injection and withdrawal locations of the Bilateral Transaction at the time at which the Bilateral Transaction is scheduled to occur.

### 4.1.3. Real-Time TUC

The NYISO calculates Real-Time TUCs for each ~~Security Constrained~~ Real-Time Dispatch (~~SCD~~RTD) interval (e.g., nominally every 5 minutes) utilizing Real-Time LBMPs generated using data produced by the ~~SCD~~RTD and time-weights the values to produce hourly Real-Time TUCs.

The Real-Time LBMPs are used to calculate transmission charges for all new transaction requests or requests for modifications to accepted Day-Ahead schedules, which are accepted and scheduled in the ~~Hour-Ahead~~Real-Time market.

To the extent, the NYISO physically curtails either a Day-Ahead or ~~Hour-Ahead~~ Real-Time transaction, the TUC specific to the scheduling horizon of the transaction will not apply.

### 4.1.4. Treatment of Transmission Marginal Losses

Each Transmission Customer is responsible for Marginal Loss payments under the NYISO Tariff. The Marginal Loss Component to be applied to each MWh of a transaction is either the Day-Ahead or Real-Time Marginal Loss Component of the LBMP. The selection of the LBMP is dependent on the scheduling horizon of the transaction as described above. Marginal losses are calculated as the Marginal Loss Component at the ~~pointpoint~~Point ~~of withdrawalwithdrawal~~Withdrawal~~POW~~ minus the Marginal Loss Component at the ~~pointpoint~~Point ~~of injection~~Injection~~POI~~. For exports and wheels-through the Marginal Loss Components are calculated using a flow-distributed ratio at each of the tie busses over which the transaction flows.

## 4.2. Wholesale Transmission Service Charge

The Transmission Service Charge (TSC) represents a component in the recovery of the total transmission revenue requirements of the Transmission Owner's (TO's) transmission facilities. Each ~~Transmission Owner~~ TO must calculate and modify its TSC monthly, based upon the methodology described in this section of the manual.

Each ~~Transmission Owner~~ TO charges the applicable TSC on all transmission Transactions provided pursuant to the NYISO Tariff, based on the criteria for determining which TSC applies to a particular Transaction. The following topics are covered:

- Applicability to Wholesale Customers
- Wholesale Calculation Process
- Filing & Posting
- Calculation Information
- Retail Access Customers
- NYPA
- Billing
- Discounting

~~Refer to Exhibit 2.2 for additional information.~~

### 4.2.1. Applicability to Wholesale Customers

~~Wholesale Calculation Process~~

~~Filing & Posting~~

~~Calculation Information~~

~~Retail Access Customers~~

~~NYPA~~

~~Billing~~

~~Discounting~~

~~Refer to Exhibit 2.2 for additional information.~~

~~Applicability to Wholesale Customers~~

Each month, each wholesale Transmission Customer must pay to the appropriate TO~~Transmission Owner~~ the applicable Wholesale Transmission Service Charge (Wholesale TSC) calculated in accordance with Attachment H of the NYISO ~~Tariff~~OATT. The TSC applies to the following Transmission Service:

- from one or more Interconnection Points between the NYCA and another Control Area to one or more Interconnection Points between the NYCA and another Control Area (Wheels-Through), or
- from the NYCA to one or more Interconnection Points between the NYCA and another Control Area, including transmission to deliver Energy purchased from the LBMP Market and delivered to such a Control Area Interconnection Point (Exports), or
- to serve Load within the NYCA.

The Wholesale TSC does not apply to:

- a TO~~Transmission Owner~~'s use of its own system to provide bundled retail service to its Native Load Customers pursuant to a retail service tariff on file with the New York State (NYS) Public Service Commission (~~-~~PSC).
- Transmission Service pursuant to an Existing Transmission Agreement whereby the otherwise applicable TSC does not apply as described in ~~Section~~ section 6 of this manual, or
- retail Transmission Service pursuant to any tariff or rate schedule of a TO~~Transmission Owner~~ that explicitly provides for other transmission charges in lieu of the Wholesale TSC, subject to any applicable provisions of the Federal Power Act
- scheduled quantities physically curtailed by the NYISO.

Each ~~Transmission Owner~~TO may file with FERC a separate TSC applicable to retail access in accordance with its retail access program filed with the NYS PSC.

### 4.2.2. Wholesale Calculation Process

Transmission Service Charges ~~(TSCs)~~ are calculated by ~~Transmission Owner~~TOs using embedded cost data and congestion data provided by the NYISO. TSCs are posted on the

Open Access Same-Time Information System (OASIS) monthly. Attachment H of the NYISO ~~TariffTariff~~OATT describes the wholesale calculation process in detail.

~~TSCs~~Transmission Service charges are used to determine the cost of providing transmission service for Wheels Through, Export transactions, and for serving load within the ~~New York Control Area (~~NYCA~~)~~. TSCs are calculated as $/MWh charges and are applied to Actual Energy Withdrawals, except for Wheel~~s --~~Through~~s~~, and Exports in which cases the TSCs are applied to scheduled Energy quantities.

The following equation is used for calculating the wholesale TSC:

WHOLESALE TSC = {(RR÷12) + (CCC÷12) - SR - ECR - CRR - WR}/(BU÷12)

| Equation Variable | Variable Name/Description | Data Provided By |
|---|---|---|
| RR | Annual Transmission Revenue Requirement ($) | TO |
| CCC | Annual Scheduling, System Control and Dispatch Costs of the individual Transmission Owner ($) | TO |
| SR | Sales Revenue from sales of Transmission Congestion Contracts ($) | TO |
| ECR | Excess Congestion Rents (congestion imbalance) ($) | NYISO |
| CRR | Transmission Owner's Congestion Payments received from Grandfathered TCCs and Imputed Revenues from Grandfathered Rights from Existing Transmission Agreements ($) | TO |
| WR | Wheeling Revenue ($) | TO |
| BU | Transmission Owner's Billing Units (annual MWh) for the Transmission District (MWh) | TO |

### 4.2.3. Data Submission Posting

~~Beginning with the implementation of LBMP, the~~ The NYISO will solicit monthly TSC rate information, via email to the TO's designated contact person, on or about the first of the month prior to the month in which the rates will be effective. The NYISO provides the congestion imbalance data to each ~~Transmission Owner~~TO by the 5th business day of each month. The information, expressed as a positive or negative amount in dollars, is provided as part of the electronic billing data.

Transmission Owners are required to submit the updated TSCs, calculated according to the equation in ~~S~~section 4.2.2, to the NYISO by the 14th day of each month. If desired, each ~~Transmission Owner~~TO may also submit external, interface specific, discounted wholesale TSC rates for on and/or off- peak periods. The TSC rate information must be returned to the NYISO, via email to pvenable@NYISO.com, by the close of business on the 14th of the month prior to the month in which the rates will be effective.

The monthly wholesale TSC rates are posted on the NYISO web site at: http://www.nyiso.com/oasis/to_tsc_ntac_rates/dec01.pdf.

Additional files post more specific source-to-sink information:

- TSC Summary File (http://www.nyiso.com/services/documents/b-and-a/tsc/tscsmmry_11_15_01.csv ) displays the monthly on-peak and off-peak TSC rate from specific generators to each external interface.
- TSC Detailed File (http://www.nyiso.com/services/documents/b-and-a/tsc/tscdtail_11_15_01.csv) displays the monthly TSC rate for specific point-of-injection to specific point-of-withdrawl locations for both on-peak and off-peak time periods.
- TSC Calculator (http://mis.nyiso.com/TSCCalc/ ) calculates and displays both the on-peak and off-peak charges for a specific, user entered, point-of injection/point-of-withdrawl combination. (**Note:** The rate displayed on the TSC Calculator is for advisory purposes only. No billing or settlements are based upon the TSC Calculator. The TO is responsible for calculating and billing actual TSC charges~~.~~).

The monthly Wholesale TSCs for each of the Transmission Districts will be posted on the OASIS by the NYISO no later than the 15th of each month to become effective on the first of the next calendar month. The posted TSC rates include both on-peak and off-peak rates for all export and wheel-through ~~point-of-injection (POI)~~ / ~~point-of-withdrawl (POW)~~ combinations.

### 4.2.4. Calculation Information

The Annual Transmission Revenue Requirements (RR); Scheduling, System Control and Dispatch Costs (CCC), Billing Units (BU), and Rates of the Investor-Owned ~~Transmission Owner~~TOs, for the purpose of calculating the respective Transmission District-based Wholesale TSC are given in the NYISO ~~Tariff~~OATT, Attachment H, Wholesale Transmission Service Charge (TSC) for each ~~Transmission Owner~~TO.

### 4.2.5. Retail Access Customers

Customers who apply for unbundled Transmission Service in accordance with the provisions of a ~~Transmission Owner~~TO's retail access program filed with the NYS PSC will be responsible for paying a Retail Access TSC (RTSC). The formulation for this RTSC for retail access Customers may be based on the same FERC approved Revenue Requirements (RR) and Scheduling, System Control and Dispatch Costs (CCC), using NYS PSC approved rate design for retail transmission service or such other rate the ~~Transmission Owner~~TO filed with FERC.

### 4.2.6. New York Power Authority

The NYPA TSC for service to its directly connected Loads (Reynolds Metals, GM-Massena, Town of Massena, and the City of Plattsburgh) will be as given in the NYISO ~~Tariff~~OATT, Attachment H. The NYPA will coordinate with the NYISO to update its TSC, subject to the FERC filings.

### 4.2.7. Billing

Commencing with the implementation of LBMP, wholesale Transmission Customers that are receiving Transmission Service under the NYISO ~~Tariff~~OATT will be billed by the TO ~~Transmission Owner~~s and pay directly to the TO ~~Transmission Owner~~s, on a monthly basis, the applicable Transmission District-based Wholesale TSC as follows:

1. For transmission of electricity delivered by the NYISO:
    - from a point within one Transmission District to a point located within another Transmission District
    - between two points within the same Transmission District, or
    - from a point located outside the NYCA to a point in a Transmission District

The wholesale Transmission Customer pays the product of (1) the Wholesale TSC for the Transmission District in which such Transmission Customer's Load is located (where the transmitted electricity is ultimately delivered) and (2) its Actual Energy Withdrawal for the month.

2. For transmission of electricity delivered by the NYISO from one or more points within the NYCA to one or more Interconnection Points between the NYCA and another Control Area (Exports), the Transmission Customer pays the product of the Wholesale TSC for the owner of the transmission facility on which the electricity exits the NYCA (see ~~Attachment~~ Appendix C-1 of this manual) and the scheduled Energy (MWh) or, if exiting via a NYCA transmission facility owned by NYPA, the Transmission Customer pays the product of the applicable NYPA TSC and its scheduled Energy (MWh). The NYISO performs Shift Factor analyses. If, based on the analysis, Energy flows attributable to the Export are found to exit the NYCA over facilities owned by two or more T~~ransmission Owners~~Os, the Transmission Customer pays the product of each applicable Wholesale TSC and the associated flow-based MWh. The NYCA Interconnections with other Control Areas are listed in ~~Attachment~~ Appendix C-1 of this manual.
3. For transmission of electricity by the NYISO from one or more Interconnection Points between the NYCA and another Control Area to one or more Interconnection Points between the NYCA and another Control Area (Wheels-Through), the

Transmission Customer pays the Wholesale TSC calculated in accordance with paragraph (2), above, except that if the NYISO's Shift Factor analysis shows that some portion of the flow is not within or through the NYCA, the NYISO calculates the MWh to which a ~~Transmission Owner~~TO's Wholesale TSC applies as the product of (a) the scheduled amount of the Transaction at the Point(s) of Injection and (b) the ratio at the point(s) of exit from New York State, of (i) the flow on the ~~Transmission Owner~~TO's facilities (MWh) to (ii) the flows on all ~~Transmission Owner~~TO's facilities (MWh), where both are associated with the scheduled Wheels-Through.

4. For the transmission of electricity by the NYISO to:

   - an existing municipal utility or electric cooperative directly connected to the New York Power Authority's (NYPA's) transmission system as of the date of the original NYISO ~~Tariff~~~~Tariff~~OATT filing (January 31, 1997), or
   - an existing retail Load directly connected to NYPA's transmission system, as of the date of the original NYISO ~~Tariff~~~~Tariff~~OATT filing.

   The Transmission Customer pays the product of the NYPA TSC and the Actual Energy Withdrawal (except as provided in Section 7 of the NYISO ~~Tariff~~OATT, Attachment H).

5. For the transmission of electricity by the NYISO to any new municipal utility, electric cooperative, or wholesale Loads; or to any existing municipal utility, electric cooperative, or wholesale Loads that terminate their Existing Transmission Agreements that are connected to the New York State Transmission System either directly or indirectly through its connection to the system of one of the Investor-Owned ~~Transmission Owner~~TOs, the Transmission Customer will pay the product of the Wholesale TSC of the Transmission District to which it is connected and its Actual Energy Withdrawal. If transmission or distribution facilities that are not included as plant in rate base for developing the Wholesale TSC are used to connect the municipal utility, electric cooperative, or wholesale load to the NYS Transmission System, the ~~Transmission Owner~~TO will develop, file with FERC, and apply a charge for the use of those facilities.

Table C-2 of ~~Attachment~~ Appendix C ~~to~~ of this manual lists the IOUs, municipal utilities, electric cooperatives, and Loads directly connected to the NYCA, with the Transmission District Wholesale TSC they would be obligated to pay, if those municipal utilities, electric cooperatives and Loads directly connected to the NYCA discontinue Transmission Service under Existing Transmission Agreements or said agreements are terminated pursuant to their terms.

To avoid the situation where a wholesale Transmission Customer external to the NYCA could receive multiple bills, an exception is made to the above billing procedure. Wholesale Transmission Customers external to the NYCA will be billed and pay the NYISO the applicable Wholesale TSC, as described above.

### 4.2.8. Discounting

Each ~~Transmission Owner~~TO, may advise the NYISO of discounts to its TSC applicable during a specified period to all deliveries to a particular Interconnection, between the NYCA and another Control Area. The NYISO will post the discounts on OASIS for the specified period.

Three principal requirements apply to discounts for Transmission Service as follows:

1. any offer of a discount made by a ~~Transmission Owner~~TO must be announced to all Eligible Customers solely by posting on the NYISO's OASIS.
2. any customer-initiated requests for discounts (including requests for use by a ~~Transmission Owner~~TO's wholesale merchant or an Affiliate's use) must occur solely by posting on the OASIS, and
3. once a discount is negotiated, details must be immediately posted on the OASIS.

For any discount that the ~~Transmission Owner~~TO agrees to and advises the NYISO of, the same discounted Transmission Service rate will be offered to all Eligible Customers for the same period for all deliveries to a particular Interconnection between the NYCA and another Control Area. The NYISO will post the discounts on the OASIS for the specified period.

### 4.2.9. On and Off-Peak Discounting

Transmission Owners~~s~~ may selectively discount their wholesale TSC rate for each external interface for the on-peak and/or off-peak time periods. Discounted rates are effective for the duration of the month in which they are effective.

On-peak hours are defined by NERC as the hours between 7 a.m. and 11 p.m., prevailing eastern time, Monday through Friday, except for NERC-defined holidays, or as otherwise decided by the NYISO. Off –peak hours are defined by NERC as the hours between 11 p.m. and 7 a.m., prevailing eastern time, Monday through Friday and all day Saturday and Sunday, and NERC-defined holidays, or as otherwise decided by the NYISO. The NERC defined holidays are: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. Dates for the year are posted on NERC's web site (http://www.nerc.com/~oc/offpeaks.html).

### 4.2.10. Estimating TSCs

Market Participants may estimate the TSCs that will apply to an export transaction or to a wheel-through transaction using information posted on the NYISO Website.

***Finding the TSC information***

The TSC and Distribution Factor information can be found by performing the following actions:

1. Access the NYISO Web site at http://www.nyiso.com
2. Move the cursor over the word "OASIS" to highlight the OASIS menu
3. ~~Select "Operational Information~~Select the "Reports & Information" tab
4. Select "External Transaction TSC - Summary & Details~~External Transaction TSC – Summary and Details." under Transmission Service Charges~~
5. Select the Transmission Service Charge Summary or the Transmission Service Charge Details based on the effective date. Either the Summary or the Details can be used to estimate the applicable charges.
6. Either the Transmission Service Charge Summary table or the Transmission Service Charge Detail table may be downloaded. The tables can be downloaded in CSV format, which can be imported directly into a spreadsheet for use by the Market Participant.

### *Example Calculations Using Summary Tables*

The following examples show how TSCs are calculated using the ~~Transmission Service Charge~~TSC Summary table. The table below is a portion of the T~~ransmission Service Charge~~ TSC Summary table for April 3, 2000.

| Generator | HQ $/MWh | NE $/MWh | OH $/MWh | PJM $/MWh |
|---|---|---|---|---|
| HQ_GEN_CHAT DC | $0.00 | $5.83 | $3.52 | $5.64 |
| N.E._GEN_SANDY PD | $2.19 | $0.00 | $4.02 | $6.04 |
| ALBANY___1 | $2.19 | $5.99 | $3.99 | $6.03 |

Suppose a Market Participant wishes to estimate the TSCs applicable to a 100 MW wheel-through transaction from a generator in Quebec to a load in New England.

1. Find the Hydro Quebec proxy bus (HQ_GEN_CHAT DC) in the left-hand column of the table.
2. Search across the row to find the TSC rate for the New England proxy bus (NE $/MWh).
3. Multiply the rate in the table by the number of MW for the transaction to find the TSCs per hour.

$$\$5.83 / MWhr \times 100 MW = \$583 / hour$$

| Generator | HQ $/MWh | NE $/MWh | OH $/MWh | PJM $/MWh |
|---|---|---|---|---|
| HQ_GEN_CHAT DC | $0.00 | $5.83 | $3.52 | $5.64 |
| N.E._GEN_SANDY PD | $2.19 | $0.00 | $4.02 | $6.04 |
| ALBANY___1 | $2.19 | $5.99 | $3.99 | $6.03 |

The same procedure would be used to estimate the TSC for an export transaction from a specific unit in the ~~New York Control Area~~NYCA to an external load. For example, suppose the export transaction is for 40 MW from Albany #1 to a load in Ontario:

1. Find Albany _1 in the left-hand column of the table.
2. Search across the row to find the TSC rate for the Ontario Hydro proxy bus (OH $/MWh).
3. Multiply the rate in the table by the number of MW for the transaction to find the TSCs per hour.

$$\$3.99 / MWhr \times 40 MW = \$159.60 / hour$$

### ***Example Calculations Using Detail Tables***

The following examples show how TSCs are calculated using the Transmission Service Charge Detail table. The table below is a portion of the Transmission Service Charge Detail table for April 3, 2000.

| Generator | Bus_Name | Tie_Name | TO_Name | TO_ TSC_Rate $/MWh | TSC_ Cost_ $/MWh | Resultant Dfax |
|---|---|---|---|---|---|---|
| HQ_GEN_CHAT DC | HQ_LOAD_CHAT | CHATGUAY MASSENA 7040 | NYPA | $2.19 | $0.00 | 0 |
| HQ_GEN_CHAT DC | NE_LOAD_SANDYPD | BEAR SWP ROTTRDAM E205W | NIAGARA MOHAWK | $6.00 | $0.59 | -0.0989 |
| HQ_GEN_CHAT DC | NE_LOAD_SANDYPD | BERKSHIR ALPS 393 | NIAGARA MOHAWK | $6.00 | $2.39 | -0.3976 |
| HQ_GEN_CHAT DC | NE_LOAD_SANDYPD | BLISSVIL WHITEHAL 7 | NIAGARA MOHAWK | $6.00 | $0.24 | -0.0404 |
| HQ_GEN_CHAT DC | NE_LOAD_SANDYPD | BNNINGTN HOOSICK K6 | NIAGARA MOHAWK | $6.00 | $0.16 | -0.0263 |
| HQ_GEN_CHAT DC | NE_LOAD_SANDYPD | GRAND IS PLATSBRG PV20 | NYPA | $1.78 | $0.14 | -0.0774 |
| HQ_GEN_CHAT DC | NE_LOAD_SANDYPD | LONG MTN PLSNTVLY 398 | CONSOLIDATED EDISON | $6.50 | $2.28 | -0.3503 |
| HQ_GEN_CHAT DC | NE_LOAD_SANDYPD | NOR HBR NRTHPORT 1385 | LIPA | $4.73 | $0.00 | 0 |
| HQ_GEN_CHAT DC | NE_LOAD_SANDYPD | SMITHFLD FALLS VG 690 | CENTRAL HUDSON | $4.12 | $0.04 | -0.0092 |

Suppose a Market Participant wishes to estimate the TSCs applicable to a 100 MW wheel-through transaction from generator in Quebec to a load in New England. Each of the eight shaded rows in this example represents a transmission path in the NYISO transmission model between the Hydro Quebec proxy bus (HQ_GEN_CHAT DC) and the New England proxy bus (NE_LOAD_SANDYPD). The number of transmission paths in the NYISO transmission model varies for different combinations of external control areas. The "TO_TSC_Rate_$/MWh" column shows the total TSC rate for the company owning the transmission path. The "Resultant_Dfax" column indicates how the power flowing between the two proxy buses splits among the various transmission paths. The "TSC_Cost_$/MWh" column shows the amount of the TSC attributable to each of the transmission paths. Notice that the sum of the eight entries in the "Resultant_Dfax" column equals 1. Also, notice that the sum of the eight entries in the "TSC_Cost_$/MWh" column equals $5.83, which is the same as the TSC rate between the Hydro Quebec proxy bus and the New England proxy bus shown on the TSC Summary table.

1. Find all the entries for the Hydro Quebec proxy bus in the left-hand column of the table that ~~are~~is associated with the New England proxy bus.
2. Search across each row to find the TSC rate for each transmission path to the New England proxy bus (TSC_Cost_$/MWh).
3. Multiply the rate in each row of the table by the number of MW for the transaction and sum the results to find the TSCs per hour.

| Transmission Path | TSC_Cost_$ /MWh | MW | TSC Component |
|---|---|---|---|
| BEAR SWP ROTTRDAM E205W | $0.59 | 100 | $59 |
| BERKSHIR ALPS 393 | $2.39 | 100 | $239 |
| BLISSVIL WHITEHAL 7 | $0.24 | 100 | $24 |
| BNNINGTN HOOSICK K6 | $0.16 | 100 | $16 |
| GRAND IS PLATSBRG PV20 | $0.14 | 100 | $14 |
| LONG MTN PLSNTVLY 398 | $2.28 | 100 | $228 |
| NOR HBR NRTHPORT 1385 | $0.00 | 100 | $0 |
| SMITHFLD FALLS VG 690 | $0.04 | 100 | $4 |
| **Total Transmission Service Charge** | | | **$583** |

The same procedure would be used to estimate the TSC for an export transaction from a specific unit in the New York Control Area to an external load, using the Transmission Service Charge Detail table.

## 4.3. NYPA Transmission Adjustment Charge (NTAC)

The New York Power Authority (NYPA) ~~must calculate~~calculate~~calculate~~calculates the NYPA Transmission Adjustment Charge Rate to recover its annual transmission revenue requirement (to the extent it is not recovered through application of NYPA's TSC and other sources of transmission revenue). The NTAC Rate will ~~be applied commencing with the effective date of the NYISO Tariff and will~~ remain in effect until after the LBMP Transition Period ends (as described in ~~Section~~ section 6 of this manual).

Transmission Customers, including Eligible Customers under Existing Transmission Agreements, (see ~~Section~~ section 6) must pay the NTAC on all transactions provided pursuant to the NYISO ~~Tariff~~OATT, including Bilateral Transactions to serve Load within the NYCA, purchases of Energy from the LBMP Market, Wheels-Through and Exports.

The following topics are covered:

- Applicability
- Calculation Process
- Filing & Posting
- Calculation Information
- Billing

### 4.3.1. Applicability

Each month, the NYISO charges, and each Transmission Customer must pay, the applicable NYPA Transmission Adjustment Charge calculated in accordance with Attachment H of the NYISO OATT. The NTAC applies to Transmission Service:

- from one or more Interconnection Points between the NYCA and another Control Area to one or more Interconnection Points between the NYCA and another Control Area (Wheels-Through), or
- from the NYCA to one or more Interconnection Points between the NYCA and another Control Area, including transmission to deliver Energy purchased from the LBMP Market and delivered to such a Control Area Interconnection (Exports), or
- to serve Load within the NYCA.

The NTAC is applied to all Energy Transactions, including internal New York State Loads and Wheels-Through and Exports out of the NYCA at a uniform, non-discountable rate.

### 4.3.2. Calculation Process

~~Filing & Posting~~

~~Calculation Information~~

~~Billing~~

~~Applicability~~

~~Each month,~~The New York Power Authority calculates the ~~NYISO will charge, and each Transmission Customer must pay, the~~ NTAC applicable ~~NYPA Transmission Adjustment Charge calculated in accordance with Attachment H of the NYISO Tariff. The NTAC applies~~ to Transmission Service~~:~~

~~from one or more Interconnection Points between the NYCA and another Control Area~~ to ~~one or more Interconnection Points between the NYCA and another Control Area (Wheels-Through), or~~

~~from the NYCA to one or more Interconnection Points between the NYCA and another Control Area, including transmission to deliver Energy purchased from~~

~~the LBMP Market and delivered to such a Control Area Interconnection (Exports), or~~

~~to~~ serve ~~Load within the NYCA.~~

~~In summary, the NTAC will be applied to all Energy Transactions, including internal~~ New York State Load~~s and Wheels Through and Exports out of the NYCA at a uniform, non-discountable rate.~~ , Wheel-Throughs, and Exports in accordance with Attachment H of the NYISO OATT.

The NTAC ~~must be~~be~~is~~ calculated as a $/MWh charge and ~~must be~~ applied to Actual Energy Withdrawals, except for Wheel~~s Through~~-Throughs and Exports in which case the NTAC ~~will be~~be~~is~~ applied to scheduled Energy quantities.

The NTAC does not apply to scheduled quantities that are ~~Curtailed~~~~Curtailed~~curtailed by the NYISO.

### 4.3.3. Posting

~~Beginning with LBMP implementation, the~~ The monthly NTAC ~~will be~~be~~is~~ posted on the OASIS by the NYISO no later than the fifteenth day of each month to become effective on the first day of the next calendar month.

### 4.3.4. Billing

The New York State Loads, ~~Wheels~~ Wheel-Through~~s~~, and Exports are billed based on the product of the following:

- NTAC

- Customer's Billing Units for the month.

The billing units (in MWh) are based on the monthly-metered energy for all Transactions to supply Load in the NYCA, and hourly Energy schedules for all Wheels ~~Through~~ -Throughs and Exports.

## 4.4. Strandable Costs

A ~~Transmission Owner~~TO, other than NYPA, may seek to recover Strandable Costs from any Transmission Customer receiving services pursuant to the NYISO ~~Tariff~~~~Tariff~~OATT in accordance with the FPA and/or the terms, conditions and procedures set forth in FERC Order No. 888 and any subsequent FERC orders. The NYISO collects such Strandable Costs, through a Stranded Investment Recovery Charge (SIRC), from Network Service Customers and remits the collected amounts to the applicable ~~Transmission Owner~~TO (s). However, such ~~Transmission Owner~~TO must separately file any specific proposal to recover Stranded Costs under Section 205 of the FPA.

Upon filing of a proposal to recover Strandable Costs under the FPA, the ~~Transmission Owner~~TO must immediately provide the NYISO with a copy of the appropriate rate schedule, which will be incorporated as a new SIRC rate schedule under the NYISO ~~Tariff~~OATT, subject to refund as may be required by FERC.

## 4.5. Ancillary Services

The following Ancillary Services are specified by the NYISO ~~Tariff:~~ OATT and the NYISO Services Tariff:

- Scheduling, System Control and Dispatch Service
- Voltage Support Service
- Regulation ~~and Frequency Response~~ Service
- Energy Imbalance Service
- Operating Reserve Service
- Black Start Capability Service

The NYISO will provide, and Transmission Customers must purchase from the NYISO, the following Ancillary Services:

- Scheduling, System Control and Dispatch Service
- Voltage Support Service
- Energy Imbalance Service
- Black Start Capability Service

The NYISO offers to provide the following Ancillary Services within the NYCA to Transmission Customers:

- Regulation ~~and Frequency Response~~ Service
- Operating Reserve Service

Transmission Customers may either purchase these latter two Ancillary Services from the NYISO or a third party, or may Self-Supply services of equal operational value in accordance with locational requirements established by the NYISO. Transmission Customers and Suppliers must pay the NYISO for certain Ancillary Services. Those Transmission Customers and Suppliers that Self-Supply Ancillary Services can offset the Ancillary Service charges. Each Transmission Customer or Supplier must identify, in its scheduling information submitted to the NYISO, which Ancillary Services it intends to Self-Supply, by submitting a bid for the specific service.

Refer to the ***NYISO Ancillary Services Manual*** for a detailed description of each ancillary service and the determination/calculation of the associated charges to users and payments to suppliers.

# 5. Transmission Congestion Contracts

## References

NYISO Open Access Transmission Tariff (OATT), Volume 1, Attachments K, L, M, and N, and Attachment B of the NYISO Services Tariff.

Refer to the ***NYISO Accounting & Billing Manual*** for a detailed description of the cost calculations. The ***Rules, Procedures, and Guidelines for the Auction of Transmission Congestion Contracts (TCCs)*** for the current Capability Period are posted on the NYISO Web Site (http://www.nyiso.com/markets/tcc-info.html). A TCC Market Manual is under development. Upon approval by Market Participants, this manual will be posted to the NYISO Web site.

# 6. Existing Agreements

## References

NYISO Open Access Transmission Tariff (OATT) - Volume ~~2~~1, Attachments K, L, and M.

This section describes the existing agreements.

Refer to the ***NYISO Accounting & Billing Manual*** for a detailed description of the cost calculations.

## 6.1. Overview

This section describes the treatment of Existing Transmission Agreements (ETAs), including:

- ~~Transmission Wheeling Agreements (TWAs)~~
- ~~Transmission Facilities Agreements (TFAs)~~
- ~~Grandfathered Rights~~
- ~~Conversion to Grandfathered TCCs~~
- ~~Responsibility for Ancillary Services~~
- ~~Existing Transmission Capacity for Native Load~~
- 
- Transmission Wheeling Agreements (TWAs)
- Transmission Facilities Agreements (TFAs)
- Grandfathered Rights
- Conversion to Grandfathered TCCs
- Responsibility for Ancillary Services
- Existing Transmission Capacity for Native Load

## 6.2. Transmission Wheeling Agreements (TWAs)

Transmission Wheeling Agreements (TWAs) govern the use of specific or designated transmission facilities that are owned, controlled, or operated by an entity for the transmission of Energy in interstate commerce.

The following topics are covered:

- TWAs between Transmission Owners (TOs) Associated with Generators or power supply contracts
- Third Party TWAs

- Other TWAs between ~~Transmission Owner~~TOs
- Transmission Facilities Agreements (TFAs)
- Existing Transmission Capacity for Native Load

### 6.2.1. TWAs ~~Between~~~~Between~~between Transmission Owners Associated with Generators or Power Supply Contracts

Each TWA between ~~Transmission Owner~~TOs associated with a Generator or a power supply contract ~~will be~~were converted into a Modified Wheeling Agreement (MWA) ~~to be effective~~ upon Locational Based Marginal Pricing (LBMP) implementation. The TWAs ~~being~~ converted to MWAs are listed in Attachment L, Tables 1-4 of the NYISO ~~Tariff~~OATT. The terms and conditions of each of these TWAs will remain unchanged by the conversion except as follows:

~~5~~1. the MWA Customer ~~will have~~~~have~~has the option of retaining the transmission rights received under the ~~existing~~ pre-NYISO TWA (Grandfathered Rights) or converting those transmission rights to TCCs (Grandfathered TCCs)

~~6~~2. the rights and obligations under the MWA are assignable, in whole or in part, with the transfer of a Generator or rights under a power supply contract to an assignee that satisfies reasonable creditworthiness standards

~~7.~~3. the MWA Customer or the assignee ~~will continue~~~~continue~~continues to pay the embedded cost-based rate for Transmission Service in accordance with ~~Se~~sections 6.3.2 and/or 6.4.2, below except that it ~~shall have to pay~~~~pay~~pays for losses under the NYISO ~~Tariff~~~~Tariff~~OATT and the ~~Transmission Owner~~ TO shall not charge the MWA Customer or the assignee for losses to the extent they are provided under the NYISO ~~Tariff.~~OATT

~~8.~~4. the payments under MWAs for Grandfathered Rights and Grandfathered TCCs do not include the costs of Ancillary Services and customers under these agreements will be responsible for Ancillary Services consistent with the other provisions of the NYISO ~~Tariff~~ OATT

~~9~~5. any additional modifications to each TWA necessary to convert it into a MWA ~~will be~~ are the subject of a separate amendment to the TWA

~~10.~~ 6. the corresponding MWA will be terminated to the extent the TWA is to transmit Energy from such Generator, upon the retirement of the associated Generator, the termination of the associated power supply contract, or such other date specified in the MWA by mutual agreement of the parties to the TWA, except as follows:

a. Subject to the next item (b), for each TWA associated with a power supply contract that is terminated pursuant to its terms prior to the end of the LBMP Transition Period, the MWA will remain in effect until the end of the LBMP

Transition Period. At the end of the LBMP Transition Period, such MWAs will be automatically terminated.

b. For the TWA associated with the Blenheim-Gilboa power supply contract. If the supply contract is terminated pursuant to its terms prior to the end of the LBMP Transition Period, the MWA will also be terminated.

As long as each MWA Customer retains Grandfathered Rights or Grandfathered TCCs, it must maintain all MWAs from each associated Point of Injection (POI) of the Generator or the NYCA Interconnection with another Control Area to the corresponding Point of Withdrawal (POW) of the Load served by the MWA or at the NYCA Interconnection with another Control Area.

Any other differences between the terms and conditions of the MWAs and those of the associated TWAs for which a customer elects Grandfathered Rights or Grandfathered TCCs are discussed in ~~Sections~~ sections 6.3 and ~~?~~6.4 of this manual, respectively.

### 6.2.2. Third Party TWAs

Each existing TWA with a Third Party (Third Party TWA) will remain in effect in accordance with its terms and conditions, including provisions governing modification or termination, except that the Third Party TWA customer may:

1. retain the existing transmission rights ("Grandfathered Rights") subject to the provisions below
2. convert the transmission rights to Grandfathered TCCs, and:
   a. purchase or sell power in the LBMP Market pursuant to the NYISO ~~TariffTariff~~OATT or
   b. execute Bilateral Transactions for Capacity, Energy, and/or Ancillary Services, and obtain Transmission Service subject to the rates, terms, and conditions of the NYISO ~~TariffTariff~~OATT except as explicitly noted below in this s~~S~~ection of the manual~~;~~, ~~or~~
3. terminate the existing agreement (if the terms and conditions allow termination), and:
   ~~purchase~~a. purchase or sell power in the LBMP Market pursuant to the NYISO OATT or ~~sell power in the LBMP Market pursuant to the NYISO Tariff or~~
   b. execute Bilateral Transactions for Capacity, Energy, and/or Ancillary Services, and obtain Transmission Service subject to the rates, terms, and conditions of the NYISO ~~Tariff.~~ OATT.

As long as each Third Party TWA customer retains Grandfathered Rights or Grandfathered TCCs, it must maintain all Third Party TWAs from each associated ~~Point of Injection~~POI of the Generator or the NYCA Interconnection with another Control Area, to the

corresponding ~~Point of Withdrawal~~POW of the Load served by the TWA or at the NYCA Interconnection with another Control Area.

Each Third Party TWA customer, whether it elects Grandfathered TCCs or Grandfathered Rights, will have the right to inject Energy at the specified ~~Point of Injection~~POI and withdraw it at the specified ~~Point of Withdrawal~~POW in designated amounts without application of a TSC. Customers electing Grandfathered Rights will be exempt from having to pay the Congestion Component of the TUC.

For the Third Party TWAs, each specific individual municipal or cooperative electrical system listed in each such Agreement will be deemed ~~to be~~ the Third Party TWA customer for purposes of electing one of the options set forth above. The ~~municipal or cooperative may elect~~ election of Grandfathered Rights or Grandfathered TCCs ~~in specified specifings~~specifying amounts between specified ~~Points of Injection~~POW and ~~Points of Withdrawal~~POW~~. Those Grandfathered Rights or TCCs~~ made by the municipal or cooperative become the rights or TCCs of the municipal or cooperative.

~~Whichever option is~~ Options selected by the municipal or cooperative~~, it thereby~~ waives all rights under the Federal Power Act associated with NYPA's obligation to secure transmission wheeling arrangements on its behalf associated with the TWA rights elections~~. If any specific municipal or cooperative fails to make this election, NYPA has the right to make the election for that municipal or cooperative.~~

### 6.2.3. Other TWAs ~~Between~~ between Transmission Owners

Commencing with LBMP implementation, all remaining TWAs between the TO ~~Transmission Owner~~s ~~will be~~were terminated.

### 6.2.4. Transmission Facilities Agreements (TFAs)

Existing TFAs containing no provisions for transmission service require no modifications.

TFAs between existing NYCA T~~ransmission Owner~~Os that contain provisions for transmission service are listed in Attachment L of the NYISO ~~Tariff~~OATT. These TFAs will remain in effect in accordance with their terms and conditions, including any provision governing modification or termination, except that customers under these agreements may elect Grandfathered Rights or may convert their rights to Grandfathered TCCs.

### 6.2.5. Existing Transmission Capacity for Native Load

Certain transmission capacity associated with the use of a ~~Transmission Owner~~TO's own system to serve its own load, ~~will be~~ is designated as Existing Transmission Capacity for Native Load (Table 3 of Attachment L of the NYISO ~~Tariff~~OATT). For purposes of Direct Sale and Auction of TCCs, the capacity shown on Table 3 of Attachment L ~~will be~~is converted to point-to-point TCCs and either sold through Direct Sale or at Auction. Prior to

Direct Sale or Auction, these TCCs will be subject to reduction as per section 3.0 of Attachment M of the NYISO ~~Tariff.~~ OATT.

The ~~Transmission Owners~~TOs shall release these TCCs for sale to all Market Participants in accordance with Attachment M. Such Existing Transmission Capacity for Native Load shall not be increased above the megawatt (MW) amounts noted in Attachment L, Table 3, of the NYISO ~~Tariff.~~ OATT.

## 6.3. Terms Applicable to Grandfathered Rights

The following topics are covered:

- Congestion charges
- MIS Reference Conventions
- MWAs and TFAs
- Third Party TWAs

### 6.3.1. Congestion Charges

Each ETA Customer that maintains Grandfathered Rights under an option listed in ~~Section~~ section 6.2 above, retains the right to inject power at one specified bus and take power at another specified bus up to amounts reflected in Attachment L, Table 1 of the NYISO ~~TariffTariff~~OATT without having to pay the Congestion Component of the TUC, but only to the extent it schedules the injection and withdrawal Day-Ahead and is on schedule.

If it does not schedule Energy Day-Ahead or inject or withdraw Energy, it will not receive (or pay) any Congestion Rents associated with the Transaction. If the customer under the MWA, TFA, or Third Party TWA transmits Energy without scheduling it Day-Ahead or exceeds the amounts specified, the customer will pay the Real-Time TUC for all Energy transmitted under the Transaction exceeding the Day-Ahead schedule or the number of MW of Grandfathered Rights.

This TUC will include Congestion Rents. If the ETA Customer schedules Day-Ahead and/or transacts for a portion of the Grandfathered Rights that are retained, it will not receive any compensation for the unused transmission capacity. The ETA Customer will not be permitted to resell or transfer these Grandfathered Rights unless permitted in the existing agreements, except as noted above.

~~MWAs & TFAs~~

~~Subject to the losses provision below, each MWA or TFA customer must pay the contract rates for the Grandfathered Rights which will be frozen at the contract rates that were in~~

~~effect on the date the NYISO Tariff was originally filed at FERC (January 31, 1997), through the LBMP Transition Period or the termination date of the TFA, if earlier.~~

~~After the LBMP Transition Period, rates under each MWA or TFA will be based on embedded cost, and these contract rates may be updated, if allowed for in the terms and conditions of each MWA or TFA. Each MWA or TFA customer or its assignee must pay the Transmission Owner under the MWA or TFA directly for the Grandfathered Rights.~~

### 6.3.2. ~~Each MWA~~ MIS Reference Convention

In order for an ETA Customer to take advantage of the transmission rights (Grandfathered Transmission Rights) associated with an ETA, where the ETA Customer has not converted the transmission rights under the ETA to TCCs, the ETA Customer must explicitly identify the Day-Ahead Energy transaction as such to the NYISO and in the Market Information System (MIS). A Grandfathered Transmission Right with a redirect provision must be further identified in the MIS. The ~~ISO~~ NYISO has defined a convention for assigning user references to transactions that are Grandfathered Transmission Rights. This convention must be followed for a transaction to be eligible for exemption from TSC and/or ~~TFA~~congestion charges. All transactions utilizing Grandfathered Transmission Rights must include the NYISO-defined User Reference ID as the last five characters of the Customer-defined User Reference.

~~Each MWA~~Some Grandfathered Transmission Rights have provisions for redirect. Redirect Rights may or ~~TFA~~may not relieve the Transmission Customer of congestion charges. In cases where the redirect agreements do not provide for congestion relief, the transmission customer may choose to submit the transaction as a firm bilateral and be subject to congestion charges or may submit the transaction as a non--firm bilateral.

Transactions are defined by a ~~Point of Injection (~~POI~~), Point of Withdrawal (~~POW~~)~~, and User Reference. Transactions that ~~chooses Grandfathered Rights must pay the NYISO for losses, under the NYISO Tariff. The Transmission Owner will not charge for losses under the ETA, MWA or TFA to the extent the losses are provided under the NYISO Tariff.~~ also have Redirect Rights are further defined with an additional POI and POW for congestion relief. The following shows the options available in defining a transaction.

~~To the extent losses on the Transmission Owner's system are not provided under the NYISO Tariff, the Transmission Owner may charge for losses unless prohibited from doing so under the MWA or TFA. The customer will pay or receive payment for losses between the Points of Injection and the Point of Withdrawal under the MWA or TFA, as calculated in accordance with the NYISO Tariff.~~

~~Third Party TWAs~~

~~Subject to Section 6.5 below, each Third Party TWA customer will compensate the Transmission Owner under a Third Party TWA for transmission charges in accordance~~

~~with the terms and conditions of the TWA, including any provisions governing modification or termination.~~

~~Third Party TWA customers that choose~~

| POI | POW | ISO Defined User Reference | POI for congestion relief | POW for Congestion Relief |
|---|---|---|---|---|
| Generator, Bus/Subzone, PTID, or NULL | Load Subzone PTID | ISO User Reference ID | Generator, Bus, PTID, or Contract Specific | Load Bus PTID |

If a party's transaction information matches the conditions of its Grandfathered Rights, including the ~~ISO~~ NYISO User Reference ID, then the transaction will be relieved of the TSC and Congestion Charges. All bilateral contracts that ~~choose~~ are submitted that claim relief from TSC charges will also be reported to the ~~Transmission Owner~~TO that is the party to the contract. Any disputes must be settled between the parties to the contract.

If a party believes that they have additional Redirected Grandfathered Transmission Rights available by virtue of its particular contract terms or if any of the information contained in the MIS is incorrect, they need to contact their Customer Services Representative. The claimed Redirected Rights will be validated with the ~~Transmission Owner~~TO, and may be eligible for TSC and/or congestion relief. Firm transactions utilizing Redirected Grandfathered Transmission Rights will be required to pay congestion charges, unless otherwise stated in the ~~NYISO~~particular contract. Depending on the contract terms, if congestion relief is claimed ~~for~~for a Redirected Right, and the TO validates, then the congestion relief will be from the POI and POW defined in the bilateral or will be from the POI and POW specified in the associated Grandfathered Right. Transactions that utilize Redirected Rights must also have the ~~ISO~~ NYISO User Reference ID as the last five characters of the User Reference.

### 6.3.3. MWAs & TFAs

Subject to the losses ~~under~~ provision below, each MWA or TFA customer must pay the contract rates for the Grandfathered Rights which were frozen at the contract rates that were in effect on the date the NYISO ~~Tariff~~OATT was originally filed at FERC (January 31, 1997), through the LBMP Transition Period or the termination date of the TFA, if earlier.

After the LBMP Transition Period, rates under each MWA or TFA will be based on embedded cost, and these contract rates may be updated, if allowed for in the terms and conditions of each MWA or TFA. Each MWA or TFA customer or its assignee must pay the ~~Transmission Owner~~TO under the MWA or TFA directly for the Grandfathered Rights.

Each MWA or TFA customer using Grandfathered Rights must pay the NYISO for losses, under the NYISO OATT. The ~~Transmission Owner~~TO will not charge for losses under the ~~Third Party TWA~~ ETA, MWA, or TFA to the extent the losses are provided under the NYISO ~~Tariff.~~ OATT.

To the extent losses on the ~~Transmission Owner~~TO's system are not provided under the NYISO OATT, the ~~Transmission Owner~~TO may charge for losses unless prohibited from doing so under the MWA or TFA. The customer will pay or receive payment for losses between the ~~Points of Injection~~OI and the ~~Point of Withdrawal~~OW under the MWA or TFA, as calculated in accordance with the NYISO OATT.

### 6.3.4. Third Party TWAs

Subject to ~~S~~section 6.5 below, each Third Party TWA customer will compensate the Transmission Owner under a Third Party TWA for transmission charges in accordance with the terms and conditions of the TWA, including any provisions governing modification or termination.

Third Party TWA customers with Grandfathered Rights must pay the NYISO for losses under the NYISO ~~Tariff~~OATT. The ~~Transmission Owner~~TO will not charge for losses under the Third Party TWA to the extent the losses are provided under the NYISO ~~Tariff.~~ OATT.

To the extent losses on the ~~Transmission Owner~~TO's system are not provided, the ~~Transmission Owner~~TO may charge for losses, unless prohibited from doing so under the Third Party TWA. The Transmission Customer will pay or receive payment for losses between the Points of Injection and Points of Withdrawal under the MWA or TFA.

## 6.4. Terms Applicable to the Conversion to Grandfathered TCCs

The following covers the conversion to grandfathered TCCs:

- Overview
- MWAs & TFAs
- Third party TWAs

### 6.4.1. Overview

Each ETA customer, that has the right to convert transmission rights to TCCs in accordance with ~~Section~~ section 6.2 above, must notify the NYISO of its election prior to the time of the first End-State TCC Auction. Where the applicable ETA provides for more

than one ~~Point of Injection~~POI and/or more than one ~~Point of Withdrawal~~POW, these ETA customers may designate Grandfathered Rights or Grandfathered TCCs, but not both, from each ~~Point of Injection~~POI to each ~~Point of Withdrawal~~POW.

The NYISO will assign point-to-point TCCs to the ETA customer, equivalent to the amount of transmission capacity (in megawatts) associated with the transmission service received under each ETA, as measured between the Generator bus or NYCA Interconnection with another Control Area where the power is injected and the ~~Point of Withdrawal~~POW of the Load served by the ETA or at the NYCA Interconnection with another Control Area.

If the ETA customer fails to duly notify the NYISO of its conversion to Grandfathered TCCs, the NYISO and ~~Transmission Owner~~TO will deem the ETA customer to have elected Grandfathered Rights.

### 6.4.2. MWAs & TFAs

Each MWA or TFA customer must continue to pay the ~~Transmission Owner~~TO rates which will be frozen at the contract rates that were in effect on the date the NYISO ~~Tariff~~~~Tariff~~OATT was originally filed at FERC *OK.*(January 31, 1997), through the LBMP Transition Period or the termination date of the MWA or TFA, if earlier. After the LBMP Transition Period, rates under each MWA or TFA will be based on embedded cost, and these embedded cost rates may be updated, if allowed for in the terms and conditions of each MWA or TFA. The MWA or TFA customer or its assignee must pay the ~~Transmission Owner~~TO directly for the Grandfathered TCCs.

Each MWA or TFA customer that chooses Grandfathered TCCs, will receive (or pay, when negative congestion occurs) the Congestion Rent associated with its Grandfathered TCCs, and will be subject to the service provisions of the ~~ISO~~ NYISO ~~Tariff~~OATT, including the duty to pay for:

- Congestion Rent and
- Marginal Losses for use of the transmission system

A MWA or TFA customer will pay the Congestion Rent associated with a Grandfathered TCC when negative congestion occurs. Negative congestion occurs when the congestion cost at the withdrawal location of the Grandfathered TCC is lower than that at the injection location of the Grandfathered TCC.

### 6.4.3. Third Party TWAs

Subject to ~~Section~~ section 6.5, below, each Third Party TWA customer will pay the Transmission Owner transmission charges in accordance with the terms and conditions of the Third Party TWA, including any provisions governing modification or termination.

Third Party TWA customers that convert the existing transmission rights to TCCs will receive (or pay, when negative congestion occurs) the Congestion Rent associated with its TCCs, and will be subject to the service provisions of the ~~ISO~~ NYISO ~~Tariff~~OATT, including the duty to pay for:

- Congestion Rent and
- Marginal Losses for use of the transmission system

## 6.5. Responsibility for Ancillary Services

Irrespective of whether an ETA is a MWA, Third Party TWA, or a TFA, or whether a customer ~~thereunder elects~~selects~~elects~~elected Grandfathered Rights or Grandfathered TCCs, the customer ~~will be~~is responsible for payment for any applicable Ancillary Services that are provided pursuant to the NYISO ~~Tariff~~OATT, including all applicable charges.

# 7. Transmission Transactions

## References

NYISO Open Access Transmission Tariff (OATT) - Volume ~~2~~1, Attachments C and J

NYISO Services Tariff - Attachment B

NERC Policy 3 and Policy 9

NERC - ATC Definitions and Determination, June 1996

This section describes transmission transactions.

## 7.1. Bilateral Transactions

A Bilateral Transaction is the purchase and/or sale of Energy or Capacity, between two or more parties. The following topics are covered:

- Requests for Bilateral Transaction schedules
- NYISO General responsibilities
- Use of Decremental (Dec) Bids to dispatch Internal Generators
- Default Decremental (Dec) Bids
- Scheduling of Bilateral Transactions
- Day-Ahead bilateral schedules
- Reduction & Curtailment
- Scheduling transmission service for External transactions

### 7.1.1. Requests for Bilateral Transaction Schedules

Transmission Customers scheduling Firm Transmission Service or non-Firm Transmission Service (see ~~Section~~ section 2 for definitions of firm and non-firm) to support a Bilateral Transaction with Energy supplied by an External Generator or Internal Generator must submit the following information to the NYISO:

~~4~~1. Point of Injection (POI) location. For Internal Generators, the ~~Point of Injection~~POI is the Generator bus; for External Generators, the ~~Point of Injection~~POI is the Proxy Generator Bus.

~~5~~2. Point of Withdrawal (POW) location. For Internal Load, the ~~Point of Withdrawal~~POW is the Load Zone in which the Load is situated or the bus at which that Load is interconnected to the transmission system, if there is a revenue-quality real-time meter located at that bus (software constraints may initially limit the ability

to specify buses as ~~Points of Withdrawal~~POW); for delivery points outside the NYCA, the ~~Point of Withdrawal~~POW is the Proxy Generator Bus.

~~6~~3. Hourly megawatt schedules

~~7~~4. Whether Firm or non-Firm Transmission Service is requested

~~8~~5. NERC Transaction Priorities for Bilateral Transactions involving External Generators, Exports, and ~~Wheels Through~~ Wheel Throughs

~~9~~6. An optional Decremental Bid for the Bilateral Transaction up to the megawatt level of the desired schedule. If the Transmission Customer does not submit a Decremental Bid, the NYISO will assign one in accordance with ~~Section~~ sections 7.1.4~~,~~ and ~~7.1.7~~ 7.1.7.

~~10~~7. For an Internal Generator, whether the Generator is On-Dispatch or Off-Dispatch

~~11~~8. The amount (in megawatts) of any additional Energy to be provided by the Transmission Customer to cover Marginal Losses associated with the Bilateral Transaction and the location of the Generator supplying that Energy~~;~~,

~~12~~9. The amount and location of any Ancillary Services the Transmission Customer will Self-Supply in accordance with and to the extent permitted by the NYISO ~~Tariff.~~ OATT.

~~13~~10. Other data required by the NYISO.

### 7.1.2. NYISO General Responsibilities

The NYISO evaluates requests for Transmission Service to support Bilateral Transactions, and uses Security Constrained Unit Commitment (SCUC) to establish a Day-Ahead schedule. During the Dispatch Day, the NYISO uses the ~~Balancing Market Evaluation (BME)~~Real-Time Commitment (RTC) and Real-Time Dispatch (RTD) to establish schedules for each hour of dispatch in that day. The NYISO verifies that, for Bilateral Transactions supplied by Internal Generators, the Generator is scheduled for an amount (in megawatts) that does not exceed the Generator's maximum output capacity (measured in megawatts) at the Point of Injection (POI).

If ~~required~~ necessary by ~~SCD~~RTD, the NYISO will curtail Transmission Service during dispatch as described in ~~Section~~ section 7.1.7 of this manual.

### 7.1.3. Use of Decremental Bids to Dispatch Internal Generators

When dispatching Generators to match changing conditions, the NYISO treats Decremental Bids and Incremental Bids simultaneously and identically as follows:

- a Supplier's Generator serving the Locational Based Marginal Pricing (~~-~~LBMP) Market may be dispatched downward if the LBMP at the Generator's ~~Point of Injection~~POI falls below the Generator's Incremental Bid

- a Supplier's Generator serving a Bilateral Transaction may be dispatched downward if the LBMP at the Generator's ~~Point of Injection~~POI falls below the Decremental Bid for the Generator
- a Supplier's Generator may be dispatched upward if the LBMP at the Generator's ~~Point of Injection~~POI rises above the Decremental or Incremental Bid for the Generator regardless of whether the Generator is supplying Energy to the LBMP Market or supporting a Bilateral Transaction.

### 7.1.4. Default Decremental Bids

If an optional Decremental Bid is not provided, the NYISO will assign and post a default Decremental Bid. The default Decremental Bid will be based upon a large, negative value to be applied between zero megawatts and the total amount (in megawatts) of the Transaction. If a Transmission Customer who is using Grandfathered Rights to schedule a Bilateral Transaction in the Day-Ahead Market (DAM) does not provide a Decremental Bid in association with that Bilateral Transaction the NYISO will assign a default Decremental Bid equal to the lowest Decremental Bid that can be entered by a unit bidding into the Day-Ahead SCUC (as constrained by limitations of the bidding software), minus an additional $100/MWh.

### 7.1.5. Scheduling of Bilateral Transactions

Transmission Service for Bilateral Transactions is scheduled as follows:

1. The NYISO will, following evaluation of the Bids submitted, schedule Transmission Service to support Transactions for the hours in which those Transactions may be accommodated.
2. The NYISO treats all Internal Generators as Dispatchable and all External Generators as Non-Dispatchable.
3. To the extent feasible, the NYISO will use SCUC ~~and BME~~ RTC, and RTD to determine schedules for Internal Generators so that Firm Transmission Service will be provided to any Bilateral Transaction customers requesting Firm Transmission Service.
4. The NYISO does not schedule non-Firm Transmission Service associated with Transactions in the ~~Day-Ahead Market~~DAM if those Transactions would contribute to Congestion on any Constraint considered in the SCUC, nor will the NYISO schedule non-Firm Transmission Service in the ~~BME~~ RTC if those Transactions contribute to Congestion on any such Constraint. All schedules for non-Firm Transmission Service issued Day-Ahead or in the ~~BME~~ RTC will be advisory only and are subject to Reduction if Congestion occurs. Transmission Customers receiving non-Firm Transmission Service may be required to pay Congestion Rent during any

delay in the implementation of Reduction (e.g., during the nominal five-minute ~~SCD~~RTD intervals that elapse prior to the implementation of the Reduction).

### 7.1.6. Day-Ahead Bilateral Schedules

The NYISO computes all NYCA Interface Transfer Capabilities prior to scheduling Transmission Service Day-Ahead. The NYISO runs the SCUC utilizing the computed Transfer Capabilities, submitted Firm Transmission Service schedules to support Bilateral Transactions, Load forecasts, and submitted Incremental and Decremental Bids.

In the Day-Ahead schedule, the NYISO uses the SCUC to determine Generator schedules, Transmission Service associated with Transactions, and Desired Net Interchanges (DNIs) with adjacent Control Areas. The NYISO does not use Decremental Bids submitted by Transmission Customers for Generators with non-Firm Transmission Service in the determination of the Day-Ahead schedule.

### 7.1.7. Reduction and Curtailment

If a Transmission Customer's Firm Transmission Service is supporting a Bilateral Transaction supplied by an Internal Generator and that Generator is dispatched downward, the NYISO will not ~~Reduce~~~~Reduce~~reduce the Transmission Service. The NYISO will continue to supply the Load or Transmission Customer in an Export with Energy from the LBMP Market. The Transmission Customer must continue to pay the Day-Ahead TUC based on the Day-Ahead schedule of the Transactions, and in addition, the Generator must pay the LBMP price, at the ~~Point of Injection~~POI for the Transaction, for the replacement amount of Energy (in MWh) purchased in the LBMP Market.

If the Transmission Customer was receiving non-Firm Transmission Service and its Transmission Service was Reduced or Curtailed, the replacement Energy may be purchased in the Real-Time LBMP Market by the Internal Load. An Internal Generator supplying Energy for such a Transmission Service that is Reduced or Curtailed may sell its excess Energy in the Real-Time LBMP Market.

The NYISO does not automatically reinstate non-Firm Transmission Service that was Reduced or Curtailed. Transmission Customers may submit new schedules to restore the Transmission Service associated with their Transaction in the next ~~BME~~ RTC execution.

If a security violation occurs or is anticipated to occur, the NYISO will attempt to relieve the violation using the following procedures:

1. Reduce non-Firm Transmission Service
2. Curtail non-Firm Transmission Service
3. Dispatch Internal Generators, based on Incremental and Decremental Bids

4. Adjust the DNI by manually Curtailing Firm Transmission Service associated with Transactions supplied by External Generators. The NYISO will decide which Transmission Service is to be curtailed ~~on the basis of~~based on the Decremental Bids in conjunction with NERC procedures, and will Curtail Transmission Service until the transmission violation is relieved or all such Transmission Service has been curtailed.
5. Request Internal Generators to voluntarily operate in manual mode below minimum dispatchable levels. When operating in manual mode, Generators will not be required to adhere to the one percent minimum ramp rate, nor will they be required to respond to ~~SCD~~RTD Base Point Signals.
6. Decommit Internal Generators based on minimum generation Bid rate in descending order.

### 7.1.8. Scheduling Transmission Service for External Transactions

The NYISO uses Decremental Bids supplied by Transmission Customers using External Generators or using Internal Generators to supply Exports to determine the amount of Energy those Generators are scheduled Day-Ahead to produce in each hour. This in turn will determine the Firm Transmission Service scheduled to support those Transactions. The NYISO also uses Decremental Bids supplied by Transmission Customers using External Generators or using Internal Generators to supply Exports to determine the amount of Energy these Generators are scheduled to produce in the ~~BME~~RTC, which, in turn, will determine the Transmission Service scheduled to support those Transactions.

The NYISO will not schedule a Bilateral Transaction ~~which~~ that crosses an Interface between the NYCA and a neighboring Control Area if doing so would cause the DNI to exceed the Transfer Capability of that Interface.

~~Firm & Non-Firm~~

### 7.1.9. Decremental Bids for Import and Wheel-Through Transactions

~~Dec Bids~~Decremental Bids for import transactions and ~~Dec Bids~~Decremental Bids for wheel-through transactions are evaluated differently than internal or export transactions. For import and wheel-through transactions only, a Dec Bid can be added to the transaction (using the "Import/Wheels--Through Decremental Dollars" field on Page Ref. H-5 of the Market Information System). ~~Dec Bids~~Decremental Bids are not used for internal or export transactions, because bid curves submitted with a generator bid are used for NYCA generation units that are supporting internal or export transactions. The ~~Dec Bid~~Decremental Bid is a determining factor of whether or not import and wheel-through transactions ~~get~~are scheduled.

### Import Transactions

The ~~Dec Bid~~Decremental Bid value for import transactions is treated the same as an incremental energy bid from a generator. If the LBMP rate at the source (external proxy) bus is greater than the ~~Dec Bid~~Decremental Bid, then the transaction is scheduled. If the LBMP rate is less than the ~~Dec Bid~~Decremental Bid, then the transaction is not scheduled, and the energy is not imported into the NYCA. If the LBMP rate equals the ~~Dec Bid~~Decremental Bid, the transaction is on the margin and may not be scheduled if there are multiple transactions bid at that rate.

It should be noted that once a valid import transaction is submitted in either the ~~Day-Ahead Market~~DAM or the Real-Time Market, it is binding financially, even if the physical transaction is cut.

***Examples:***

- If ~~Dec Bid~~Decremental Bid = $30, and the LBMP rate = $31, the transaction is scheduled.
- If ~~Dec Bid~~Decremental Bid = $30, and the LBMP rate = $29, the transaction is not scheduled.

### Wheel-Through Transactions

The ~~Dec Bid~~Decremental Bid for a wheel-through transaction is compared to the transaction's congestion cost. That congestion cost is the difference between the congestion cost at the sink bus and the congestion cost at the source bus. (Real congestion is designated as a negative number.) This type of evaluation only occurs for wheeled transactions, since the concept of replacement energy for the reduction in one end of a wheel-through transaction does not exist.

If the transaction's congestion cost is greater than the ~~Dec Bid~~Decremental Bid, then the transaction is scheduled. If the transaction's congestion cost is less than the ~~Dec Bid~~Decremental Bid, then the transaction is not scheduled, and the energy is not wheeled through the NYCA. If the transaction's congestion cost equals the ~~Dec Bid~~Decremental Bid, the transaction is on the margin and may not be scheduled if there are multiple transactions bid at that rate.

***Examples:***

~~Dec Bid~~Decremental Bid = -$30
Congestion at the source bus = -$20
Congestion cost at the sink bus = -$40
Then the transaction congestion cost = -$40 – (-$20) = -$20, and the transaction is scheduled

~~Dec Bid~~Decremental Bid = -$30
Congestion at the source bus = -$5
Congestion cost at the sink bus = -$40
Then the transaction congestion cost = -$40 – (-$5) = -$35, and the transaction is not scheduled

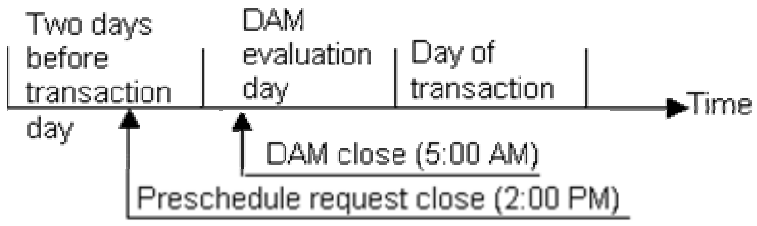
### 7.1.10. Prescheduling o~~f~~ Transactions f~~F~~or External LBMP o~~r~~ Bilateral Wheel—~~-~~Throughs

A Market Participant may submit a request to preschedule an external LBMP or a bilateral wheel through transaction with the NYISO up to 18 months prior to the transaction date. The Market Participant must also schedule the desired transaction with all other affected control areas.

The term "preschedule" refers to a "prescheduled request" that is accepted for scheduling in the designated ~~Day-Ahead Market~~DAM by the NYISO. Because a "preschedule" can span multiple days, each day of a "preschedule" becomes a transaction when its associated bids are scheduled in the ~~Day-Ahead~~Day-Ahead Market (DAM~~)~~. Thus, the sequence order of terminology is from "preschedule request" to "preschedule" to "transaction."

An accepted external LBMP or bilateral wheel-through preschedule represents a commitment on the part of the NYISO to reserve sufficient ramp and transfer capability to support the preschedule request. It also may represent a significant financial commitment to the MP if it does not flow in Real-Time. This is discussed in detail below.

An external LBMP or bilateral wheel-through preschedule request may be submitted up to 18 months prior to the effective transaction date. A preschedule request is given an economic priority over other external transactions that are not prescheduled. This means that a transaction originally submitted as a preschedule request will be a "price taker" and the entities involved agree to accept the ~~Day-Ahead Market (DAM)~~DAM clearing prices that are in effect for the transaction. Preschedule requests may be submitted until 2:00 PM two days before the date of the transaction (the "submission deadline").




***The Prescheduling Process***

Preschedule requests may be submitted via MIS bid screens or the upload/download process[1]. The NYISO will evaluate preschedule requests on a first come – first served basis. This evaluation will consider ramping capacity at each affected control area interface involved in the transaction, as well as the Available Transmission ~~Service [Vol 1 – Sect. II A3]~~Capacity (ATC) of the affected external interfaces. Once a preschedule request is accepted, the available ramping capacity and ATC are decreased, or increased in the case of a counter-flow transaction, by the requested preschedule amount. Requests that are prescheduled with the NYISO must also be appropriately submitted to all other affected control areas to ensure that the necessary ramping and transmission capacity is reserved within those control areas and that the transaction will pass the daily checkout process.

Available ramping capacity and ATC are adjusted each time a preschedule request is accepted. The new values for ATC and ramp capacity are used in the next evaluation of preschedule requests. Accepted preschedule requests in the counter-flow direction have the effect of increasing ramping capacity and ATC allowing the total MW quantity of accepted preschedule requests to exceed the capacity of an external interface. As a result, preschedule requests that are not feasible due to insufficient ramping capacity and/or ATC may become feasible as preschedule counter-flow requests are accepted. A preschedule request that cannot be accepted may be placed in a queue at the request of the Customer to be automatically re-evaluated if capacity becomes available as the result of new preschedule requests. If a preschedule request that is not accepted is not placed in the queue, then it may be manually resubmitted for evaluation at a later date.

### ***Preschedule Requests Become Day Ahead~~AM~~ Aand ~~HAM~~ RTS Bids***

After the DAM close, bids representing preschedules are automatically entered into the DAM for the appropriate transaction date. LBMP imports (injections at the external proxy bus) and wheel through requests are assigned a decremental bid value of -$1000/MW. LBMP exports (withdrawals at the external proxy bus) are assigned a sink price cap bid value of +$1000/MW. These bid values represent the highest hourly economic priority[2] for the bid and effectively ensure that the transaction will be scheduled in the DAM before other transactions are scheduled. Unless the NYISO approves the withdrawal of a preschedule, it will be submitted to the DAM for the appropriate day. Once a preschedule is scheduled in the DAM, it becomes financially binding. It should be noted that if a DAM bid that originated as a preschedule is the marginal bid, then the market will clear and settle at the +/- $1000/MW price.

[1] See Technical Bulletin # 90 for information on entering preschedule requests.
[2] External LBMP bids and decremental wheel bids that are not prescheduled will be limited to a slightly lower economic priority.

Bids are also automatically generated for the hourly ~~Balancing Market Evaluation (BME)~~Real-Time Commitment (RTC) using accepted DAM bids. Bidders may not alter parameters of the DAM or ~~BME~~RTC bids that originated from a preschedule.

### ***Cancellation and/or Alteration of Preschedules***

A preschedule request is accepted based upon the availability of ramping capacity and ATC. However, the accepted request also creates ramping capacity and ATC that supports the acceptance of preschedule requests in the counter-flow direction. A preschedule may be modified or cancelled by submitting a request for modification prior to the submission deadline. A preschedule modification request will be placed at the bottom of the queue for re-evaluation. Each modification request will be accepted if it does not cause a ramping capacity or ATC violation. If a request to modify a preschedule request is not accepted, then the original preschedule remains unchanged.

A request for withdrawal of a preschedule will be granted if such withdrawal will not adversely affect any preschedule request by another Market Participant that has been accepted for scheduling previous to the request for withdrawal. If approval of the withdrawal would cause violation of Ramp Capacity or Transfer Capability, the NYISO will not approve it and the preschedule will be submitted to the ~~Day-Ahead Market~~DAM where, if scheduled, it will become financially binding on the Market Participant that submitted it.

If the ATC or ramp capacity is changed by the NYISO due to system constraints, or accepted preschedules are rendered invalid due to the bankruptcy of a Market Participant, then remaining transactions will be pro-rated to conform to the available ramping capacity and ATC.

### ***Maintaining Queued Preschedule Requests***

Preschedule requests that are not accepted and are designated as queued by the Market Participant may be modified or removed from the queue at any time[3] prior to the submission deadline. Accepted requests, and requests that expire are automatically removed from the queue. An unaccepted preschedule request expires if not accepted prior to the submission deadline.

### ***Scheduling the NYISO Preschedule with External Control Areas***

When scheduling a NYISO preschedule with ISO-New England the Market Participant should enter the preschedule as an external transaction in ISO-NE, and also contact the

[3] Preschedule requests may not be modified while the NYISO is actively evaluating preschedule requests.

ISO-NE Scheduling Office at (413) 540-4243 and advise the scheduler that the transaction is a NYISO preschedule.

To schedule a NYISO preschedule with PJM the Market Participant should refer to Section 5 "Scheduling Strategy and Method" of the "Scheduling Operations" (M11) Manual. The Scheduling Operations Manual is available on the PJM web site at: http://pubs.pjm.com/dynaweb/PJMpubp/m11/@Generic__BookView

To schedule a NYISO preschedule with the IMO the Market Participant should schedule the desired transaction using the IMO scheduling systems and protocol with the bid price set to the $2000/MW IMO bid cap.

## 7.2. NERC Transaction Tagging

~~External Transactions (i.e., between~~ NERC Electronic Tagging (ETAG) requirements must be followed to ensure that the ~~NYCA and other Control Areas and wheels-through)~~NERC Transmission Loading Relief (TLR) procedure is supported under NYISO operation. These requirements are ~~subject to~~ in accordance with NERC Policy 3, NERC Policy 9, and various references in the ~~NERC Policy 3 for specifying and scheduling inter Control Area~~ New York ~~ISO~~ NYISO OATT, and involve any transactions~~. Parties to Internal bilateral transactions must also submit NERC tag information,~~ with the New York Control Area that are imports, exports, and wheel-throughs.

NERC Tag information must be submitted by Market Participants. Market Participants that are specifying and scheduling bilateral transactions must have Tag Agent service available, in accordance with NERC Policy 3. The Market Participants Tag Agent Service must comply with the ~~the~~ most recent version of the ***NERC Electronic Tagging – Functional Specification***.

Transaction bid information is entered into the Market Information System (MIS) according to the bidding rules. Market Participants will be required to submit NERC E-Tags for accepted transactions and associated energy profiles~~ after the accepted transactions are posted on~~ .

### 7.2.1. Transaction Identification

The NYISO and the neighboring control areas recognize that the use of a transaction identifier, consistent and compliant with ETAG, is the most meaningful method of coordinating interchange transactions.

Under NERC Tagging, every transaction is identified by a unique Tag ID, based on key attributes of the transaction as specified in the NERC Electronic Tagging Data Model:

- Source (Generation) Control Area (GCA) Code - the sending Control Area in which the generation lies, or from where the energy is exported. ~~from.~~ For transactions originating in NY, the Source Control Area Code is "NYIS".

- PSE Code (Tag Author PSE) - the Purchasing/Selling Entity who is writing and submitting the Tag to the Tag Authority
- Unique transaction identifier (Tag Code) - 7 Character code used as part of the Tag ID to identify a transaction
- Sink (Load) Control Area Code - the receiving Control Area in which the load lies, or where the energy is imported to. For transactions delivered into NY, the Sink Control Area Code is "NYIS".

All components of the Tagging Information System are treated as confidential. Each Tag ID must be unique for a period of not less than one (1) year from the stop date and time associated with the last transaction that was assigned that Tag ID. The Source, Sink, and PSE Codes are common elements to many transactions. The Tag Code is what ultimately determines the uniqueness of the Tag ID. Some Tag service providers allow the Tag Code to be entered or modified by the user, while others generate the Tag Code when the Tag is created and do not allow changes.

Under NYISO operation, the Market Information System (MIS) provides the process for requesting a transaction involving external control areas. The MIS provides the fields to enter the four components of the NERC Tag ID, and allows the user to modify all four components of the NERC Tag ID, including the Tag Code. The MIS also generates a unique identifier for each transaction entered into the MIS, known as the MIS Number. The MIS Number can be considered functionally equivalent to the Tag Code in the NERC Tag ID.

The Purchasing Selling Entity (PSE) must be a NYISO Customer and is the party responsible for submitting the anticipated transaction schedule into the ETAG system. The PSE should create one Tag for each MIS entry, such that there is a one for one match between MIS entries and Tags. There are also timing considerations with submitting a transaction into the MIS and submitting the associated ETAG. The timing requirements depend on whether the transaction is Day-Ahead or ~~Hour-Ahead~~Real-Time.

### 7.2.2. Day-Ahead Market (DAM) Tag Preparation

A NYISO customer may elect to submit E-Tags before the ~~Day-Ahead Market~~DAM closes, or after the ~~Day-Ahead Market~~DAM results are posted. The options described below are intended to assist the PSE in the use of the "Adjust" feature in E-Tag to efficiently manage E-Tags and coordinate E-Tag information in the MIS. Other variations are also possible. However, in accordance with NERC Policy, the associated E-Tag for Day-Ahead transactions must be submitted no later than 10 PM of the day prior to the transaction date to not be considered late. NYISO Market Participants are advised that Tag submission deadlines in other control areas may be more stringent, and are encouraged to submit E-

Tags for DAM accepted transactions as soon as possible after they are posted. Figure 1 illustrates E-Tag options for the DAM:

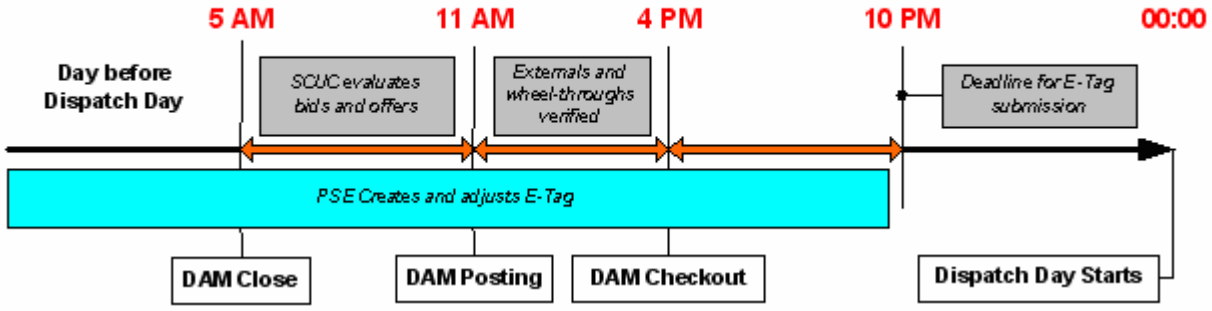



**Figure 7.2.2: E-Tagging Timeline and Associated Statuses in the DAM**

### Submitting an E-Tag Before DAM Closing and Adjusting the E-Tag after Posting

Any time before 5 AM, a PSE may create an E-Tag to act as a placeholder. Since the MW profile can be adjusted any time before 10 PM of the day prior to the Dispatch Day, the PSE can enter whatever they wish into the Tag (~~i.e.~~i.e., zeros, bid values). The E-Tag system will generate a Tag ID (including a unique Tag Code). The PSE then must enter a finalized Tag ID into the MIS by the DAM closing at 5 AM, along with the usual bid information. The PSE enters the MIS Number into one of the following E-Tag informational identifier fields, if such a field is available in the PSE's E-Tag system:

- OASIS number column — This is generally found in the Transmission Allocation Area. The MIS number is effectively the OASIS number in NY.
- Contract number column — This is generally in the Physical Path Area.
- Comment field — Generally found in the Contact Information Area.

When a final schedule is created, PSEs may use the ADJUST feature in E-Tagging to adjust the draft profile to the actual profile from the accepted DAM transactions. This may be done anytime after the DAM posts at 11 AM, but not later than 10 PM, as required by NERC Policy 3. For maximum assurance that Tag information is coordinated and current with neighboring Control Areas, the PSE should ADJUST tags as they receive notification of changes.

### Submitting and Adjusting E-Tags After DAM Posting

Ordinarily, when a PSE creates a DAM transaction in the MIS, before the 5 AM DAM closing time, they may enter a "delayed" TAG ID, including the Tag Code, into the MIS. No valid E-Tag is created at this time. Anytime after the DAM posts at 11 AM, the PSE

may create a Tag in the E-Tagging system and enter the MW profile based on the accepted transactions.

The PSE enters the MIS Number into one of the following E-Tag informational identifier fields, if such a field is available, in the PSE's local E-Tag system:

- OASIS number column — This is generally found in the Transmission Allocation Area. The MIS number is effectively the OASIS number in NY
- Contract number column — This is generally in the Physical Path Area
- Comment field — Generally found in the Contact Information Area

At this time, the PSE may enter or modify the Tag Code in one of two ways, depending on what their E-Tag system permits:

- Enter the draft Tag Code previously entered into the MIS. If the PSE chooses to manage its own Tag Codes, it must comply with the NERC requirement and ensure that the Tag ID is not repeated for at least one year.
- After the DAM checkout, modify the Tag ID in the MIS.

### 7.2.3. ~~Hour-Ahead Market (HAM)~~Real-Time Schedule (RTS) Tag Preparation

Since all accepted Day-Ahead transaction requests are re-evaluated in the ~~Hour-Ahead~~ Real-Time Market, the final hourly energy profile may differ from results determined in the ~~Day-Ahead Market~~DAM. For the NYISO ~~Hour-Ahead~~Real-Time Market, all accepted DAM transaction requests become ~~HAM~~RTS requests to be re-evaluated. By default, DAM transactions will have economic priority over ~~HAM~~RTS only transactions.

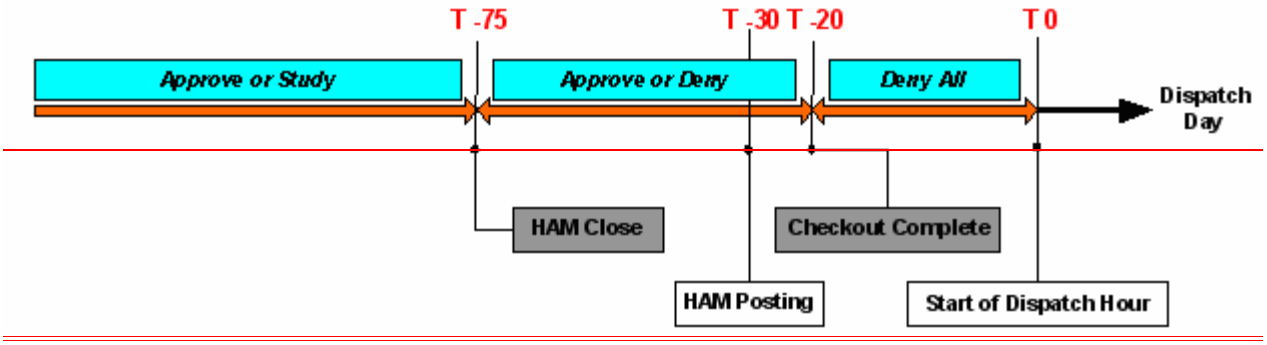
The Tag Identifier does not need to be changed for a transaction that was accepted in the DAM and that has an E-Tag associated with it. In accordance with NERC Policy, the associated E-Tag for ~~Hour-Ahead~~Real-Time transactions must be adjusted when the ~~HAM~~RTS results are posted 30 minutes prior to the hour, but no later than twenty minutes prior to the hour in order not to be considered late. Thus, the E-Tag created the day before, based on the DAM, is adjusted by the NYISO from hour to hour, based on ~~HAM~~RTS results.

MIS requires that all new ~~HAM~~RTS external transaction requests ~~require~~have a NERC tag identifier ~~to be provided in the MIS~~ at the time of the transaction request submission. Purchaser Seller Entities (PSEs) may create and manage E-Tags in similar fashion to the two options described for the DAM. Upon receiving an E-Tag request in the ~~HAM~~RTS, the NYISO compares the E-Tag profile to the corresponding transaction bid/offer in the MIS. After the ~~Balance Market Evaluation (BME)~~ Real-Time Commitment (RTC) posts, the resulting schedule and the E-Tag are compared, if they do not match, the NYISO curtails the transaction accordingly; otherwise, the transaction will flow.

Upon receiving an E-Tag request, the NYISO assigns a status to that request. One of the following statuses will be assigned to the E-Tag request:

- APROVE — A status of APROVE is assigned to an E-Tag request that is received before the hourly checkout provided the energy profile of the E-Tag matches a bid/offer for that transaction in the MIS. The NYISO may subsequently curtail the transaction, in whole or in part, based on the flow scheduled for the transaction by ~~BME~~RTC.
- STUDY — When an E-Tag request is received before the hourly market close a status of STUDY is assigned if the E-Tag energy profile does not match the transaction's bid/offer in the MIS. The STUDY status indicates that the market participant should either modify the transaction's bid/offer in the MIS or modify the energy profile of the E-Tag. Any E-Tags~~, which~~ that are in a STUDY status at the end of the approval window will be updated to Passive Approval. Passive Approval denotes instances where the NYISO lets a pre-determined time period to respond to the request expire.
- DENY — A status of DENY is assigned when either an E-Tag request submitted after the hourly market close does not match an existing bid/offer in the MIS or an E-Tag request is received after the hourly checkout of transactions with neighboring control areas.

Figure 7.2.3 illustrates E-Tag options for ~~the HAM~~RTS.



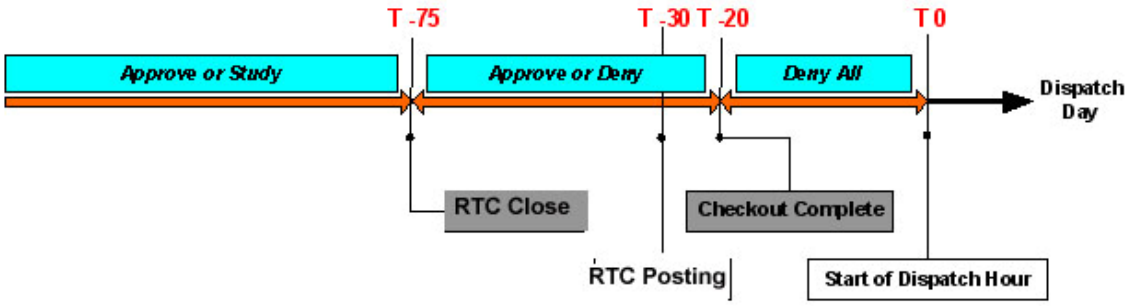



**Figure 7.2.3: E-Tagging Timeline and Associated Statuses in ~~the HAM~~Real-Time Market**

### E-Tag Requests Received Prior to ~~the HAM~~Real-Time Market Close (T -75)

When transactions are scheduled and new tag requests are submitted to the NYISO, the tags' energy profile is compared to offers in the MIS that have a matching E-Tag identification number. Provided these MW values match, the NYISO issues a status of "Approve."

For example, a generator submits a request prior to ~~the HAM~~the RTS close for a 100 MW transaction to flow to an external control area. Since a valid offer already exists in the MIS for 100 MWs, the request is given a status of "Approve." The ~~HAM~~ RTS posts the transaction at 100 MWs. The E-Tag request ensures that the NYISO and the external control area have the same MW value and the transaction flows at real-time at 100 MWs.

However, if the same transaction were scheduled by ~~BME~~RTC at 75 MWs, the NYISO would curtail the E-Tag to 75 MWs. With a value of 75 MWs associated with the transaction in each control area, the transaction flows at 75 MWs.

If the E-Tag's energy profile does not match the offer in the MIS and the request is made prior to the close of the ~~HAM~~RTS, the request is placed in "Study."

For example, if a 75 MW request was submitted prior to ~~HAM~~RTS close and a corresponding offer existed in the MIS for 100 MWs, the NYISO, because the energy profiles do not match, would place the request in "Study." The tag would be passively approved. The request would be scheduled by ~~BME~~RTC for 100 MWs and although a curtailment request would be sent to curtail the E-Tag, the value would not change, because the MW value cannot be increased. The E-Tag value is set for 75 MWs and the other control area schedules the transaction for 75 MWs. The NYISO would adjust the MIS schedule at checkout, based on the other control area's schedule, and the transaction would flow at 75 MWs.

### E-Tag Requests Received between ~~HAM~~Real-Time Market Close and Checkout (T -75 and T -20)

Any E-tag approval requests ~~that are~~ submitted to the NYISO after the ~~HAM~~RTS ~~market close time are~~ closes are assigned a status of "Approve" if the Tag's energy profile matches a valid offer in the ~~HAM~~RTS or the "Deny" status if the energy profile does not match an MIS offer.

For example, if a valid offer exists in the MIS for 100 MWs and an E-tag request is made after the ~~HAM~~RTS closes, for 75 MWs, the request is denied because the energy profiles do not match and the transaction is cut to zero. However, if the request and the MIS offer each had a value of 100 MWs, the transaction would flow at that value. Requests submitted between T -75 and T -20 are adjusted and the associated transaction curtailed if the MW value scheduled by ~~BME~~RTC differs from the original energy profile and only if the E-Tag is implemented.

### E-Tag Requests Received after the ~~HAM~~Real-Time Markets Checkout (T-20 and T 0)

All tags submitted after the ~~HAM~~RTS checkout are denied. If an offer existed in the MIS for 100 MWs and a Tag request was submitted 20 minutes or less from the start of the hour, the transaction would not flow. In this instance, even though ~~BME~~RTC schedules the transaction at 100 MWs, the transaction may be curtailed at the top of the dispatch hour.

### E-Tag Procedures for the ~~HAM~~Real-Time Market

Although E-Tags may be entered at any time up to the start of the dispatch hour, the NYISO will not approve any requests entered after the ~~HAM~~RTS checkout, subject to the procedures described above. After a request is made in the NYISO MIS, the PSE enters their MIS number into one of the following E-Tag informational identifier fields in their local E-Tag system:

- OASIS number column — This is generally found in the Transmission Allocation Area. The MIS number is effectively the OASIS number in NY
- Contract number column — This is generally in the Physical Path Area
- Comment field — Generally found in the Contact Information Area

At this time, the PSE may enter or modify the Tag Code in one of two ways, depending on what their E-Tag system permits:

- Enter the draft Tag Code previously entered into the MIS. If the PSE chooses to manage its own Tag Codes, it must comply with the NERC requirement and ensure that the Tag ID is not repeated for at least one year.
- Modify the Tag ID in the MIS.

### 7.2.4. E-Tag Revisions

According to NERC Policy 3, E-Tag corrections and adjustments are allowed. Purchaser Seller Entities (PSEs) may revise an E-Tag may by using the ADJUST or MODIFY features in E-Tag starting with Version 1.7. The original NERC tag identifier may be referenced in the MIS and retained for the duration of the transaction described by the E-Tag.

## 7.3. Transmission Transfer Capability

Transfer capability is the measure of the ability of interconnected electric systems to reliably move or transfer power from one area to another over all transmission lines (or paths) between those areas under specified system conditions. The NYISO has the responsibility of calculating Interface Transfer Capabilities of the NYS Transmission System (both within NYS and on the Interfaces between the NYCA and neighboring Control Areas), from time to time, as required by the Reliability Rules.

~~TTC will be calculated and posted on OASIS for the ten internal interfaces and for each of the interfaces with NYCA's neighbor: OH, HQ, PJM, and NE.~~

The units of transfer capability are in terms of electric power, generally expressed in megawatts. In this context, "area" may be an individual electric system, power pool, Control Area, subregion, or NERC Region, or a portion of any of these. Transfer capability is also directional in nature, That is, the transfer capability from Area A to Area B is not generally equal to the transfer capability from Area B to Area A.

#### Capability versus Capacity:

Individual transmission line capacities or ratings cannot be added to determine the transfer capability of a transmission path or interface (transmission circuits between two or more areas within an electric system or between two or more systems). Such aggregated capacity values may be vastly different from the transmission transfer capability of the network. Generally, the aggregated capacity of the individual circuits of a specific transmission interface between two areas of the network is greater than the actual transfer capability of that interface.

~~**Determination of Transfer Capability**~~

~~**The calculation of transfer capability is generally based on computer simulations of the operation of the interconnected transmission network under a specific set of assumed operating conditions. Each simulation represents a single "snapshot" of the operation of the interconnected network based on the projections of many factors, such as the following:**~~

~~**projected customer demands**~~

~~**generation dispatch**~~

~~**system configuration**~~

~~**base scheduled transfers**~~

~~**system contingencies**~~

~~**The conditions of the interconnected network continuously vary in real time. Therefore, the transfer capability of the network will also vary from one instant to the next. For this reason, transfer capability calculations may need to be updated periodically for applications in the operation of the network.**~~

**Limits to Transfer Capability:**

The ability of interconnected transmission networks to reliably transfer electric power may be limited by the physical and electrical characteristics of the system including any one or more of the following:

- ***Thermal Limits*** — Thermal limits establish the maximum amount of electric current that a transmission line or electrical facility can conduct over a specified time period before it sustains permanent damage by overheating or before it violates public safety requirements.
- ***Voltage Limits*** — System voltages and changes in voltages must be maintained within the range of acceptable minimum and maximum limits. A widespread collapse of system voltage can result in a blackout of portions or ~~all of~~ the entire interconnected network.
- ***Stability Limits*** — The transmission network must be capable of surviving disturbance through the transient and dynamic time periods (from milliseconds to several minutes, respectively) following the disturbance. If a new, stable operating point is not quickly established after a disturbance, the generators will likely lose synchronism with one another, and all or a portion of the interconnected electric systems may become unstable. The results of generator instability may damage equipment and cause uncontrolled, widespread interruption of electric supply to customers.

The limiting conditions on some portions of the transmission network can shift among thermal, voltage, and stability limits as the network operating conditions change over time.

**Determination of Transfer Capability:**

The calculation of transfer capability is generally done with computer simulations of the operation of the interconnected transmission network under a specific set of assumed operating conditions. Each simulation represents a single "snapshot" of the operation of the interconnected network based on the projections of many factors, such as g:

- customer demands
- generation dispatch
- system configuration
- base scheduled transfers
- system contingencies

The conditions of the interconnected network continuously vary in real time. Therefore, the transfer capability of the network will also vary from one instant to the next. For this reason, transfer capability calculations are updated periodically for applications in the operation of the network.

The Total Transfer Capability (TTC) between any two areas or across particular paths or interfaces is the amount of electric power that can be transferred over the interconnected transmission network in a reliable manner based on all of the following conditions:

1. For the existing or planned system configuration, and with normal (pre-contingency) operating procedures in effect, all facility loadings are within normal ratings and all voltages are within normal limits.
2. The electric systems are capable of absorbing the dynamic power swings, and remaining stable, following a disturbance that results in the loss of any single electric system element, such as a transmission line, transformer, or generating unit.
3. After the dynamic power swings subside following a disturbance that results in the loss of any single electric system element as described in (2) above, and after the operation of any automatic operating system, but before any post-contingency operator-initiated system adjustments are implemented, all transmission facility loadings are within emergency ratings and all voltages are within emergency limits.
4. With reference to condition (1) above, in the case where pre-contingency facility loadings reach normal ratings at a transfer level below that at which any first contingency transfer limits are reached, the transfer capability is defined as that transfer level at which such normal ratings are reached.
5. In some cases, individual system, power pool, subregional, or Regional planning criteria or guides may require consideration of specific multiple contingencies, such as the outage of transmission circuits using common towers or rights-of-way, in determination of transfer capability limits. If the resulting transfer limits for these multiple contingencies are more restrictive that the single contingency consideration described above, the more restrictive reliability criteria or guides must be observed.

TTC = Minimum of {Thermal Limit, Voltage Limit, Stability Limit}

The NYISO's calculation of Transfer Capability will be consistent with NERC, NPCC, and NYSRC standards and criteria. These calculations will be performed by the NYISO through the execution of off-line and real-time analytical processes (~~i.e.~~i.e., SCUC, ~~SCD~~RTD, and the ~~BME~~RTC).

### 7.3.1. Available Transfer Capability ~~(ATC)~~

Available Transfer Capability (ATC) between two areas is a measure of the transfer capability remaining in the physical transmission network. This capability may be used for further commercial activity over and above already committed uses (for a specific time

frame for a specific set of conditions). The amount reserved to support existing transmission commitments is defined in the Existing Transmission Agreements and Existing Transmission Capacity for Native Load. Mathematically, NERC defines ATC ~~is defined~~ as the Total Transfer Capability less the Transmission Reliability Margin (TRM), less the sum of existing transmission commitments (which includes retail customer service) and the Capacity Benefit Margin~~. ATC can be expressed as:~~

~~ATC = TTC - TRM - (Existing Transmission Commitments & (~~CBM~~)).~~

The ~~ISO~~ NYISO ~~will assessassess~~assesses available transfer capability ("ATC") when developing the Day-Ahead and ~~Hour-Ahead~~Real-Time schedules using the SCUC and ~~BME~~RTC processes and dispatching the NYS Power System in real-time with ~~SCD~~RTD. Transfer capability is evaluated based on base system loading and an assessment of critical contingencies on the Transmission System. ~~The critical contingencies will~~

ATC may be defined as ~~appropriate using guidelines set forth in ISO~~ NYISO ~~Procedures. Determination~~:

ATC = TTC – Transmission Interface Flow Utilization – (TRM) –(CBM)

Transmission Interface Flow Utilization is based upon the resulting interface power flows of ~~ATC will require, in all cases, that base system conditions be identified and modeled for the period being analyzed. These conditions will include projected customer Demand, anticipated Transmission System facility availability, accepted Energy Transactions for~~ the NYCA generation commitment, load pattern and ~~information about neighboring regions that affect the Transfer Capability~~Capability external control area transactions determined by the DAM and ~~HAM~~RTS evaluations. The scheduling of ~~the NYCA. The ISO's calculation~~ firm counter flow external control area transactions in either the DAM or ~~HAM~~RTS can create the equivalent of ~~Transfer Capability will be consistent with NERC principles. These calculations will be performed by the ISO~~ NYISO ~~through the performances of SCUC, SCD~~RTD~~,~~ ~~and~~ increased capacity at an external control area interface that will be reflected in Real-Time ~~Commitment~~ Scheduling (~~RTC~~RTS).~~the BME.~~ Transmission Interface Flow Utilization. The ATC is the remaining transfer capability based on the Transmission Interface Flow Utilization, less any Transmission Reliability Margin (TRM) that may be warranted. For DAM and ~~HAM~~RTS scheduling purposes, Capacity Benefit Margin (CBM) is not used by NYISO.

### ***ATC Postings***

Two values of ATC, one for firm and one for non-firm transactions, are determined as a result of each SCUC and ~~BME~~RTC evaluation process. As a final step in the SCUC and RTC ~~BME~~ processes the Non-Firm Transaction Scheduler (NFTS) performs the calculation

for determining ATC values. ATC is first calculated taking into consideration only firm transactions with the resultant value being ATC exclusive of non-firm transactions.

NFTS subsequently determines if there is remaining ATC for submitted non-firm transactions for the given study period. NFTS will then schedule those non-firm transactions and calculate the ATC value inclusive of non-firm transactions. Both ATC values are then posted to the NYISO OASIS as "ATC w/o Non-Firms" and "ATC w/Non-Firms" for the respective study period.

### ***ATC for the Day-Ahead Market***

In the ~~Day-Ahead~~Day-Ahead Market~~~~DAM, the SCUC process calculates ATC values for each hour of the next day. The DAM SCUC run incorporates the TTC values for each operating interface recognizing scheduled transmission facility maintenance outages. ATC values are determined based upon the interface power flows as a result of the generation commitment, load pattern and external control area transactions in the forecast re-dispatch pass of the SCUC evaluation. Note that DAM prices, including congestion costs, are the result of the bid load re-dispatch pass of the SCUC evaluation. Therefore, DAM values of ATC based on the forecast re-dispatch pass cannot be directly related to DAM LBMP congestion values that result from the bid load re-dispatch pass of SCUC. The forecast re-dispatch and bid load Redispatch passes of the SCUC evaluation are detailed in Technical Bulletin #49. Following the completion of the DAM process, the TTC and ATC values for each interface are then posted on the NYISO OASIS.

### ***ATC for the ~~Hour Ahead Market~~Real-Time Market***

The NYISO monitors existing system conditions and implements the ~~Hour Ahead Market~~RTS evaluation for a three-hour period, beginning with the next hour and forward for the next two consecutive hours. The ~~HAM~~RTS evaluates all accepted DAM bids and additional Hour Ahead bids received. The TTC values for the ~~HAM~~RTS evaluation are based on the known hourly maintenance schedules of generation and transmission. The TTC values also consider real time outages that may not have been prescheduled in the DAM. In addition, the NYISO Operator may ~~make adjustments to~~adjust the TTC's in the ~~HAM~~ RTS based upon real time operating conditions to address in-day reliability issues of the ~~ISO~~ NYISO Secured System.

Following the top-of-the-hour RTS execution process, on an hourly basis forty-five minutes before the start of the next hour, the TTCs and ATCs are updated and posted on the NYISO OASIS.

~~Following the HAM process, on an hourly basis thirty minutes before the start of the next hour, the TTC's and ATC's are updated and posted on the NYISO OASIS for the next three hours.~~

***Real Time Operations***

TTC and ATC values are not posted in real time, but are represented by those values that are posted on an hourly basis. In-hour changes that may occur are not posted on the NYISO OASIS until the next hour ~~HAM~~RTS evaluation is posted.

### 7.3.2. Total Transfer Capability ~~(TTC)~~

~~The Total Transfer Capability between any two areas or across particular paths or interfaces is direction specific and consistent with First Contingency Total Transfer Capability (FCTCC) as defined in NERC's May 1995 Transmission Transfer Capability reference document.~~

~~TTC is the amount of electric power that can be transferred over the interconnected transmission network in a reliable manner based on all of the following conditions:~~

~~1. For the existing or planned system configuration and with normal (pre-contingency) operating procedures in effect, all facility loadings are within normal ratings and all voltages are within normal limits.~~

~~2. The electric systems are capable of absorbing the dynamic power swings, and remaining stable, following a disturbance that results in the loss of any single electric system element, such as a transmission line, transformer, or generating unit.~~

~~3. After the dynamic power swings subside following a disturbance that results in the loss of any single electric system element as described in (2) above, and after the operation of any automatic operating system, but before any post-contingency operator-initiated system adjustments are implemented, all transmission facility loadings are within emergency ratings and all voltages are within emergency limits.~~

~~4. With reference to condition (1) above, in the case where pre-contingency facility loadings reach normal ratings at a transfer level below that at which any first contingency transfer limits are reached, the transfer capability is defined as that transfer level at which such normal ratings are reached.~~

~~5. In some cases, individual system, power pool, subregional, or Regional planning criteria or guides may require consideration of specific multiple contingencies, such as the outage of transmission circuits using common towers or rights-of-way, in determination of transfer capability limits. If the resulting transfer limits for these multiple contingencies are more restrictive that the single contingency consideration described above, the more restrictive reliability criteria or guides must be observed.~~

~~TTC = Minimum of {Thermal Limit, Voltage Limit, Stability Limit}~~

The NYISO develops Total Transfer Capability (TTC) values for the transmission operating interfaces within and relating to the NYCA as defined in the NYISO Transmission and Dispatching Operations Manual. Interfaces in New York are a predefined set of transmission circuits that represent transfer capability between Locational Based Marginal Pricing (LBMP) load zones and neighboring control areas. These interfaces are defined within the Security Constrained Unit Commit (SCUC) and ~~Balancing Market Evaluation (BME)~~Real-Time Commitment (RTC) software.

These interfaces are also defined as flowgates for NERC procedures. The interfaces are monitored in SCUC for the ~~Day-Ahead Market (DAM)~~DAM and in ~~BME~~ RTC for the ~~Hour-Ahead Market (HAM)~~RTS processes. Following the top-of-the-hour RTC execution process, on an hourly basis forty-five minutes before the start of the next hour, the TTCs and ATCs are updated and posted on the NYISO OASIS.

~~TTC and ATC values are provided hourly for the next day (24 hours) as a result of the DAM process and are provided hourly for the next three hours as a result of the HAM process (see NYISO OASIS at http://mis.nyiso.com/public/P-8list.htm).~~

TTC values are also provided for the next 30-day period to account for all scheduled transmission facility maintenance outages. The NYISO Transfer Limit Report (see NYISO OASIS at http://www.nyiso.com/public/pdf/ttcf/ttcf.pdf~~http://mis.nyiso.com/public/pdf/ttcf/ttcf.pdf~~) indicates the normal TTC value with all facilities in service and the reduced TTC value corresponding to the maintenance outage condition(s) listed.

Off-line studies performed by the NYISO in cooperation with NYISO Committees and neighboring control areas as well as NPCC studies are utilized in addition to real time system monitoring to determine the appropriate TTC values for the DAM and ~~HAM~~RTS time frames. The TTC values are reviewed by NYISO Market Operations and may be updated as warranted to ensure that accurate values are posted. TTC values for the interfaces are the result of thermal, voltage and/or stability limitations. TTC values for all NYISO interfaces include a normal operating margin in lieu of a Transmission Reliability Margin component. The normal operating margin is typically 100MW for all scheduling interfaces.

### 7.3.3. Transmission Reliability Margin ~~(TRM)~~

Transmission Reliability Margin (TRM) is defined as the amount of transmission transfer capability necessary to ensure that the interconnected transmission network is secure under a reasonable range of uncertainties in system conditions.

TRM provides a reserve transfer capability that ensures the reliability of the interconnected transmission network~~. All transmission system users benefit from the assurance that transmission services will be reliable~~ under a broad range of potential system conditions.

TRM accounts for the inherent uncertainty in system conditions and their associated affects on TTC and ATC calculations, and the need for operating flexibility to ensure reliable system operation as system conditions change.

The TRM may be applied to the ATC calculation to address unanticipated system conditions such as normal operating margin, parallel flows, load forecast uncertainty and other external system conditions. The TRM may be used to insure the transmission system is not over scheduled thus causing or aggravating real time operational problems.

For firm scheduling purposes in the DAM and ~~HAM~~RTS, TRM is not used by the NYISO. TTC values for all NYISO interfaces include a normal operating margin in lieu of a TRM component.

### 7.3.4. Capacity Benefit Margin ~~(CBM)~~

Capacity Benefit Margin (CBM) is defined as that amount of Transmission Transfer Capability reserved by Load Serving Entities to ensure access to generation from interconnected systems to meet generation reliability requirements. Reservation of CBM by a Load Serving Entity allows that entity to reduce its installed generating capacity below that which may otherwise have been necessary without interconnections to meet its generation reliability requirements.

The transmission capacity associated with CBM will not be withheld from the scheduling or dispatch of the NYS Transmission System in either the Day-Ahead or Real-Time Markets.

CBM will not be reserved in any of the calculations or software that the NYISO will use for scheduling and dispatching the transmission system. CBM will not reduce the transmission capacity that is available for scheduling transactions. The NYISO will schedule transactions up to the limits of the transmission system, taking into account only the ~~Transmission Reliability Margin (~~TRM~~)~~, which, unlike CBM, will be observed in actual system operation.

Similarly, CBM will not be withheld in determining the quantity of Transmission Congestion Contracts (TCCs) that can be made available for the NYS Transmission System. The set of TCCs that are assigned and sold for the system must be simultaneously feasible, i.e., they must correspond to a set of transactions that could be undertaken without violating any security limits on the system. The NYISO will be responsible for determining whether or not a given set of TCCs passes this test. In doing so, it will not subtract CBM in determining the transmission capacity that is available for assignment or sale as TCCs. The transmission capacity available as TCCs will correspond to that available in the actual operation of the system, i.e., TCCs will be sold up to the limits of the transmission system, taking into account TRM but not CBM.

# ~~Attachment~~ Appendix A – Sub-Zone Boundary Definitions

- Table A-1 Sub-Zone Boundary Definitions

**Table A-1: Sub-Zone Boundaries**

| Table A-1-1: Sub-Zone Boundaries CKT. Id | Station Internal to Sub-Zone | Station External to Sub-Zone |
|---|---|---|
| **Sub-Zone - NMPC West - Frontier Zone A** | | |
| 505 | Bagdad 34.5 kV | Legion Drive 34.5 kV |
| BK1 | North Broadway 115 kV | North Broadway 34.5 kV |
| BK1 | Cobble Hill 115 kV | Cobble Hill 34.5 kV |
| 100 | Lockport 115 kV | Hinman 115 kV |
| 921 | Depew 115 kV | Erie 115 kV |
| T10-12 | Gardenville-1 115 kV | Gardenville 115 kV |
| T11-12 | Gardenville-1 115 kV | Gardenville 115 kV |
| 64 | Niagara East 230 kV | Robinson Road 230 kV |
| NS-1-38 | Niagara 345 kV | Kintigh 345 kV |
| 804 | South Randolph 34.5 kV | Cold Springs 34.5 kV |
| 141 | Silver Creek Tap 115 kV | Silver Creek 115 kV |
| 816 | New Albion Tap 34.5 kV | New Albion 34.5 kV |
| 501 | Milestrip Road 34.5 kV | Cherry Creek Tap 34.5 kV |
| BANK 1 | Carrs Corners 115 kV | Cold Springs 115 kV |
| T8-12 | Gardenville-2 230 kV | Gardenville 230 kV |
| BK | Walden Ave. Tap 115 kV | Walden Ave-2 12 kV |
| BK2 | American Standard-182 115 kV | Walden Ave-1 12 kV |
| BK1 | Depew 115 kV | Depew 34.5 kV |
| 922 | North Broadway 115 kV | Erie 115 kV |
| NR2 | Niagara 345 kV | Rochester 345 kV |
| 111-1 | Lockport 115 kV | Sour Springs Road 115 kV |
| 113-1 | Lockport 115 kV | Sheldon 115 kV |
| 114-1 | Lockport 115 kV | Telegraph Road Tap 115 kV |
| 112 | Lockport 115 kV | Oakfield Tap 115 kV |
| 108-2 | Lockport 115 kV | North Akron 115 kV |

| CKT. Id | Station Internal to Sub-Zone | Station External to Sub-Zone |
|---|---|---|

| | | |
|---|---|---|
| 107-2 | Lockport 115 kV | Telegraph Road Tap 115 kV |
| 157-9 | Andover 115 kV | Palmiter Road 115 kV |
| BP76 | Packard 230 kV | Beck 230 kV |
| PA302 | Niagara 345 kV | Beck-A 345 kV |
| PA301 | Niagara 345 kV | Beck-B 345 kV |
| PA27 | Niagara 230 kV | Beck 230 kV |
| BL104 | Swan-104 115 kV | Beck 115 kV |
| BSH105 | Harper 25 Cycle | Beck 25 Cycle |
| BSH106 | Harper 25 Cycle | Beck 25 Cycle |
| PJ68 | South Ripley 230 kV | Erie East 230 kV |
| 171 | Falconer 115 kV | Warren 115 kV |
| **Sub-Zone - NYSE&G West - Frontier Zone A** | | |
| 505 | Legion Drive 34.5 kV | Bagdad 34.5 kV |
| BK1 | North Broadway 34.5 kV | North Broadway 115 kV |
| BK1 | Cobble Hill 34.5 kV | Cobble Hill 115 kV |
| 100 | Hinman 115 kV | Lockport 115 kV |
| 921 | Erie 115 kV | Depew 115 kV |
| T10-12 | Gardenville 115 kV | Gardenville-1 115 kV |
| T11-12 | Gardenville 115 kV | Gardenville-1 115 kV |
| 64 | Robinson Road 230 kV | Niagara East 230 kV |
| NS-1-38 | Kintigh 345 kV | Niagara 345 kV |
| 804 | Cold Springs 34.5 kV | South Randolph 34.5 kV |
| 141 | Silver Creek 115 kV | Silver Creek Tap 115 kV |
| 816 | New Albion 34.5 kV | New Albion Tap 34.5 kV |
| 501 | Cherry Creek Tap 34.5 kV | Milestrip Road 34.5 kV |
| BANK 1 | Cold Springs 115 kV | Carrs Corners 115 kV |
| T8-12 | Gardenville 230 kV | Gardenville-2 230 kV |
| BK | Walden Ave-2 12 kV | Walden Ave. Tap 115 kV |
| BK2 | Walden Ave-1 12 kV | American Standard-182 115 kV |
| BK1 | Depew 34.5 kV | Depew 115 kV |
| 922 | Erie 115 kV | North Broadway 115 kV |
| SR1-39 | Kintigh 345 kV | Rochester 345 kV |
| 67 | Stolle Road 230 kV | Meyer 230 kV |
| 37-HS | Stolle Road 345 kV | Homer City 345 kV |
| **Sub-Zone - RG&E - Genessee Zone B** | | |

| | | |
|---|---|---|
| 904 | Station 80 3TR 115 kV | Mortimer 115 kV |
| 24 | Pittsford-24 115 kV | Mortimer 115 kV |
| **CKT. Id** | **Station Internal to Sub-Zone** | **Station External to Sub-Zone** |
| 25 | Station 89 115 kV | Mortimer 115 kV |
| 901 | Station 33 115 kV | Mortimer 115 kV |
| BK2-PANN | Pannell 115 kV | Pannell 345 kV |
| BK1-ROCH | Station 80 1TR 115 kV | Rochester 345 kV |
| TIE | Station 82 115 kV | Mortimer 115 kV |
| BK3-ROCH | Station 80 3TR | Rochester 345 kV |
| BK1-PANN | Pannell 115 kV | Pannell 345 kV |
| BK2-ROCH | Station 80 2TR 115 kV | Rochester 345 kV |
| 13-SQ | Quaker 115 kV | Sleight Road 115 kV |
| 930 | Quaker 115 kV | Macedon 115 kV |
| 199 | Clyde 34.5 kV | Clyde 115 kV |
| 527 | C708 LD 34.5 kV | Wolcott 34.5 kV |
| 573 | Browns Coners 34.5 kV | Browns Corners Tie 34.5 kV |
| 906-SS | Station-162 115 kV | South Perry 115 kV |
| 4 | Pannell 115 kV | Farmington 115 kV |
| BK2 | Farmington 34.5 kV | Farmington 115 kV |
| BK1 | Farmington 34.5 kV | Farmington 115 kV |
| BK3 | Station-168 12 kV | Farmington 115 kV |
| **Sub-Zone - NMPC Genessee - Genessee Zone B** | | |
| 904 | Mortimer 115 kV | Station 80 3TR 115 kV |
| 24 | Mortimer 115 kV | Pittsford-24 115 kV |
| 25 | Mortimer 115 kV | Station 89 115 kV |
| 901 | Mortimer 115 kV | Station 33 115 kV |
| BK2-PANN | Pannell 345 kV | Pannell 115 kV |
| BK1-ROCH | Rochester 345 kV | Station 80 1TR 115 kV |
| TIE | Mortimer 115 kV | Station 82 115 kV |
| BK3-ROCH | Rochester 345 kV | Station 80 3TR |
| BK1-PANN | Pannell 345 kV | Pannell 115 kV |
| BK2-ROCH | Rochester 345 kV | Station 80 2TR 115 kV |
| SR1-39 | Rochester 345 kV | Kintigh 345 kV |
| NR2 | Rochester 345 kV | Niagara 345 kV |

| | | |
|---|---|---|
| 111-1 | Sour Springs Road 115 kV | Lockport 115 kV |
| 113-1 | Sheldon 115 kV | Lockport 115 kV |
| 114-1 | Telegraph Road Tap 115 kV | Lockport 115 kV |
| 112 | Oakfield Tap 115 kV | Lockport 115 kV |
| **CKT. Id** | **Station Internal to Sub-Zone** | **Station External to Sub-Zone** |
| 108-2 | North Akron 115 kV | Lockport 115 kV |
| 107-2 | Telegraph Road Tap 115 kV | Lockport 115 kV |
| PC1 | Pannell 345 kV | Clay 345 kV |
| PC2 | Pannell 345 kV | Clay 345 kV |
| 1 | Mortimer 115 kV | Lawler 115 kV |
| 2 | Mortimer 115 kV | Lawler 115 kV |
| **Sub-Zone - NMPC Central - Syracuse Zone C** | | |
| 4-36 | LaFayette 345 kV | Oakdale 345 kV |
| 35 | Camillus Metering 34.5 kV | Marcellus 34.5 kV |
| 4(977) | Farmington-4 115 kV | Border City 115 kV |
| 947-1 | Cortland 115 kV | Tuller Hill 115 kV |
| 15(979) | Elbridge 115 kV | Hyatt 115 kV |
| 5(972) | Elbridge 115 kV | State 115 kV |
| 1509 | NYSEG Tap 34.5 kV | Franklin 34.5 kV |
| 508 | Willow Glen 34.5 kV | Bishop Hill 34.5 kV |
| BK1-HAMI | Hamilton 115 kV | Hamilton 34.5 kV |
| 4 | Farmington 115 kV | Pannell 115 kV |
| BK2 | Farmington 115 kV | Farmington 34.5 kV |
| BK1 | Farmington 115 kV | Farmington 34.5 kV |
| BK3 | Farmington 115 kV | Station-168 12 kV |
| PC1 | Clay 345 kV | Pannell 345 kV |
| PC2 | Clay 345 kV | Pannell 345 kV |
| 1 | Lawler 115 kV | Mortimer 115 kV |
| 2 | Lawler 115 kV | Mortimer 115 kV |
| 6 | Lighthouse Hill 115 kV | Black River 115 kV |
| 5 | Lighthouse Hill 115 kV | East Watertown 115 kV |
| FE1 | Fitzpatrick 345 kV | Edic 345 kV |
| 19 | Volney 345 kV | Marcy 345 kV |
| 1-16 | Clay 345 kV | Edic 345 kV |

| | | |
|---|---|---|
| 2-15 | Clay 345 kV | Edic 345 kV |
| 2 | Teall 115 kV | Oneida 115 kV |
| 5 | Peterboro 115 kV | Oneida 115 kV |
| 21 | Omega Wire 34.5 kV | Camden 34.5 kV |
| 3 | Whitman 115 kV | Oneida 115 kV |
| **Sub-Zone - NYSEG Central - Syracuse Zone C** | | |
| 4-36 | Oakdale 345 kV | LaFayette 345 kV |
| 35 | Marcellus 34.5 kV | Camillus Metering 34.5 kV |
| **CKT. Id** | **Station Internal to Sub-Zone** | **Station External to Sub-Zone** |
| 4(977) | Border City 115 kV | Farmington-4 115 kV |
| 947-1 | Tuller Hill 115 kV | Cortland 115 kV |
| 15(979) | Hyatt 115 kV | Elbridge 115 kV |
| 5(972) | State 115 kV | Elbridge 115 kV |
| 1509 | Franklin 34.5 kV | NYSEG Tap 34.5 kV |
| 508 | Bishop Hill 34.5 kV | Willow Glen 34.5 kV |
| BK1-HAMI | Hamilton 34.5 kV | Hamilton 115 kV |
| 67 | Meyer 230 kV | Stolle Road 230 kV |
| 157-9 | Palmiter Road 115 kV | Andover 115 kV |
| 13-SQ | Sleight Road 115 kV | Quaker 115 kV |
| 930 | Macedon 115 kV | Quaker 115 kV |
| 199 | Clyde 115 kV | Clyde 34.5 kV |
| 527 | Wolcott 34.5 kV | C708 LD 34.5 kV |
| 573 | Browns Tie 34.5 kV | Browns 34.5 kV |
| 906-SS | South Perry 115 kV | Station-162 115 kV |
| 32 | Oakdale 345 kV | Fraser 345 kV |
| 945-1 | Willett 115 kV | East Norwich 115 kV |
| 943L | Kattleville 115 kV | Jennison 115 kV |
| 919-OD | Oakdale 115 kV | Delhi 115 kV |
| 952 | Goudey 115 kV | Laurel Lake 115 kV |
| 70-EH | Hillside 230 kV | East Towanda 230 kV |
| 30 | Watercure 345 kV | Homer City 345 kV |
| 956 | North Waverly 115 kV | East Sayre 115 kV |
| **Sub-Zone - NYPA North - Adirondack Zone D** | | |
| MRG1 | Moses 115 kV | Reynolds T#1 115 kV |

| | | |
|---|---|---|
| MRG2 | Moses 115 kV | Reynolds T#2 115 kV |
| MR3 | Moses 115 kV | Reynolds T#3 115 kV |
| MED5 | Massena 115 kV | Grasse River-Tap1 |
| MED4 | Massena 115 kV | Grasse River-Tap2 |
| PMLD1 | PMLD 1 | Plattsburgh-1 115 kV |
| PMLD4 | PMLD 1 | Plattsburgh-2 115 kV |
| PMLD2 | PMLD 2 | Tom Miller Road 115 kV |
| **Sub-Zone - NYSE&G North - Adirondack Zone D** | | |
| 1-KS | Kent Falls 115 kV | Saranac 115 kV |
| 701 | Northend 115 kV | Plattsburgh 115 kV |
| 700 | Ashley Road 115 kV | Plattsburgh 115 kV |
| 1-WB | Chateauguay 115 kV | Willis 115 kV |
| **CKT. Id** | **Station Internal to Sub-Zone** | **Station External to Sub-Zone** |
| 1 | Kent Falls 115 kV | Saranac 115 kV |
| **Sub-Zone - NMPC North - Adirondack Zone D** | | |
| MRG1 | Reynolds T#1 115 kV | Moses 115 kV |
| MRG2 | Reynolds T#2 115 kV | Moses 115 kV |
| MR3 | Reynolds T#3 115 kV | Moses 115 kV |
| MED5 | Grasse River-Tap1 | Massena 115 kV |
| MED4 | Grasse River-Tap2 | Massena 115 kV |
| PMLD1 | Plattsburgh-1 115 kV | PMLD 1 |
| PMLD4 | Plattsburgh-2 115 kV | PMLD 1 |
| PMLD2 | Tom Miller Road 115 kV | PMLD 2 |
| 701 | Plattsburgh 115 kV | Northend 115 kV |
| 700 | Plattsburgh 115 kV | Ashley Road 115 kV |
| 1-WB | Willis 115 kV | Chateauguay 115 kV |
| 1 | Saranac 115 kV | Kent Falls 115 kV |
| 1-KS | Saranac 115 kV | Kent Falls 115 kV |
| MA1 | Moses West 230 kV | Adirondack-B1 230 kV |
| MA2 | Moses West 230 kV | Adirondack-B2 230 kV |
| 5 | Dennison 115 kV | Andrews-4 115 kV |
| 4 | Dennison 115 kV | Lawrence-B 115 kV |
| 13 | Alcoa-NM 115 kV | Brady 115 kV |

| | | |
|---|---|---|
| 3 | Allen Falls 115 kV | Colton 115 kV |
| MSU1 | Massena 765 kV | Marcy 765 kV |
| L33P | Moses East 230 kV | St. Lawrence 230 kV |
| L34P | Moses East 230 kV | St. Lawrence 230 kV |
| PV-20 | Plattsburgh 115 kV | Grand Island 115 kV |
| 1-RD | Dennison 115 kV | Rosemont 115 kV |
| 2-RD | Dennison 115 Kv | Rosemont-A 115 kV |
| 7040 | Massena 765 kV | Chateauguay 765 kV |
| **Sub-Zone - NMPC Mohawk Valley - Utica Zone E** | | |
| #2 | Fraser 345 kV | Fraser 115 kV |
| BK3 | Coopers Corners 345 kV | Coopers Corners 115 kV |
| 22 | Raquette Lake Tap 46 kV | Raquette Lake 46 kV |
| BK2 | Coopers Corners 345 kV | Coopers Corners 115 kV |
| 6 | Black River 115 kV | Lighthouse Hill 115 kV |
| 5 | East Watertown 115 kV | Lighthouse Hill 115 kV |
| FE1 | Edic 345 kV | Fitzpatrick 345 kV |
| 19 | Marcy 345 kV | Volney 345 kV |
| **CKT. Id** | **Station Internal to Sub-Zone** | **Station External to Sub-Zone** |
| 1-16 | Edic 345 kV | Clay 345 kV |
| 2-15 | Edic 345 kV | Clay 345 kV |
| 2 | Oneida 115 kV | Teall 115 kV |
| 5 | Oneida 115 kV | Peterboro 115 kV |
| 21 | Camden 34.5 kV | Omega Wire 34.5 kV |
| 3 | Oneida 115 kV | Whitman 115 kV |
| 32 | Fraser 345 kV | Oakdale 345 kV |
| MA1 | Adirondack-B1 230 kV | Moses West 230 kV |
| MA2 | Adirondack-B2 230 kV | Moses West 230 kV |
| 5 | Andrews-4 115 kV | Dennison 115 kV |
| 4 | Lawrence-B 115 kV | Dennison 115 kV |
| 13 | Brady 115 kV | Alcoa-NM 115 kV |
| 3 | Colton 115 kV | Allen Falls 115 kV |
| MSU1 | Marcy 765 kV | Massena 765 kV |
| 18 | Marcy 345 kV | New Scotland-99 345 kV |
| 14 | Edic 345 kV | New Scotland-77 345 kV |

| | | |
|---|---|---|
| 30 | Porter 230 kV | Rotterdam 230 kV |
| 31 | Porter 230 kV | Rotterdam 230 kV |
| PS2 | Inghams-CD 115 kV | Inghams-ED 115 kV |
| R81 | Inghams-CD 115 kV | Inghams-PB 115 kV |
| 35 | Fraser 345 kV | Gilboa 345 kV |
| 34 | Coopers Corners 345 kV | Rock Tavern 345 kV |
| 42 | Coopers Corners 345 kV | Rock Tavern 345 kV |
| **Sub Zone - NYSE&G East - Utica Zone E** | | |
| #2 | Fraser 115 kV | Fraser 345 kV |
| BK3 | Coopers Corners 115 kV | Coopers Corners 345 kV |
| 22 | Raquette Lake 46 kV | Raquette Lake Tap 46 kV |
| BK2 | Coopers Corners 115 kV | Coopers Corners 345 kV |
| 2389 | Vinegar Hill Tap 115 kV | Vinegar Hill 115 kV |
| 945-1 | East Norwich 115 kV | Willett 115 kV |
| 943L | Jennison 115 kV | Kattleville 115 kV |
| 919-OD | Delhi 115 kV | Oakdale 115 kV |
| 7(942) | East Springfield 115 kV | Inghams-ED 115 kV |
| BK1-W.WO | West Woodbourne 115 kV | West Woodbourne 69 kV |
| **Sub-Zone - CHG&E Central - Utica Zone E** | | |
| 2389 | Vinegar Hill 115 kV | Vinegar Hill Tap 115 kV |
| **Sub-Zone - NMPC East - Capital Zone F** | | |
| **CKT. Id** | **Station Internal to Sub-Zone** | **Station External to Sub-Zone** |
| 14-NW | North Troy 115 kV | Wynantskill 115 kV |
| 13 | Comstock 115 kV | Comstock 34.5 kV |
| 13-BC | Blue Stores East 115 kV | Churchtown 115 kV |
| 10 | Mulberry Tap-10 115 kV | Mulberry 115 kV |
| 2 | Republic 115 kV | Barton 115 kV |
| 993 | Greenbush+LGE 115 kV | Stephentown 115 kV |
| 14-SC | Schodack East 115 kV | Churchtown 115 kV |
| 4 | Hague-4 115 kV | Ticonderoga 115 kV |
| 989L | Battenkill 115 kV | New Salem 115 kV |
| 13-RW | Reynolds Road 115 kV | Wynantskill 115 kV |
| BANK 1 | Comstock 115 kV | Comstock 34.5 kV |
| 18 | New Scotland-99 345 kV | Marcy 345 kV |

| | | |
|---|---|---|
| 14 | New Scotland-77 345 kV | Edic 345 kV |
| 30 | Rotterdam 230 kV | Porter 230 kV |
| 31 | Rotterdam 230 kV | Porter 230 kV |
| PS2 | Inghams-ED 115 kV | Inghams-CD 115 kV |
| R81 | Inghams-PB 115 kV | Inghams-CD 115 kV |
| 35 | Gilboa 345 kV | Fraser 345 kV |
| 7(942) | Inghams-ED 115 kV | East Springfield 115 kV |
| 301 | Leeds 345 kV | Hurley 345 kV |
| 91 | Leeds 345 kV | Pleasant Valley 345 kV |
| 92 | Leeds 345 kV | Pleasant Valley 345 kV |
| 8 | Blue Stores West 115 kV | Pleasant Valley 115 kV |
| 13 | Blue Stores East 115 kV | Pleasant Valley 115 kV |
| 12 | ADM Milling 115 kV | Pleasant Valley 115 kV |
| 2 | Airco-2T 115 kV | North Catskill 115 kV |
| 7 | Whitehall 115 kV | Blissville 115 kV |
| 6 | Hoosick 115 kV | Bennington 115 kV |
| E205W | Rotterdam 230 kV | Bear Swamp 230 kV |
| 393 | Alps 345 kV | Berkshire 345 kV |
| **Sub-Zone - NYSE&G Mechanicville - Capital Zone F** | | |
| 14-NW | Wynantskill 115 kV | North Troy 115 kV |
| 13 | Comstock 34.5 kV | Comstock 115 kV |
| 13-BC | Churchtown 115 kV | Blue Stores East 115 kV |
| 10 | Mulberry 115 kV | Mulberry Tap-10 115 kV |
| 2 | Barton 115 kV | Republic 115 kV |
| 993 | Stephentown 115 kV | Greenbush+LGE 115 kV |
| **CKT. Id** | **Station Internal to Sub-Zone** | **Station External to Sub-Zone** |
| 14-SC | Churchtown 115 kV | Schodack East 115 kV |
| 4 | Ticonderoga 115 kV | Hague-4 115 kV |
| 989L | New Salem 115 kV | Battenkill 115 kV |
| 13-RW | Wynantskill 115 kV | Reynolds Road 115 kV |
| BANK 1 | Comstock 34.5 kV | Comstock 115 kV |
| **Sub-Zone - NYSE&G Hudson - Mid Hudson Zone G** | | |
| 861L | West Woodbourne 69 kV | Neversink Tap 69 kV |
| BANK | Walden 69 kV | East Walden 69 kV |

| | | |
|---|---|---|
| 860L | West Woodbourne 69 kV | Grimley 69 kV |
| BK1-W.WO | West Woodbourne 69 kV | West Woodbourne 115 kV |
| **Sub-Zone - Central Hudson - Mid Hudson Zone G** | | |
| 861L | Neversink Tap 69 kV | West Woodbourne 69 kV |
| BANK | East Walden 69 kV | Walden 69 kV |
| 860L | Grimley 69 kV | West Woodbourne 69 kV |
| BK6108B | Rock Tavern-1 115 kV | Monroe 115 kV |
| 952 | Grahmsville 69 kV | Grahmsville 69 kV |
| BKS1 | Pleasant Valley 115 kV | Pleasant Valley 345 kV |
| 77-RR | Rock Tavern 345 kV | Ramapo 345 kV |
| 34 | Rock Tavern 345 kV | Coopers Corners 345 kV |
| 42 | Rock Tavern 345 kV | Coopers Corners 345 kV |
| 301 | Hurley 345 kV | Leeds 345 kV |
| 8 | Pleasant Valley 115 kV | Blue Stores West 115 kV |
| 13 | Pleasant Valley 115 kV | Blue Stores East 115 kV |
| 12 | Pleasant Valley 115 kV | ADM Milling 115 kV |
| 2 | North Catskill 115 kV | Airco-2T 115 kV |
| 305 | Roseton 345 kV | East Fishkill 345 kV |
| #1 | East Fishkill 115 kV | Fishkill 345 kV |
| A-FS | Fishkill 115 kV | Sylvan Lake 115 kV |
| 825 | Smithfield 69 kV | Amenia 69 kV |
| FE | Smithfield 69 kV | Falls 69 kV |
| **Sub-Zone - Orange & Rockland - Mid Hudson Zone G** | | |
| BK6108B | Monroe 115 kV | Rock Tavern-1 115 kV |
| 952 | Grahmsville 69 kV | Grahmsville 69 kV |
| BK258 | South Mahwah 138 kV | South Mahwah -1 345 kV |
| BK1300 | Ramapo 138 kV | Ramapo 345 kV |
| BK2300 | Ramapo 138 kV | Ramapo 345 kV |
| GEN1 | Bowline 20 kV | Bowline1 345 kV |
| **CKT. Id** | **Station Internal to Sub-Zone** | **Station External to Sub-Zone** |
| GEN2 | Bowline 20 kV | Bowline2 345 kV |
| BK194 | West Haverstraw 138 kV | West Haverstraw 345 kV |
| D | Sugarloaf 115 kV | Franklin 115 kV |
| J | Sugarloaf 115 kV | Franklin 115 kV |

| | | |
|---|---|---|
| **Sub-Zone - Con Edison Mid-Hudson - Mid Hudson Zone G** | | |
| 91 | Pleasant Valley 345 kV | Leeds 345 kV |
| 92 | Pleasant Valley 345 kV | Leeds 345 kV |
| BKS1 | Pleasant Valley 345 kV | Pleasant Valley 115 kV |
| 77-RR | Ramapo 345 kV | Rock Tavern 345 kV |
| BK258 | South Mahwah -1 345 kV | South Mahwah 138 kV |
| BK1300 | Ramapo 345 kV | Ramapo 138 kV |
| BK2300 | Ramapo 345 kV | Ramapo 138 kV |
| GEN1 | Bowline1 345 kV | Bowline 20 kV |
| GEN2 | Bowline2 345 kV | Bowline 20 kV |
| BK194 | West Haverstraw 345 kV | West Haverstraw 138 kV |
| F30 | Pleasant Valley 345 kV | Wood Street-B 345 kV |
| F31/W81 | Pleasant Valley 345 kV | Millwood Street 345 kV |
| F36 | Pleasant Valley 345 kV | East Fishkill 345 kV |
| F37 | Pleasant Valley 345 kV | East Fishkill 345 kV |
| Y94 | Ramapo 345 kV | Buchanan North 345 kV |
| Y88 | Ladentown 345 kV | Buchanan South 345 kV |
| 398 | Pleasant Valley 345 kV | Long Mountain 345 kV |
| J3410 | Waldwick 345 kV | South Mahwah-1 345 kV |
| K3411 | Waldwick 345 kV | South Mahwah-2 345 kV |
| 5018 | Ramapo 500 kV | Branchburg 500 kV |
| **Sub-Zone - Con Edison North - Millwood Zone H** | | |
| BANK2 | Wood Street-B 345 kV | Wood Street 115 kV |
| BANK1 | Wood Street-A 345 kV | Wood Street 115 kV |
| 407L | Mohansic-B 13 kV | Mohansic-B 13 kV |
| 402L | Mohansic-A 13 kV | Mohansic-A 13 kV |
| 305 | East Fishkill 345 | Roseton 345 kV |
| #1 | Fishkill 345 kV | East Fishkill 115 kV |
| F36 | East Fishkill 345 kV | Pleasant Valley 345 kV |
| F37 | East Fishkill 345 kV | Pleasant Valley 345 kV |
| Y88 | Buchanon South 345 kV | Ladentown 345 kV |
| Y94 | Buchanon North 345 kV | Ramapo 345 kV |
| F30 | Wood Street-B 345 kV | Pleasant Valley 345 kV |

| CKT. Id | Station Internal to Sub-Zone | Station External to Sub-Zone |
|---|---|---|
| F31/W81 | Millwood 345 kV | Pleasant Valley 345 kV |
| Y86 | Fishkill 345 kV | Pleasantville East 345 kV |
| Y87 | Wood Street-A 345 kV | Pleasantville West 345 kV |
| W93 | Buchanan North 345 kV | Eastview-1 345 kV |
| W99 | Millwood 345 kV | Eastview-2 345 kV |
| W82 | Millwood 345 kV | Eastview-3 345 kV |
| W85 | Millwood 345 kV | Eastview-4 345 kV |
| **Sub-Zone - NYSE&G Brewster - Millwood Zone H** | | |
| BANK2 | Wood Street 115 kV | Wood Street-B 345 kV |
| BANK1 | Wood Street 115 kV | Wood Street-A 345 kV |
| 407L | Mohansic-B 13 kV | Mohansic-B 13 kV |
| 402L | Mohansic-A 13 kV | Mohansic-A 13 kV |
| A-FS | Sylvan Lake 115 kV | Fishkill 115 kV |
| 825 | Amenia 69 kV | Smithfield 69 kV |
| **Sub-Zone - Con Edison Central - Sprainbrook/Dunwoodie Zone I** | | |
| Y86 | Pleasantville East 345 kV | Fishkill 345 kV |
| Y87 | Pleasantville West 345 kV | Wood Street-A 345 kV |
| W93 | Eastview-1 345 kV | Buchanan North 345 kV |
| W99 | Eastview-2 345 kV | Millwood 345 kV |
| W82 | Eastview-3 345 kV | Millwood 345 kV |
| W85 | Eastview-4 345 kV | Millwood 345 kV |
| 71-DR | Dunwoodie 345 kV | Rainey 345 kV |
| 72-DR | Dunwoodie 345 kV | Rainey 345 kV |
| M51 | Sprainbrook 345 kV | West 49th Street 345 kV |
| M52 | Sprainbrook 345 kV | West 49th Street 345 kV |
| X28 | Sprainbrook 345 kV | Tremont 345 kV |
| 99153 | Dunwoodie South 138 kV | East 179th Street 138 kV |
| 99031 | Dunwoodie North-1 138 kV | Sherman Creek 138 kV |
| 99032 | Dunwoodie North-2 138 kV | Sherman Creek 138 kV |
| Y49 | Sprainbrook 345 kV | Davenport 345 kV |
| Y50 | Dunwoodie 345 kV | Shore Road 345 kV |
| **Sub-Zone - Con Edison - New York City Zone J** | | |
| 71-DR | Rainey 345 kV | Dunwoodie 345 kV |

| | | |
|---|---|---|
| 72-DR | Rainey 345 kV | Dunwoodie 345 kV |
| M51 | West 49th Street 345 kV | Sprainbrook 345 kV |
| M52 | West 49th Street 345 kV | Sprainbrook 345 kV |
| X28 | Tremont 345 kV | Sprainbrook 345 kV |
| **CKT. Id** | **Station Internal to Sub-Zone** | **Station External to Sub-Zone** |
| 99153 | East 179th Street 138 kV | Dunwoodie South 138 kV |
| 99031 | Sherman Creek 138 kV | Dunwoodie North-1 138 kV |
| 99032 | Sherman Creek 138 kV | Dunwoodie North-2 138 kV |
| 903-JL | Jamaica 138 kV | Lake Success 138 kV |
| 901 L&M | Jamaica 138 kV | Valley Stream 138 kV |
| B3402 | Farragut 345 kV | Hudson-1 345 kV |
| C3403 | Farragut 345 kV | Hudson-2 345 kV |
| A2253 | Goethals 230 kV | Linden 230 kV |
| **Sub-Zone - Long Island Power Authority - Long Island Zone K** | | |
| Y49 | Davenport 345 kV | Sprainbrook 345 kV |
| Y50 | Shore Road 345 kV | Dunwoodie 345 kV |
| 903-JL | Lake Success 138 kV | Jamaica 138 kV |
| 901 L&M | Valley Stream 138 kV | Jamaica 138 kV |
| 1385 | Northport 138 kV | Norwalk Harbor 138 kV |

Other Control Area Interconnections

The transmission interconnections between the New York Control Area and other Control Areas are listed in Table A-1-2.

**Table A-2: New York Control Area Interconnections with Other Control Areas**

| Table A-1-2: New York Control Area Interconnections with Other Control Areas Ckt.Id | From/To | kV | From Company |
|---|---|---|---|
| | **The interfaces between the NYCA and PJM:** | | |
| 5018 | Ramapo/Branchburg | 500 | O&R |
| J | So. Mahwah/Waldwick | 345 | O&R |
| K | So. Mahwah/Waldwick | 345 | O&R |
| B3402 | Farragut/Hudson | 345 | ConEd |
| C3403 | Farragut/Hudson | 345 | ConEd |
| A2253 | Goethals/Linden | 230 | ConEd |
| 69 | So. Ripley/Erie East | 230 | NMPC |
| 171 | Falconer/Warren | 115 | NMPC |
| 37-HS | Stolle Road/Homer City | 345 | NYSEG |
| 30-HW | Watercure/Homer City | 345 | NYSEG |
| 70-EH | Hillside/East Towanda | 230 | NYSEG |
| 952 | Goudey/Laurel Lake | 115 | NYSEG |
| 956 | No. Waverly/East Sayre | 115 | NYSEG |
| D | Sugarloaf/Franklin | 115 | CHG&E |
| **Ckt.Id** | **From/To** | **kV** | **From Company** |
| J | Sugarloaf/Franklin | 115 | CHG&E |
| | **The interface between the NYCA and NE:** | | |
| 398 | Pleasant Valley/Long Mtn | 345 | ConEd |
| FE | Smithfield/Falls Village | 69 | CHG&E |
| 1385 | Northport/Norwalk Harbor | 138 | LIPA |
| 393 | Alps/Berkshire | 345 | NMPC |
| E205W | Rotterdam/Bear Swamp | 230 | NMPC |
| 6 | Hoosick/Bennington | 115 | NMPC |
| 7 | Whitehall/Blissville | 115 | NMPC |
| PV-20 | Plattsburgh/Grand Isle | 115 | NYPA |
| | **The interface between the NYCA and OH:** | | |
| BP76 | Packard/Beck | 230 | NMPC |
| PA302 | Niagara/Beck A | 345 | NYPA |

| | | | |
|---|---|---|---|
| PA301 | Niagara/Beck B | 345 | NYPA |
| L34P | Moses/St. Lawrence | 230 | NYPA |
| L33P | Moses/St. Lawrence | 230 | NYPA |
| PA27 | Niagara/Beck | 230 | NYPA |
| | **The interface between the NYCA and HQ** | | |
| 1 | Dennison/Rosemont | 115 | NMPC |
| 2 | Dennison/Rosemont | 115 | NMPC |
| 7040 | Massena/Chateaugay | 765 | NYPA |

# ~~Attachment~~ Appendix B – Service Agreements for Transmission Service

- ~~Exhibit~~ Form B-1: Form of Service Agreement for Firm Point-To-Point Transmission Service
- ~~Exhibit~~ Form B-2: Form of Service Agreement for Non-Firm Point-To-Point Transmission Service.
- ~~Exhibit~~ Form B-3: Form of Service Agreement for Network Integration Transmission Service.
- Form B-4 - CERTIFICATION
- Form B-5 - Specification for Network Integration Transmission Service

## Form B-1 - Service Agreement for Firm Point-To-Point Transmission Service

1.0 This Service Agreement, dated as of _____, is entered into, by and between _____ (the "ISO"), and _____ ("Transmission Customer").

2.0 The Transmission Customer has been determined by the ISO to have a Completed Application for Firm Point-To-Point Transmission Service under the NYISO Tariff.

3.0 Service under this agreement shall commence on the later of (l) the requested service commencement date, or (2) the date on which construction of any Direct Assignment Facilities and/or Network Upgrades are completed, or (3) such other date as it is permitted to become effective by the Commission. Service under this agreement shall terminate on such date as mutually agreed upon by the parties.

4.0 The ISO agrees to provide and the Transmission Customer agrees to pay for Firm Point-To-Point Transmission Service in accordance with the provisions of Part II of the NYISO Tariff and this Service Agreement.

5.0 Any notice or request made to or by either Party regarding this Service Agreement shall be made to the representative of the other Party as indicated below.

ISO

Transmission Customer:

6.0 The Tariff is incorporated herein and made a part hereof.

**IN WITNESS WHEREOF**, the Parties have caused this Service Agreement to be executed by their respective authorized officials.

ISO

By: _____

Name Title Date

Transmission Customer:

By: _____ _____ _____

Name Title Date

## Form B-2 - Service Agreement for Non-Firm Point-To-Point Transmission Service

1.0 This Service Agreement, dated as of _____, is entered into, by and between _____ (the ISO), and _____ (Transmission Customer).

2.0 The Transmission Customer has been determined by the ISO to be a Transmission Customer under Part II of the Tariff and has filed a Completed Application for Non-Firm Point-To-Point Transmission Service in accordance with Part II of the NYISO Tariff.

3.0 Service under this Agreement shall be provided by the ISO upon request by an authorized representative of the Transmission Customer.

4.0 The Transmission Customer agrees to supply information the ISO deems reasonably necessary in accordance with Good Utility Practice in order for it to provide the requested service.

5.0 The ISO agrees to provide and the Transmission Customer agrees to pay for Non-Firm Point-To-Point Transmission Service in accordance with the provisions of Part II of the Tariff and this Service Agreement.

6.0 Any notice or request made to or by either Party regarding this Service Agreement shall be made to the representative of the other Party as indicated below.

ISO

Transmission Customer:

7.0 The Tariff is incorporated herein and made a part hereof. IN WITNESS WHEREOF, the Parties have caused this Service Agreement to be executed by their respective authorized officials.

**IN WITNESS WHEREOF**, the Parties have caused this Service Agreement to be executed by their respective authorized officials.

| ISO | Transmission Customer: |
|---|---|
| By: _____ | By: _____ |
| Name | Name |
| Title | Title |
| Date | Date |

## Forms B-3 - Service Agreement for Network Integration Transmission Service

1.0. This Service Agreement, dated as of _____, 19__, is entered into, by and between the New York System Operator ("ISO") and _____ ("Transmission Customer").

2.0..The Transmission Customer has been determined by the ISO to have a valid request for Network Transmission Service under the Tariff and to have satisfied the conditions for service imposed by this Tariff.

3.0..Service under this Agreement shall commence on the later of: (1) the requested service commencement date, or (2) the date on which construction of any Direct Assignment Facilities and/or Network Upgrades are completed, or (3) such other date as it is permitted to become effective by the Commission. Service under this Agreement shall terminate on such date as mutually agreed upon by the parties.

4.0..The ISO agrees to provide and the Transmission Customer agrees to pay for Network Transmission Service in accordance with the provisions of this Tariff, including the Network Operating Agreement (which is incorporated herein by reference), and this Service Agreement as they may be amended from time to time.

5.0..Any notice or request to or by either Party regarding this Service Agreement shall be made to the representative of the other Party as indicated below.

Transmission Provider:

New York Independent System Operator
3890 Carman Road
Guilderland, New York 12303

Transmission Customer:

_____

_____

_____

6.0 This Tariff for Network Integration Transmission Service is incorporated herein and made a part hereof.

**IN WITNESS WHEREOF**, the Parties have caused this Service Agreement to be executed by their respective authorized officials.

New York Independent System Operator

By: _____ _____ _____

Name Title Date

Transmission Customer:

By: _____ _____ _____

Name Title Date

## Forms B-4 - CERTIFICATION

I, _____, certify that I am a duly authorized officer of

_____ (Transmission Customer) and that

_____ (Transmission Customer) will not request service under this Service Agreement to assist an Eligible Customer to avoid the reciprocity provision

of this Open Access Transmission Tariff.

(Name)

(Title) _____

Subscribed and sworn before me
this _____ day of _____ 20 ___

_____

(Notary Public)

My Commission Expires: / / _____

## Form~~s~~ B-5 - Specification for Network Integration Transmission Service

1.0 Term of Transaction: _____
Start Date: _____
Termination Date:_____

2.0 Description of Capacity and/or Energy to be transmitted within the NYCA (including electric control area in which the transaction originates).

_____

3.0 Network Resources: _____

4.0 Network Load: _____

5.0 Designation of party subject to reciprocal service obligation: _____

6.0 Name(s) of any Intervening Systems providing transmission service:_____

7.0 Service under this Agreement may be subject to some combination of the charges detailed below. (The appropriate charges for individual transactions will be determined in accordance with the terms and conditions of this Tariff.)

7.1 Embedded Cost Transmission Charge:_____

7.2 Facilities Study Charge: _____

7.3 Direct Assignment Facilities Charge:_____

7.4 Ancillary Services Charge:_____

7.5 Other Supporting Facilities Charge:_____

# ~~Attachment~~ Appendix C – Wholesale TSC Information

- Table C -1 lists the applicable wholesale TSC for Exports from the NYCA, by transmission circuit.
- Table C -2 identifies the applicable wholesale TSC for Municipal Utilities, Electric Cooperatives, and Loads.

**Table C -1: Applicable Wholesale TSC for Exports from NYCA, by Transmission Circuit**

| Ckt.Id | From/To | kV | From Co./To Ext. | Wholesale TSC Paid |
|---|---|---|---|---|
| 5018 | Ramapo / Branchburg | 500 | O&R/PJM | Con Ed/O&R |
| 398 | Pleasant Valley/ Long Mtn | 345 | CHG&E / NE | Con Ed |
| B3402 | Farragut / Hudson | 345 | Con Ed / PJM | Con Ed |
| C3403 | Farragut / Hudson | 345 | Con Ed / PJM | Con Ed |
| A2253 | Goethals / Linden | 230 | Con Ed / PJM | Con Ed |
| FE | Smithfield / Falls Village | 69 | CHG&E/NE | CHG&E |
| D | Sugarloaf/Franklin | 115 | CHG&E/PJM | CHG&E |
| J | Sugarloaf/Franklin | 115 | CHG&E/PJM | CHG&E |
| 1385 | Northport / Norwalk | 138 | LIPA / NE | LIPA |
| 393 | Alps / Berkshire | 345 | NMPC / NE | NMPC |
| 69 | So. Ripley / Erie East | 230 | NMPC / PJM | NMPC |
| E205W | Rotterdam / Bear Swamp | 230 | NMPC / NE | NMPC |
| BP76 | Packard / Beck | 230 | NMPC / OH | NMPC |
| 171 | Falconer / Warren | 115 | NMPC / PJM | NMPC |
| 6 | Hoosick / Bennington | 115 | NMPC / NE | NMPC |
| 7 | Whitehall / Blissville | 115 | NMPC / NE | NMPC |
| 1 | Dennison / Rosemont | 115 | NMPC / HQ | NMPC |
| 2 | Dennison / Rosemont | 115 | NMPC / HQ | NMPC |
| 37-HS | Stolle Road / Homer City | 345 | NYSEG / PJM | NYSEG |
| 30-HW | Watercure / Homer City | 345 | NYSEG / PJM | NYSEG |
| 70-EH | Hillside / East Towanda | 230 | NYSEG / PJM | NYSEG |
| 952 | Goudey / Laurel Lake | 115 | NYSEG / PJM | NYSEG |
| 956 | No. Waverly / East Sayre | 115 | NYSEG / PJM | NYSEG |
| J | So. Mahwah / Waldwick | 345 | O&R / PJM | Con Ed/O&R |
| K | So. Mahwah / Waldwick | 345 | O&R / PJM | Con Ed/O&R |
| 7040 | Massena / Chateaugay | 765 | NYPA / HQ NYPA | NYPA |
| PA302 | Niagara / Beck A | 345 | NYPA / OH | NYPA |
| PA301 | Niagara / Beck B | 345 | NYPA / OH | NYPA |
| L34P | Moses / St. Lawrence | 230 | NYPA / OH | NYPA |
| L33P | Moses / St. Lawrence | 230 | NYPA / OH | NYPA |
| PA27 | Niagara / Beck | 230 | NYPA / OH | NYPA |
| PV-20 | Plattsburgh / Grand Isle | 115 | NYPA / NE | NYPA |

**Table C -2: Applicable Wholesale TSC for Municipal Utilities, Electric Cooperatives, and Loads**

Except for those municipal utilities and electric cooperatives that continue to take transmission service under an Existing Transmission Agreement, the following Loads shall be obligated to pay the noted Transmission District - based TSC.

| Load | TSC Paid | Load | TSC Paid | Load | TSC Paid |
|---|---|---|---|---|---|
| Con Ed | Con Ed | Greene | NYSEG | Sherrill | NMPC |
| LIPA | LIPA | Green Island | NMPC | Silver Springs | NYSEG |
| CHG&E | CHG&E | Greenport | LIPA | Skaneateles | NMPC |
| NYSEG | NYSEG | Groton | NYSEG | Solvay | NMPC |
| NMPC | NMPC | Hamilton | NYSEG | Spencerport | RG&E |
| O&R | O&R | Holley | NMPC | Springville | NMPC |
| RG&E | RG&E | Ilion | NMPC | Steuben | NYSEG |
| Akron | NMPC | Lake Placid | NMPC | Theresa | NMPC |
| Andover | NMPC | Little Valley | NMPC | Tupper Lake | NMPC |
| Angelica | RG&E | Marathon | NYSEG | Watkins Glen | NYSEG |
| Arcade | NMPC | Mayville | NMPC | Wellsville | NMPC |
| Bath | NYSEG | Mohawk | NMPC | Westfield | NMPC |
| Bergen | NMPC | Oneida -Madison | NMPC/ NYSEG | Massena | NYPA |
| Boonville | NMPC | Otsego | NYSEG | Freeport | LIPA |
| Brolton | NMPC | Penn Yan | NYSEG | Jamestown | NMPC |
| Castile | NYSEG | Philadelphia | NMPC | Rockville Ctr. | LIPA |
| Churchville | NMPC | Plattsburgh | NYPA | Alcoa | Note (1) |
| Delaware | NYSEG | Richmondville | NMPC | Reynolds | NYPA |
| Endicott | NYSEG | Rouses Point | NYSEG | Gen. Motors (Massena, NY) | NYPA |
| Fairport | NMPC | Salamanca | NMPC | Cornwall | NMPC |
| Frankfort | NMPC | Sherburne | NYSEG | | |

Notes: (1) - Load is treated as an entity external to the NYCA.