# 6.2 Schedule 2 - Charges for Voltage Support Service

In order to maintain transmission voltages on the NYS Transmission System within acceptable limits, generation facilities under the control of the ISO, synchronous condensers, and Qualified Non-Generator Voltage Support Resources, are operated to produce (or absorb) reactive power. Thus, Voltage Support Service must be provided for each Transaction on the NYS Transmission System. The amount of Voltage Support Service that must be supplied with respect to the Transmission Customer's Transactions will be determined based on the reactive power support necessary to maintain transmission voltages within limits that are generally accepted in the region and consistently adhered to by the ISO.

Voltage Support Service is to be provided directly by the ISO. The methodologies that the ISO will use to obtain Voltage Support Service and the associated charges for such service are set forth below.

## 6.2.1 Responsibilities

The ISO shall coordinate the Voltage Support Service provided by generation facilities, synchronous condensers, and Qualified Non-Generator Voltage Support Resources that qualify to provide such services as described in Section 15.2.1.1 of Rate Schedule 2 of the ISO Services Tariff.

#### 6.2.1.1 Wheels Through, Exports and Purchases from the LBMP Market

Transmission Customers engaging in Wheels Through, and Exports Bilateral

Transactions and Customers Purchases purchasing engaging in Exports from the LBMP Market where the Energy is delivered to an NYCA Interconnection with another Control Area-shall

purchase Voltage Support Service from the ISO at the rates described in the formula contained in Section 6.2.2.1 of this Rate Schedule.

# **6.2.1.2** Load-Serving Entities

LSEs serving Load in the NYCA shall purchase all Voltage Support Service from the ISO at the rates described in the formula contained in Section 6.2.2.1 of this Rate Schedule.

# 6.2.2 Payments

#### 6.2.2.1 Payments made by Transmission Customers and LSEs

Transmission Customers, <u>Customers</u>, <u>and LSEs</u> shall pay the ISO for Voltage Support

Service. The ISO shall

compute the Voltage Support Service Rate based on forecast data using the following equation

$$Rate_{VSS} = \frac{\sum_{NYISO}^{All} NYISO_{VSSPayments} + PYA_{VSS}}{Energy_{NYISO}}$$

$$Rate_{VSS} = \frac{\sum NYISO_{VSSPmts} + PYA_{VSS}}{Energy_{NYISO}}$$

Where:

 $Rate_{VSS}$  = Voltage Support Service Rate (\$\frac{\\$/MWh}{\}}

Energy<sub>ISO</sub> = The annual forecasted transmission usage for the year as projected by the ISO including Load within the NYCA, Exports and Wheels Through (MWh).

Σ NYISO vss<sub>PaymentPmtss</sub> = The sum of the projected ISO payments to generation facilities,

synchronous condensers, and Qualified Non-Generator Voltage Support

Resources providing Voltage Support Service based on Sections 15.2.2.1,

15.2.2.2 and 15.2.2.3 of Rate Schedule 2 of the ISO Services Tariff (\$).

 $PYA_{VSS}$ 

"Prior year adjustment" for Voltage Support Service which is the Ttotal of prior year payments to generation facilities, synchronous condensers, and Qualified Non-Generator Voltage Support Resources supplying Voltage Support Service as defined in the ISO Services Tariff less the total of payments received by the ISO from Transmission Customers, Customers and LSEs in the prior year for Voltage Support Service (including all payments for penalties) (\$).

Transmission Customers engaging in Wheels Through, and Exports Bilateral

Transactions, and Customers Purchases purchasing engaging in Exports from the LBMP Market where the Energy is delivered to a NYCA interconnection with another Control Area shall pay to the ISO a charge for this service equal to the rate as determined in Section 6.2.1 of this Rate

Schedule multiplied by their Energy scheduled in the hour. LSEs shall pay to the ISO a charge for this service equal to the rate as determined in Section 6.2.1 of this Rate Schedule multiplied by the Energy consumed by the LSE's Load located in the NYCA in the hour provided, however, LSEs taking service under Section 5 of the OATT to supply Station Power as a third-party provider shall pay to the ISO a charge for this service equal to the rate as determined in Section 6.2.1 of this Rate Schedule multiplied by the LSE's Station Power provided under Section 5 of the OATT. The ISO shall credit Revenue collected by application of this charge, on a Load ratio share basis, to Transmission Customers engaging in Wheels Through, Exports and Purchases

from the LBMP Market where the Energy is delivered to a NYCA interconnection with another Control Area in the day and LSEs serving New York Control Area Load in the day. For LSEs and all Wheels Through, and Exports and Purchases from the LBMP Market for Energy delivered to a NYCA interconnection with another Control Area, the ISO shall calculate the payment hourly. The ISO shall bill each Transmission Customer or LSE monthly.

# 6.2.3 Self-Supply

All Voltage Support Service shall be purchased from the ISO.

# 6.3 Schedule 3 - Charges for Regulation Service

Regulation Service is necessary to provide for the continuous balance of resources (generation and interchange) with Load. Regulation Service is accomplished by committing on line Generators whose output is raised or lowered (predominantly through the use of automatic generating control equipment) as necessary to follow the moment by moment changes in Load. The obligation to maintain this balance between Resources and Load lies with the ISO. The ISO must offer this service when the Transmission Service is used to serve Load within the NYCA and when LSEs use Energy from the LBMP Market to service Load within the NYCA. The Transmission Customer must either purchase this service from the ISO or make alternative comparable arrangements to satisfy its Regulation Service obligation. The charges for Regulation Service are set forth below.

# **6.3.1** Customer Obligations and Responsibilities

Transmission Customers and LSEs shall either purchase this service from the ISO, Self-Supply or purchase this service from alternate Suppliers.

#### 6.3.2 Charges to Transmission Customers LSEs

6.3.2.1 For all Actual Energy Withdrawals for Load located in the NYCA, the LSEs is considered the Transmission Customer taking service under Sections 3, 4 and 5 of this Tariff the OATT or buying Energy from the LBMP Market for purposes of this Rate Schedule and shall pay a charge for this service on all Transmission Service withdrawals to serve Load in the NYCA in accordance with this Tariff Rate Schedule and purchases in the LBMP Markets in accordance with the ISO Services Tariff, when such service serves Load located in the NYCA.

NYCA for Regulation and Frequency Response Service for each hour. The ISO shall charge Transmission Customers or LSEs taking service under Section 5 of the ISO OATT to supply Station Power as third-party providers for Regulation and Frequency Response Service for each day. The charge shall be calculated as the Regulation and Frequency Response Service Rate, determined as an hourly or a daily rate as appropriate, multiplied by the LSE's or Transmission Customer's Load for the hour or by the Transmission Customers or LSE's withdrawals to provide Station Power as a third party provider for the day. The ISO shall calculate the Regulation and Frequency Response Service Rate, for an hour or for a day as appropriate, as follows:

 $Rate_{\mbox{\scriptsize RFRReg}} = \underline{(Supplier\ Payment\ -\ Supplier\ Charge\ -\ Generator\ Charge)} \\ Load_{NYCA}$ 

where: Rate<sub>RFRReg</sub> is the hourly or daily rate for Regulation and Frequency Response

Service (\$/MWh); Supplier Payment is the aggregate of all Day-Ahead Market and Real-Time

Market payments (including Regulation Revenue Adjustment Payments) made by the ISO to all

Suppliers of this Regulation Service as described in Sections 15.3.4, 15.3.5, 15.3.6 and 15.3.7 of

Rate Schedule 3 of the ISO Services Tariff for the hour or for the day;

Supplier Charge is the aggregate of: (i) charges paid by all Suppliers for poor Regulation Service performance, as described in Section 15.3.5.5 and, if its provisions are re-instituted, Section 15.3.8 of Rate Schedule 3 of the ISO Services Tariff; (ii) all real-time imbalance charges paid by Suppliers under Section 15.3.5.3(a) of that Rate Schedule; and (iii) all Regulation Revenue Adjustment Charges assessed pursuant to Section 15.3.6 of that Rate Schedule for the hour or for the day.

Generator Charge is the aggregate of charges paid by all Generators that do not provide Regulation Service and do not follow their RTD Base Points sufficiently accurately, as described in Rate Schedule 3A of the ISO Services Tariff for the hour or for the day; and Load NYCA is the total Load in the NYCA for the hour or for the day, as appropriate.

- 6.3.2.3 In any hour where the charges paid by Generators and Suppliers, as described in the ISO Services Tariff, exceed the payments made to Suppliers of this service (i) the ISO shall not assess a charge against any LSE, and (ii) the surplus will be applied to the following hour as an offset to subsequent payments.
- 6.3.2.4 Charges to be paid by Transmission Customers LSEs for this service shall be aggregated to render a monthly charge. The ISO shall credit charges paid for Regulation and Frequency Response Service by Transmission Customers or LSEs taking service under Section 5 of the ISO OATT to supply Station Power as third-party providers for the day on a Load ratio share basis to Transmission Customers and LSEs serving Load in the NYCA for the day.

# 6.4 Schedule 4 - Energy Imbalance Service

Energy Imbalance Service is provided <u>Day-Ahead</u> when-(1) a difference occurs between:

(1) the scheduled <u>Transmission Service</u> and the actual scheduled delivery of Energy to a Load located within the NYCA from a POI located within the NYCA over a single hour, or (2) scheduled <u>Transmission Service</u> and scheduled delivery of Energy to a Load located within the <u>NYCA from a POI located external to the NYCA over the scheduling interval, and (3) a difference occurs between the scheduled <u>Transmission Service</u> and actual scheduled delivery of Energy from a POI within the NYCA to a neighboring control area in a single hour over the scheduling interval.</u>

Energy Imbalance Service is provided in real-time when a difference occurs between: (1) scheduled Transmission Service and scheduled delivery of Energy to a Load located within the NYCA from a POI located within the NYCA over the scheduling interval, (2) scheduled Transmission Service and scheduled delivery of Energy to a Load located within the NYCA from a POI located external to the NYCA over the scheduling interval, and (3) scheduled Transmission Service and scheduled delivery of Energy from a POI within the NYCA to a neighboring control area in the scheduling interval.

Differences between scheduled Transmission Service in the Day-Ahead Market and scheduled Transmission Service in the Real-tTime mMarket for the same transaction are governed by Attachment J of the OATT, not by this Rate Schedule 4. Differences between the scheduled delivery of Energy in the Day-Ahead Market and the scheduled delivery of Energy in the Real-tTime mMarket for the same transaction are governed by Section 4.5 of the Services Tariff, not by this Rate Schedule 4.

The ISO must offer this service when the Transmission Service is used to serve Load within the NYCA, or for an Export Transaction when the generation source is a Generator located in the NYCA. The Transmission Customer, or Generator as appropriate, must purchase this service from the ISO. The charges for Energy Imbalance Service are set forth below.

#### **6.4.1** Energy Imbalance Service Charges

For eEach Transmission Customer that has executed a Service Agreement under the ISO Services Tariff, whose scheduled Energy delivery in the Day-Ahead Market is less than its scheduled Transmission Service in the Day-Ahead Market, will be charged an amount equal to the product of the Day-Ahead LBMP determined pursuant to Attachment B of the Services Tariff, at the Point of Delivery (Point of Injection) and the difference between the scheduled Energy delivery in the Day-Ahead Market and the scheduled Transmission Service in the Day-Ahead Market, provided however, when the Energy delivery scheduled in the Day-Ahead Market is from a POI within the NYCA, Energy Imbalance Service is charged to the Generator associated with the POI.

Each Transmission Customer that has not executed a Service Agreement under the ISO

Services Tariff, whose scheduled Energy delivery in the Day-Ahead Market is less than its

scheduled Transmission Service in the Day-Ahead Market, will be charged an amount equal to

the product of: (i) the higher of: (a) 150 percent of the Day-Ahead LBMP determined pursuant to

Attachment B of the Services Tariff, at the Point of Delivery (Point of Injection); and (b) \$100

per MWh, and (ii) the difference between the scheduled Energy delivery in the Day-Ahead

Market and the scheduled Transmission Service in the Day-Ahead Market, provided however,

when the scheduled delivery of Energy is from a POI within the NYCA, Energy Imbalance

Service is charged to the Generator associated with the POI.

Each Transmission Customer that has executed a Service Agreement under the ISO

Services Tariff whose scheduled Energy delivery in the #Real-#Time Market is less than its

scheduled Transmission Service in the rReal-#Time Market, Energy Imbalance Service is

considered to be supplied by the Real-Time Market and will be charged an amount equal to the

product of at the Real-Time LBMP price determined pursuant to Attachment #B of the Services

Tariff, at the Point of Delivery (Point of Injection) and the difference between the scheduled

Energy delivery in the #Real-#Time mMarket and the scheduled Transmission Service in the

#Real-#Time mMarket, provided however, when the scheduled delivery of Energy is from a POI

within the NYCA, Energy Imbalance Service is charged to the Generator associated with the

POI.

Each Transmission Customer that has not executed a Service Agreement under the ISO

Services Tariff, whose scheduled Energy delivery in the #Real-#Time Market is less than its

Transmission Service scheduled in the #Real-#Time Market, will be charged an amount equal to
the product of (i) the higher of (a) 150 percent of the real-time LBMP determined pursuant to

Attachment J, at the Point of Delivery (Point of Injection), and (b)\$100 per MWh, and (ii) the
difference between the scheduled Energy delivery in the #Real-#Time #Market and the scheduled
transmission service in the #Real-#Time #Market, provided however, when the scheduled
delivery of Energy is from a POI within the NYCA, Energy Imbalance Service is charged to the
Generator associated with the POI.

For each Transmission Customer that is not a Customer under the ISO Services Tariff and is receiving service under Section 3 or 4 of this Tariff, the ISO shall establish a deviation band of +/- 1.5 percent (with a minimum of 2 MW) of the scheduled transaction to be applied hourly to any Energy imbalance that occurs as a result of the Transmission Customer's scheduled

transaction(s). Parties should attempt to eliminate Energy imbalances within the limits of the deviation band within thirty (30) days or within such other reasonable period of time as may be established by the ISO that is generally accepted in the region and consistently adhered to by the ISO. If an Energy imbalance is not corrected within thirty (30) days or such other reasonable period of time as may be established by the ISO that is generally accepted in the region and consistently adhered to by the ISO, the Transmission Customer will compensate the ISO for such service, subject to the charges set forth below. Also, Energy imbalances outside the deviation band will be subject to charges set forth below.

For hours when the Transmission Customer's Actual Energy Withdrawals are greater than that customer's scheduled Energy delivery and applicable tolerance band, the Transmission Customer shall pay to the ISO an amount equal to the greater of 150% of the Real Time LBMP price at the Point of Delivery or \$100 per MWh.

In the event that the Transmission Customer's Actual Energy delivery exceeds that customer's Actual Energy Withdrawals, the Transmission Customer shall not receive payment for such Energy, provided however, when the Actual Energy delivery is from a POI, other than a Proxy Generator bus, within the NYCA, the market settlement rules of the ISO Services Tariff shall apply.

Transmission Customers with imbalances may also be subject to charges for Regulation and Frequency Response, as described in Rate Schedule 3.

Energy imbalances resulting from inadvertent interchange between Control Areas will continue to be addressed by the ISO procedures and in accordance with NERC and NPCC policies that Control Area operators currently use to address such imbalances. Any increase or decrease in costs resulting from pay back of accumulated inadvertent interchange will be

included in the residual costs payment or the residual costs charge as calculated in Section 6.1.8 of Rate Schedule 1 of this ISO OATT.

#### **6.4.2** Inadvertent Energy Management Requirements

For Energy imbalances resulting from inadvertent interchange between Control Areas, the ISO shall: (i) accurately account for inadvertent Energy interchange, through daily schedule verification and the use of reliable metering equipment; (ii) minimize unintentional inadvertent accumulation in accordance with NERC and NPCC policies; and (iii) minimize accumulated inadvertent Energy balances in accordance with NERC and NPCC policies.

The ISO shall reduce accumulated inadvertent Energy balances with other Control Areas by one or both of the following methods: (i) scheduling interchange payback with another

Control Area as an interchange schedule between Control Areas; and (ii) unilaterally offsetting the tie line interchange schedule when such action will assist in correcting an existing time error.

Inadvertent interchange accumulated during On-Peak hours shall be paid back during On-Peak hours. Inadvertent interchange accumulated during Off Peak hours shall be paid back during Off-Peak hours. In either case, payback is made with Energy "in-kind."

#### **6.4.3 Monthly Meter Reading Adjustments**

#### **6.4.3.1** Facilities Internal to the NYCA

The ISO shall develop rules and procedures to implement adjustments to meter readings to reflect the differences between the integrated instantaneous metering data utilized by the ISO for SCD and actual data for internal facilities as recorded by billing metering.

# **6.4.3.2 Facilities** on Boundaries with Neighboring Control Areas

The correction required for external Inadvertent Energy Accounting facilities on Interfaces between the NYCA and other Control Areas will be done using Inadvertent Energy Accounting techniques to be established by the ISO in accordance with NERC and other established reliability criteria.

# **6.4.43** Self-Supply

All Inadvertent Energy Accounting services and Energy Imbalance Services shall be purchased from the ISO.

# **6.4.5 Verification of Adjustments**

The ISO shall provide all necessary meter reading adjustment information required by the Transmission Owners to allow them to verify that meter reading adjustments were performed in accordance with ISO Procedures.

#### 6.5 Schedule 5 - Charges for Operating Reserve Service

The ISO must offer this service when Transmission Service is used to serve Load within the NYCA. The Transmission Customers and LSEs must either purchase this service from the ISO or make alternative comparable arrangements to satisfy its Operating Reserve obligation.

The charges for Operating Reserve Service are set forth below. Operating Reserves requirements are defined by the ISO as is described in Rate Schedule 4 of the ISO Services

Tariff, in accordance with the Reliability Rules and other applicable reliability standards. The ISO shall monitor the level of Operating Reserves utilizing the security monitoring program.

Transmission Customers, Transmission Owners and Suppliers shall supply all data required for the proper operation of the security monitoring program.

The NYSRC shall be responsible for evaluating the adequacy of the criteria for determining the required level of Operating Reserves and shall modify such criteria from time to time as required. The ISO shall establish additional categories of Operating Reserves if necessary to ensure reliability.

#### **6.5.1** General Requirements

The ISO shall select Operating Reserves Suppliers that are properly located electrically so that all Operating Reserves requirements, as defined in Rate Schedule 4 of the ISO Services

Tariff are satisfied and so that transmission Constraints resulting from either the commitment or dispatch of Suppliers do not limit the ability to deliver Energy to Loads in the case of a Contingency. The ISO will ensure that Suppliers that are compensated for using Capacity to provide one Operating Reserve product are not simultaneously compensated for providing another Operating Reserve product, or Regulation Service, using the same Capacity (consistent

with the additive nature of the market clearing price calculation formulae in Sections 15.4.5.1 and 15.4.6.1 of Rate Schedule 4 of the ISO Services Tariff).

## 6.5.2 Operating Reserves Charges

Each Transmission Customers engaging in an Export Bilateral Transactions, Customers engaged in Export Transactions and each LSEs shall pay an hourly charge equal to the product of (A) cost to the ISO of providing all Operating Reserves for a given hour; and (B) the ratio of (i) the LSE's hourly Load or the Transmission Customer's hourly scheduled Export to (ii) the sum of all Load in the NYCA and all scheduled Exports for a given hour. The cost to the ISO of providing Operating Reserves in each hour will equal the total amount that the ISO pays to procure Operating Reserves on behalf of the market in the Day-Ahead Market and the Real-Time Market, less payments collected from entities that are scheduled to provide less Operating Reserves in the Real-Time Market than in the Day-Ahead Market during that hour, under Rate Schedule 4 of the ISO Services Tariff. The ISO shall aggregate the hourly charges to produce a total charge for a given Dispatch Day.

Transmission Customers\_LSEs taking service under Section 5 of the OATT to supply Station Power as third-party providers shall pay to the ISO a daily charge for this service equal to the product of (A) the cost to the ISO of providing all Operating Reserves for the day less any revenues from penalties collected during the day and (B) the ratio of (i) the Transmission Customer's-LSE's Station Power supplied under Section 5 of the OATT for the day to (ii) the sum of all Load in the NYCA and all scheduled Exports for the day. The ISO shall credit the daily charges paid for Operating Reserves by Transmission Customers LSEs taking service under Section 5 of the OATT to supply Station Power as third-party providers on a Load ratio share basis to the Load in the NYCA for that day and all scheduled Exports for the day.

# 6.5.3 Self-Supply

Transmission Customers, including LSEs, may provide for Self-Supply of Operating Reserves by placing generation facilities Resources supplying any one of the Operating Reserves under ISO Operational Control. The generation facilities Resources must meet ISO rules for acceptability, pursuant to Rate Schedule 4 of the Services Tariff. The specified Resources will receive The amount that any such customer will be charged for Operating Reserves Services will be reduced by the market value of the Operating Reserves -services provided by the specified Resource generation facilities as determined in the ISO Services Tariff. In addition, Transmission Customers, including LSEs, may enter into Day-Ahead bilateral financial transactions, e.g., contracts-for-differences, in order to hedge against price volatility in the Operating Reserves markets.

# 6.6 Schedule 6 - Black Start and System Restoration Services

Black Start and System Restoration Services are provided by key generation facilities that are capable of starting without an outside electrical supply and/or that are otherwise integral to the restoration of the system after an outage under the ISO's Black Start and System Restoration Services plan (the "ISO Plan") and/or an individual Transmission Owner's Black Start and System Restoration Services plan.

# **6.6.1** Requirements

The ISO shall develop and periodically review a Black Start and System Restoration Services plan for transmission facilities that are part of the ISO Plan. The ISO may amend this restoration plan to account for changes in system configuration if the ISO determines that additional Black Start and System Restoration Services are needed.

Transmission Customers and Customers shall pay a Black Start and System Restoration Services charge on all Transactions to supply Load in the NYCA (including Internal Wheels and Import Transactions) equal to the product of (a) the Transmission Customer's hourly Load Ratio Share and (b) the hourly embedded cost charge for Black Start and System Restoration Services (net of all payments forfeited due to a Generator's failure to pass a required test of its ability to provide Black Start and System Restoration Services).

Transmission Customers or LSEs taking service under the OATT to supply Station

Power as third-party providers shall pay a Black Start and System Restoration Services

charge to the ISO as a daily charge for this service equal to the product of (A) the cost to the

ISO of providing all a Black Start and System Restoration Services for the day and (B) the

ratio of (i) the Transmission Customer's Station Power supplied under the OATT for the day

to (ii) the sum of all Load in the NYCA. The ISO shall credit the daily charges paid for

Black Start and System Restoration Services by Transmission Customers taking service under Part IV of the OATT to supply Station Power as third-party providers on a Load ratio share basis to the Load in the NYCA for that day.

The full restoration of the NYS Power System will require additional Black Start and System Restoration Services from Generators, which are located in local Transmission Owner areas and which are not presently listed in the ISO Plan. Although the ISO Plan will restore a major portion of the NYS Power System, there are portions of the NYS Power System that will remain under Transmission Owner restoration control. Where the Transmission Owner's restoration plan requires additional local Black Start and System Restoration Services, the ISO will make payments for such local services directly to the Generators that provide them, under the terms of Section 15.5.2 of Rate Schedule 5 to the ISO Services Tariff, except with respect to Black Start and System Restoration Services payments that are subject to Section 15.5.3.1 of that Rate Schedule. The LSEs in those local Transmission Owner areas will be additionally charged for Black Start and System Restoration Services by the ISO using the formula set forth in the following paragraph, except with respect to Black Start and System Restoration Services changes that are subject to Section 15.5.3.2 of Rate Schedule 5 to the ISO Services Tariff. Generating facilities, which are obligated to provide Black Start and System Restoration Services as a result of divestiture contract agreements, will not receive ISO payments for that service if they are already compensated for such service as part of those divestiture contracts.

The charge for LSEs in Local Transmission Owner areas shall be equal to the product of

(a) the Transmission Customer's hourly Load Ratio Share of Load requiring local Black Start and

System Restoration Services, and (b) the hourly embedded cost charge for providing local Black

Start and System Restoration Services capability (net of all payments forfeited due to a local

generation facilities failure to pass a Black Start and System Restoration Services capability test), described in ISO Services Tariff, Rate Schedule 5.

# 6.6.2 Self Supply

Transmission Customers may not Self-Supply this Black Start Capability Service.