

## **Rate Schedule 2**

### **Payments for Supplying Voltage Support Service During 2003~~2~~**

This rate schedule applies to payments to Suppliers who provide Voltage Support Service to the ISO during calendar year 2003~~2~~. Transmission Customers will purchase Voltage Support Service from the ISO under the ISO OATT.

The 2003~~2~~ rate provided in this rate schedule shall be used to calculate payments to all ~~eligible~~ eligible Suppliers providing Voltage Support Service as applied on a Resource-specific basis. The ISO shall calculate payments on an annual basis, and make payments monthly.

#### **1.0 Responsibilities**

The ISO shall coordinate the Voltage Support Service provided by Suppliers that qualify to provide such services as described in Section 1.1 of this Rate Schedule. The ISO shall also establish methods and procedures for Reactive Power (MVar) capability testing.

#### **1.1 Suppliers**

To qualify for payments, Suppliers of Voltage Support Service shall provide a Resource that has an AVR and has successfully performed Reactive Power (MVar) capability testing in



accordance with the ISO ~~procedures~~Procedures and prevailing industry standards. The ISO may direct

Suppliers to operate their Resources within these demonstrated reactive capability limits.

Suppliers of Voltage Support Service will test their Resources and provide these services in accordance with ISO Procedures.

Voltage Support Service includes the ability to produce or absorb Reactive Power within the Resource's tested reactive capability, and the ability to maintain a specific voltage level under both steady-state and post-contingency operating conditions subject to the limitations of the Resource's stated reactive capability.

## **2.0 Payments**

Each month, Suppliers whose Resource(s) meet the requirements to supply Installed Capacity, as described in Article 5 of the ISO Services Tariff, and are under contract to supply Installed Capacity shall receive one-twelfth (1/12<sup>th</sup>) the annual payment for Voltage Support Service. To the extent Suppliers of Installed Capacity are electrically located outside the NYCA, payments for Voltage Support Service will be subject to criteria established by the ISO.

Each month, Suppliers whose Generators are not under contract to supply Installed Capacity and Suppliers with synchronous condensers shall receive one-twelfth (1/12<sup>th</sup>) the annual payment, pro-rated by the number of hours that Generator or synchronous condenser operated in

that month, as recorded by the ISO.

For Non-Utility Generators that are operating under existing power purchase agreements, the entity that is purchasing Energy and/or Capacity under such agreement or providing Transmission Service under that agreement shall be contacted by the ISO when the ISO requires Voltage Support Service from the contracted Resource. Each month, the ISO shall pay holders of the contracts for such Resources, which are operating under existing power purchase agreements, an amount as described below in Section (c), except that the ISO shall pay this amount to the Non-Utility Generator if the purchaser under the existing power purchase agreements agrees to stipulate that the Non-Utility Generator should receive such payments. At such time during ~~2003~~ as the existing power purchase agreements are terminated or expire, the Non-Utility Generators may then receive payments directly in accordance with this rate schedule.

**(a) Annual Payment for Voltage Support Service**

For ~~2003~~, the annual payment to each Generator and synchronous condenser qualified and eligible to provide Voltage Support Service shall equal the product of \$3919/MVAr and the tested MVAr capacity of the Generator or synchronous condenser.

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**(b) Lost Opportunity Costs**

A Supplier of Voltage Support Service from a Generator that is being dispatched by the ISO shall also receive a payment for Lost Opportunity Costs (“LOC”) when the ISO directs the resource to reduce its real power (MW) output below its schedule in order to allow the resource to produce or absorb more Reactive Power (MVar), unless the Supplier is already receiving a Day-Ahead Margin Assurance Payment for that reduction under Attachment J to this ISO Services Tariff. The Lost Opportunity Cost payment shall be calculated as the product of: (a) the MW of output reduction; (b) the time duration of reduction in hours or fractions thereof; and (c) the Real-Time LBMP at the Generator bus minus the Generator’s Energy Bid for the reduced output of the Generator. The details of the Lost Opportunity Cost payments are as follows:

The formula below describes the calculation of LOC as applied to each Resource supplying Voltage Support Service.

$$LOC = P_{RT} ( D_1 - D_2 ) - \int_{D_2}^{D_1} Bid$$

Where:

$P_{RT}$  = Real-Time LBMP

$D_1$  = Original dispatch point

$D_2$  = New dispatch point



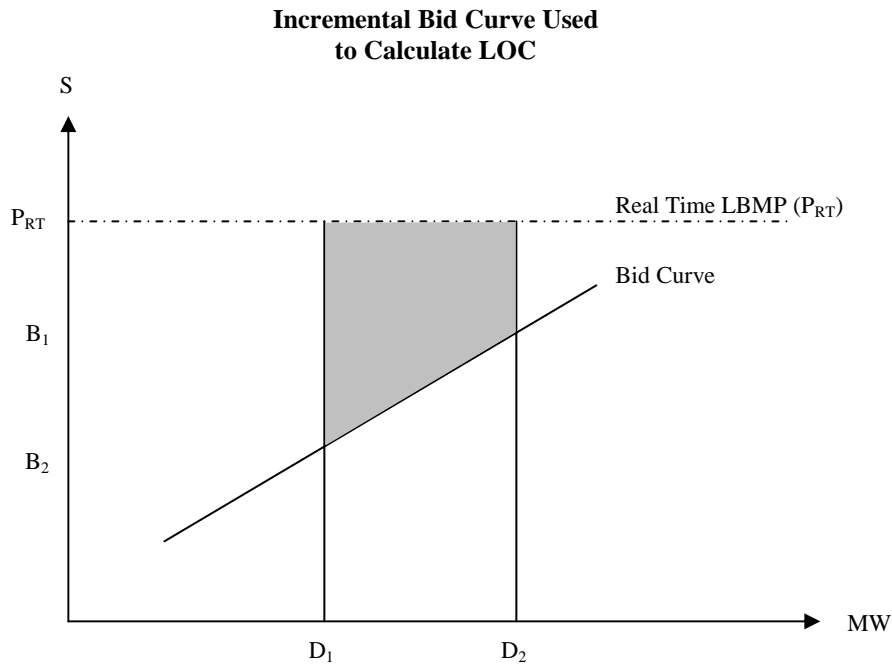
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Bid = Bid curve or Generation supplying Voltage Support Service

Figure 2.0(b) below graphically portrays the calculation of the LOC for a Generator which reduced its MW output to allow it to produce or absorb more Reactive Power (MVAR).



**(c) Payments for Voltage Support Services Provided by Non-Utility Generators Under Power Purchase Agreements**

Each month, the ISO shall pay holders of power purchase agreements from Non-Utility Generators which provide Voltage Support Service one-twelfth ( $1/12^{\text{th}}$ ) of the product of: (a) \$3919/MVAR; (b) the lesser of the tested Reactive Power production

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capability (MVA<sub>r</sub>) of the Non-Utility Generator or the contract MVA<sub>r</sub> capability; and (c) for only those Non-Utility Generators that are not providing Installed Capacity under contract, the number of hours in the month the Non-Utility Generator provided Voltage Support Service divided by the number of hours in the month; and for those Non-Utility Generators that are under contract for Installed Capacity, (c) shall not apply. The ISO shall make payments monthly.

**(d) Failure to Perform by Suppliers**

A Resource will have failed to provide voltage support if it:

- (1) fails at the end of 10 minutes to be within 5% (+/-) of the requested Reactive Power (MVA<sub>r</sub>) level of production or absorption as requested by the ISO or applicable Transmission Owner for levels below the resource's Normal Operating limit which must be at least 90% of its Dependable Maximum Net Capability (DMNC).
- (2) fails at the end of 10 minutes to be at 95% or greater of the Resource's demonstrated Reactive Power capability (tested at its Normal Operating Limit or at 90% of its DMNC, whichever is greater in MW) in the

appropriate lead or lag direction when requested to go to maximum  
lead or lag reactive capability by the ISO or applicable  
Transmission Owner.

Whether the Resource has failed to provide Voltage Support in a Contingency shall be defined by ISO Procedures. Suppliers of Voltage Support Service that fail to comply with the ISO Procedures will be assessed charges by the ISO as follows:

**(e) Failure to Respond to ISO's Request for Steady-State Voltage Control**

Initial Failure: If a Resource fails to comply with the ISO's request for steady-state voltage control, the ISO shall withhold Voltage Support Service payments from the non-complying Supplier equivalent to one-twelfth (1/12th) of the annual payment for that specific Resource (or an amount equal to the last month's voltage support payment made to that Resource, if the Resource is not an Installed Capacity provider). The Supplier shall also be liable for any additional cost in procuring replacement Voltage Support Service including LOC incurred by the ISO as a direct result of the Supplier's non-performance.

Repeated Failures: For each instance of failure to perform, the non-complying Supplier will be subject to the charges described herein. If a Resource fails to comply

with the ISO's request on three (3) separate days, within a thirty (30) day period, then upon the third occurrence, the non-complying Supplier will no longer be eligible for Voltage Support Service payments for service provided by that Resource. The ISO may reinstate payments once the Supplier complies with the following conditions to the ISO's satisfaction:

- (1) the Supplier's Resource must successfully perform a Reactive Power (MVar) capability test, and
- (2) the Resource must provide Voltage Support Service for thirty (30) consecutive days without any compliance failures. No payments for Voltage Support Service or LOC will be made to the Supplier during this period.

**(f) Failure to Provide Voltage Support Service When a Contingency Occurs on the NYS Power System**

If a Supplier's Resource fails to respond to a contingency, based on ISO review and analysis, the ISO shall withhold Voltage Support Service payments from the non-complying Supplier as follows:

Initial Failure: The ISO will withhold from the Supplier one-twelfth (1/12th) of the annual payment for the specific Resource (or an amount equal to the last month's voltage support payment made to that Resource, if the Resource is not

an Installed Capacity provider).

Second Failure within the same thirty (30) day period: The ISO shall withhold from the Supplier one-fourth (1/4th) of the annual payment for the specific Resource (or an amount equal to the last three (3) months' voltage support payments made to that Resource, if the Resource is not an Installed Capacity provider). In addition, the Supplier that is in violation shall be prohibited from receiving Voltage Support Service payments for the non-complying Resource until the Supplier complies with the following conditions to the ISO's satisfaction:

- (1) the Supplier's Resource shall successfully perform a Reactive Power (MVar) capability test, and
- (2) the Resource shall provide Voltage Support Service for thirty (30) consecutive days without any compliance failures. No payments for Voltage Support Service, or LOC shall be made to the Supplier during this period.

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