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New York Independent System Operator, Inc.      Docket No. ER09-291-000

Attachment B

The following list is not intended to be all inclusive. Please note that some components of an option could form the basis for an agreement when coupled with selections from other options. Parties should also consider presenting other options or seek clarifications or changes to a particular option.

**Appropriate VSS rate**

Option R1      Update the VSS compensation rate by:

- (i) updating costs associated with generation and additions;
- (ii) modifying the rate to reflect a change from a gross to net MVAR compensation basis; and,
- (iii) apply a 3% annual inflation factor compounded across the four years in which VSS suppliers faced inflation costs

Option R2      Same as Option R1 but with the following change:

- (iv) employ an Inflation Component covering only two years (i.e., an approximately 6% increase) instead of the four years contained in Option R1

Option R3      Same as Options R1 or R2 above but with the following added elements:

- (v) apply an inflation factor (e.g., Consumer Price Index) annually for five years starting in 2007;
- (vi) at the end of five years, conduct a study that would examine a proxy of units to determine if the applied annual inflation factor is reasonable—if study demonstrates application of previous 5-year inflation factor is inappropriate, a revised inflation factor would be applied.

Option R4 Same as Options R1 through R3 but calculate costs of generation by:

1. Examining TO's OATT filings to reflect any retirements or upgrades, including depreciation costs
2. For TO filings that do not reflect actual costs, develop proxy for that TO
3. Examine new generating facilities added since TO's OATT filings

Option R5 Option could be reflected in other options

Future Demand Curve Update processes will consider VSS payments as a revenue offset.

Option R6 Option could be reflected in other options

NYISO will develop a methodology to determine VSS needs and establish an appropriate upper bound on needed and compensable VSS capability, if appropriate

Option R7

- Only pay for VAR support on a VAR-hour basis for actual VARs supplied as opposed to the current VAR capability payments.
- Conduct study to address at least partially the "how much and where" questions buy also to take into account VAR capability that is seldom used but nonetheless valuable to have in case of emergency.
- Another consideration would be to do a mix of both, as is done on the energy side with energy and ICap payments.

Option R8

Cost based rates should be based on actual cost data from existing facilities. This should include:

- An inventory of equipment used to provide VSS.
- The original cost of that equipment.
- The date that equipment was placed in service.
- The depreciation factors applied to the equipment.
- The O&M expense related to the provision of VARs.

Escalation of cost based rate should be applied only to rates based on actual current costs.

No forward or retroactive escalator should be applied unless and until a rate based on actual current cost data is determined.

#### Option R9

- Compensation would continue on a cost basis using the Transmission Owners' OATT data as the initial starting point
- 2002 data would serve as the basis for developing future year's compensation
- The revenue requirement in each transmission district would be adjusted to reflect capacity retirements and additions within the transmission district
- For additions to be considered, subject generation must have VAR capability
- The NYISO market participants could adjust the revenue requirement yearly to include an inflation component

#### Option R10

Consideration of VSS payments in the ICAP Demand Curve should be included as an offset in next DC determination "cycle"

#### Option R11

- (1) Continue with the current \$3,919/MVAR rate until a new rate is established. Once a new VSS rate is established, it should be made effective as of January 1, 2006 consistent with the December 30, 2005 FERC order.
- (2) As part of the filing of a new VSS rate filing, the NYISO must include a revised Demand Curve, which removes the capital costs associated with VSS from the Demand Curve rate.
- (3) The Demand Curve adjustments for VSS should be made effective retroactive to May 1, 2005, when the current Demand Curve rate took effect.
- (4) Revised testing requirements should be put in place in 2006. The current 6-year cycle D-curve testing requirement would be completed. Further, D-curve testing would be reduced to every three years and the results compared to capability provided by the manufacturer; if manufacturer curve not available, then an industry curve for each unit type and vintage can be submitted if acceptable to the NYISO.
- (5) Results of test by generators would be matched up to see if each generator meets its full D-curve requirements, with appropriate reductions in payments for those generators that fail to meet their full D-curve targets.

(6) Full VSS payments would resume upon the completion of a subsequent test where the generator meets its full D-curve requirements.

(7) Convert VSS measurements from Gross to Net MVAR, while keeping total costs to loads neutral and unchanged on day 1 of the conversion.

Work Scope for Consultant(s) to be conducted under the above steps is:

- Develop current cost-based rate structure based on several types and vintages of generating units - generally in service in New York. (At least 3 categories of each should be looked at. For vintage, an example is 1950s and earlier, 1960s-80s, and 1990s and beyond. For types, an example is gas/oil, nuclear, coal, hydro).
- Establish a blended cost-based rate as a starting point.
- Using the above parameters, determine which cost items are likely to change on a year-to-year basis and develop an ongoing annual adjustment formula (which could increase or decrease). This formula can be used to determine the annual cost adjustments based on actual cost changes
- Determine the cost basis and testing criteria for VSS payments to merchant transmission lines.
- Proxy costs may be developed (by NYISO or a NYISO consultant) for each of the facilities providing VSS based on current capital costs.
  - identify the cost of facility components related to the production of reactive power (for generation facilities, for example, that may include the generator stator, rotor, step-up transformer and the exciter).

Option R12 Following option could be included in any agreement reached

Conduct study to determine how much VSS is need in New York State and how it can be provided in a least-cost fashion

Option R13 To be read in conjunction with Option A6 below

Step 1 – Determine the rate as follows: an independent consultant be hired to determine an appropriate rate, looking at the following factors

(1) Historical costs as submitted on FERC form 1 for NY generators, prior to divestiture with some consideration of inflation and depreciation to bring them forward to 2006.

(2) Rates for Voltage Support as filed in other Areas' OATT's

(3) Costs for automatic voltage control on a new large generator if they can be identified

As an interim measure, the current rate be increased by 3%, made effective and allocated as indicated below until the study is complete and the new rate approved.

#### Option R14

- Pay suppliers based on a pre-established per MVAR rate that was applicable to generating units that had been owned by vertically integrated utilities
- Use the total annual cost for VSS included in the Commission approved Open Access Transmission Tariff filings that had been submitted by the New York transmission owners when they owned generating facilities
- Divide the annual cost by the gross MVAR output of reactive power that could be expected from this generating capacity
- The resulting payment level, \$3919 per MVAR-year, would continue to be paid to suppliers for their lagging capability measured on a gross output basis

#### Option R15

Conduct tests to determine the MVAR capacity of a generating unit at different points of its MW-MVAR capability curve

Pay Generators based upon what they demonstrate they can produce;

Testing to be conducted that would compare generator leading and lagging performance in actual operation to their expected minimum performance for the class of unit at high and low output levels, and to adjust payments for underperformance

Revised tariff to test at shorter intervals than six years and results would be used to adjust payment for non-performance as noted in previous bullet

#### Option R16

Loads in each transmission district would be assigned a load ratio share of the transmission district's revenue requirement where their load is located, i.e., costs would no longer be socialized to loads across the entire NYCA.

Each transmission district's VSS would be tied to the physical assets located within the transmission district.

The total annual revenue requirement divided by the NYCA net lagging MVAR capability would be used to calculate the generator compensation rate

### Option R17

Use (pre-divestiture) OATT VSS rates of each TO as starting point

By definition - these are “true” cost-based rates  
Bring forward in time as if there was no NYISO  
Reduces problem to determining appropriate escalation/inflation  
Apply on a unit-by-unit basis (i.e., rather than using a state-wide average)

Develop unit specific rates as follows:

For divested units:

Use last year of TO FERC Form 1 data as the starting point (e.g., for CH this would be 2001)

Or alternatively - use circa 1996/97 TO data (which is the basis for the current NYISO rate) as the starting point

Use last 5 years of TO FERC data to develop a “going forward” escalation/inflation adjustment

For new units:

If new unit is similar to any of above former TO units use that specific data as the proxy

If new unit is not similar to any of above former TO units look for appropriate proxy data outside NY

### Option R18

Conduct study of a proxy generator to calculate a VSS rate.

### Option R19 Transition Period

- Minimize “sticker shock” by transitioning from current charges to loads and associated payments to generators over a four-year time period.
- 25% of the delta between existing payment/revenue streams and proposed payment/ revenue streams would be applied in each year.

## Allocation of VSS Payments

### Option A1

Keep in place current VAR allocation methodology (on the basis of statewide load ratio share)

Once NYISO completes its investigation of the feasibility of dispatching VARs such that the resulting MW/MVAR dispatch would result in a system that can withstand contingencies without exceeding voltage limits. Upon completion of investigation, reopen allocation issue.

### Option A2

1. Loads (i.e. Transmission Owners) that draw VARs off the bulk power system pay for them on a VARh basis
2. The current cost allocation method of VSS costs should remain the same VSS costs should continue to be paid for on a statewide load ratio share basis to allow appropriate sharing of costs of new units, while allowing districts with more load growth to pick up more of the costs as compared to those districts with less load growth.
3. Increases or decreases in VSS costs should be allocated in the same manner.

### Option A3

For divested units: Payments to all generators in each transmission district are made by all loads in that district

For new units: Payments to new generators, regardless of their location, are made by all loads in the transmission districts where there has been load growth

### Option A4

- Use an allocation factor (i.e. 1- power factor) to allocate the costs to reactive power.
- Adjust the costs by location; i.e. downstate (NYC, LI) verses upstate (rest of the state). Differentiating costs based on location this way has precedence in the ICAP market.
- Adjust the costs by the age of the facility. The Handy-Whitman Index of Public Utility Construction Costs can be used to depreciate the costs.

- With regard to cost allocation, NYISO can hire a consultant to help determine the system-wide and local needs for reactive power capability. Costs can then be allocated to load based on need.
- Another option for cost allocation, prior to the conclusion of a needs study, may be to allocate the reactive costs associated with all the facilities in each zone to the load within that zone.

#### Option A5

No locational allocation of VSS costs should be implemented until a study of locational requirements is completed. At a minimum, the scope of work should include determination of State-wide and local VAR requirements, and regional variations of VAR production costs.

#### Option A6 - allocate the rate to generation and bill it to load

- allocation would be based on two factors:
  - (a) Provision of the service alone – basically each generator provides voltage support for the subtransmission and distribution loads in the transmission district where it resides;
  - (b) Impact on the bulk transmission system voltage – some generators provide more support to critical bulk system voltages than others and part of the payment should recognize this fact.
- To do above, the following could be done :

First, allocate 50% of the rate to each generator based on maximum lagging VAR capability as is done in the current system. These costs would be allocated to each transmission district based on the costs paid to the generation in that district. This assumes that all the testing, verification and other requirements are met by a generator desiring to provide the service.

Second, the ISO would perform a study to determine the relative support that each generator provides to supporting bulk power system voltage. For example: The ISO would select 3 bulk system voltages that it would deem to be critical to reliability – presumably located in diverse areas of the system. A peak load power flow would be developed with all generation running, and maximum VAR lagging output as a base case. All transformer taps and adjustable transmission devices that would impact voltage (capacitors, SVC's , Reactors, etc) would be fixed and not allowed to regulate. Each generator would then be individually varied from maximum lagging VAR output, to zero, or unity and the impact of that change on the 3 voltages measured and logged. A table would then be developed and a factor calculated that would reflect each generator's relative impact on the



voltages compared to the other generators. These factors would be ratioed and the remaining 50% of the rate allocated to the generators on that basis. This cost would be allocated statewide by load ratio share as the current rate is treated.

### **On Merchant Non-Generator Dynamic VAR Sources**

#### **Option NG1**

Schedule 2 of the NYISO OATT should be modified to allow merchant non-generator dynamic VAR sources, including the Cross Sound Cable ("CSC") to be compensated for their provision of dynamic Voltage Support Service.

Application of Interim Rate to Non-Generator Dynamic VAR sources

Non-Generator Dynamic VAR sources should be compensated on the same basis as generators

Payments for the CSC and any other existing sources should be based on the reactive power capability measured at the time of start-up testing

Additional testing to confirm CSC capability can be performed in Summer 2006.

Prorated VSS payment for energized hours for VAR capability measured at full real power flow. No lost opportunity cost payments and the source would not be required to change real power schedules

Inclusion of CSC should be retroactive to January 1, 2006

Alternatively, payment for Non-Generator VAR sources would be limited to their VAR capability at full real power flow for 2006. In addition to the other post-2006 issues this should be revisited along with the appropriateness of payment for the costs of energy produced, costs of energy consumed and lost opportunity cost for non-generator VAR sources.

#### **Option NG2**

VSS payments should be available to (merchant) non-generating resources

Must be able to produce/absorb reactive power dynamically

Supplier responsible for providing rationale supporting requested payment

Can be actual cost or appropriate proxy

Payments should be made to all suppliers who provide VSS

At this time there is no way to determine “need”

If such a methodology is developed in the future this issue can be re-opened

NYISO OATT provides for monitoring of performance of VSS suppliers by the  
NYISO - need to make sure that this is fully and properly done