NEW YORK INDEPENDENT SYSTEM OPERATOR

Work Plan for Voltage Support Service

For Discussion Purposes Only
MSWG
June 2, 2006

A. Background

On April 3, 2006 FERC issued an order extending the interim rates paid for VSS on an indefinite basis (that is, FERC ordered the NYISO to omit the proposed sunset provision). Although it did not establish a timetable for the NYISO to follow in developing a new rate, the April order did make repeated references to the NYISO's commitment to retain a consultant to assist the NYISO in establishing a new cost-based rate methodology for VSS. Indeed, the FERC order said "At such time as NYISO proposes a new rate under section 205 or 206 of the FPA, it must provide full cost support for the new rate pursuant to section 35.13 of the Commission's regulations. If NYISO wishes to enlist the services of a consultant to prepare this filing, it may do so."

Therefore, the NYISO is proposing to proceed with the next phase of VSS rate and market issues in the following manner.

B. General Approach

The next phase of work on issues related to Voltage Support Service will be organized around three distinct efforts, two of which will proceed simultaneously on parallel paths over the next 12 months. There are at least two final work products that will result:

- A FERC tariff filing to establish a statewide cost-based rate for VSS;
- A FERC tariff filing to establish cost-based compensation for non-generator suppliers of VSS.

The following study may be produced if a preliminary policy analysis (described in more detail below) justifies the effort and if the NYISO and its MPs choose to proceed:

- A comprehensive study of the New York Bulk Power System Reactive Power Needs and recommendations concerning the establishment of a locational market for VSS.

The work plan places the highest priority on establishing a statewide cost-based rate. Progress on the statewide cost-based rate and compensation for non-generator suppliers of VSS can proceed simultaneously on parallel tracks.

1. **Statewide cost-based VSS rate and policy analysis of a locational VSS market.**

(a) Rate issues.

Retain a consultant to produce a study that will provide a cost-based method (or methods) for establishing a new VSS rate and rate methodology, including mechanisms to adjust the VSS rate on a going forward basis. Some information sources that may inform this effort include:

- Historical costs when TOs owned generators and other equipment that supply Vars
- Generators' own cost data (to the extent available)
- The VSS costs of a proxy generator or generators; a proxy generator could be modeled to determine the incremental costs (capital, O&M) of supplying Vars to the bulk power system (rather than minimum VSS levels for transmitting a generator's own power), considering the types of equipment used, the kinds of generators in the New York system, and the age of the generators in the New York fleet; and
- The methodology used or being developed for cost-based VSS markets in neighboring control areas (New England, PJM and others).

The methodology should address the basis of VSS cost increases and decreases, in a rate adjustment mechanism, to keep the rate up to date.

The rate methodology would also address:

(i) **Compensation for all Var capacity from generators and synchronous condensers on the system.** The current rate was calculated based upon the amount of reactive power capacity on the system in 2001. Generation has retired and been added since that time. Accordingly, the new rate methodology must account for generation retirements and additions since 2001. This was a point of tentative agreement during prior negotiations.

(ii) **Compensation for the Net Var output to the electric system.** The current VSS rate methodology pays generators for the tested Var capability of their machines. Not all Vars produced by a generator benefit the electric system, only the net reactive power output to the grid measured at the point of interconnection. The new rate methodology should compensate Net Vars. This was a point of tentative agreement during prior negotiations. The absence of Net Var metering at many points on the system will require the establishment of a proxy calculation to determine Net Vars in the absence of metering data.

(iii) **Compensation of generators for the full range of their reactive power capability.** The current VSS rate compensates generators only for "lagging" or producing Vars. It does not compensate generators for "leading" or absorbing Vars. The new rate methodology should pay generators for absorbing Vars as well as producing them, when generators are called upon to do so to maintain bulk power system reliability. This issue was not agreed upon in negotiations, but FERC previously directed the NYISO to resolve it.

(b) Locational VSS market -- the policy perspective

Currently, VSS suppliers are paid on a per-MVar basis and these costs are spread among all loads on a load-ratio share basis across the New York system. This part of the study should address the policy rationale for, the efficiency of, and the feasibility of establishing a locational market for VSS, and suggest a methodology for the locational allocation of VSS costs among LSEs.

2. Compensating Non-Generator Suppliers of VSS.

The VSS tariff currently compensates only generators and synchronous condensers for Vars. Other types of equipment are also capable of supplying Vars, including transmission cables, such as the Cross Sound Cable, and static Var compensators. There was no opposition to compensating non-generator suppliers of Vars during prior negotiations.

Whether such Vars are ultimately useful to the system in their location would be determined as part of the Bulk Power System Reactive Power Needs study described below. In the meantime there are unresolved technical issues concerning non-generator suppliers of Vars, including:

(i) Telemetry;
(ii) Testing, and;
(iii) Billing and payment implementation issues.

3. Bulk Power System Reactive Power Needs.

Once the policy perspective on a locational VSS market is complete, a separate study would be contracted out to an independent consultant to determine where Vars are needed on the New York system for supporting utilities' own loads and for supporting power transfers across the bulk power system. Specific amounts would be identified by zone or subzone. This study would propose a technical basis for calculating the quantity of Vars which should be eligible for compensation and at what location on the system.

This study will have implications beyond the VSS market. The locational needs for Vars on the system to support loads and for power transfers across the bulk power system have reliability implications. Locational VSS needs have been

the subject of discussions at the Reactive Power Working Group, and some of the information needed to conduct this study is being sought through a Load Power Factor Study, which is underway in the RPWG. Locational VSS needs is also a planning issue that is the subject of discussion at the ESPWG as part of the Comprehensive Reliability Planning Process (CRPP). There are existing studies that need to be reviewed to determine how best to make progress on this issue.

C. Process Proposal

The NYISO proposes to conduct the first six months of the work effort through written exchanges of input between and among MPs and the NYISO, with periodic progress reports made at MSWG meetings. The tentative work plan and schedule is described below.

1. Rate Issues and Policy Perspective on Locational VSS Market

The NYISO staff proposes to conduct the scoping phase of the study through a written exchange (e-mails and position papers if necessary). The MSWG will remain the focal point for the effort however BIC members will be copied on correspondence. Teleconferences will be scheduled, if necessary, to clarify input received. Requests for inputs from MPs would have a comfortable response time -- perhaps three weeks from the date of request. The NYISO staff will synthesize MP input and provide document(s) to MPs that will allow MPs to track the direction and progress of the work effort.

Every three months, a status report will be scheduled for an MSWG meeting. A preliminary schedule follows:

- Initial meeting with MSWG -- (June 2006) -- Review FERC order. Describe and discuss the NYISO's intended approach to the issues. Establish a 3-month time frame to develop preliminary scope via exchange of papers. Simultaneously retain consultant.
- 3-month report to MSWG -- (September 2006) -- Present Final Draft Scope of Study to MSWG along with a 3 month schedule of paper exchange during which time the scope will be finalized. Use consultant to assist in finalizing the scope.
- 6-month report to MSWG -- (December 2006) -- Present final Scope of Study, study methodology and timeline for completion. (The NYISO will propose a 3 month study period for the cost-based methodology. The policy perspective on a locational VSS market can be finalized later, if necessary.) The consultant will be present at this meeting. Discuss process for next phase of work (continue via exchange of papers; reconvene the VSS Task Force to meet regularly as the study progresses?) If timely, also discuss the policy issues concerning locational VSS markets and plan future steps on this matter.
- 9-month report to MSWG (March 2007) -- Consultant presents findings and discusses recommendations of cost-based rate methodology. This will kick-off the policy phase of the rate effort; that is, the NYISO and MPs will determine

what action should be taken based on the consultant's findings. The expectation is that a FERC filing (which would then be subject to the MP committee review process) will emerge from this phase. In addition, if timely, additional discussion can be held on locational VSS markets.

- 12-month report to MSWG -- (June 2007) -- Present tariff proposal(s) if appropriate and begin committee review and approval process.

2. Compensation for Non-Generator Suppliers of VSS

A study is not needed to resolve these issues. Rather, a subgroup of the MSWG should be established with the NYISO and all types of non-generator suppliers of Vars who wish to be compensated to address these technical issues. Once these issues have been resolved to the satisfaction of involved parties (including NYISO Operations and Billing staff) a tariff amendment should be drafted, subjected to the committee and Board review and approval processes.

3. Bulk Power System Reactive Power Needs

If a decision were made to proceed, this study would be done by an independent consultant under the NYISO's supervision with the guidance and input of MPs. It would be a separate and distinct effort from the statewide cost-based rate methodology study. It is possible that this study will not be executed, and at a minimum the effort will not commence until the policy questions concerning a locational VSS market have been addressed and discussed in the committee process.

If this study goes forward, the NYISO would propose to use a process similar to the one proposed for the cost-based statewide VSS rate study (that is, conduct the scoping phase through a written exchange.) Study results could add to the resolution of issues being addressed by the RPWG and the ESPWG with regard to the CRPP.

Ultimately, the NYISO and its market participants will determine, through its governance process, an acceptable approach to a locational VSS market, based on the findings and recommendations of the independent analysis.

D. Outstanding Technical Issues

There are a few other outstanding technical issues, which should be addressed during this next phase of work on VSS matters. The two listed below are already underway and do not require the assistance of a consultant**.**

(i) Testing Procedures for Vars. Revisions are needed to the testing protocols in the NYISO's manuals to ensure that VSS suppliers test their automatic voltage regulator (AVR) equipment in accordance with best practices. These revisions include allowing a

generator to conduct an out-of-season test. The changes are pending in the NYISO's governance process.

(ii) Technical Cleanup of Rate Schedule 2. The tariff currently directs that if a generator has a purchase power agreement (PPA) with a TO under PURPA, any compensation for Var support owing to the generator's output should be directed to the TO that holds the PPA. This provision has never been invoked, is outdated, and should be deleted. The NYISO should amend the tariff to remove the "PURPA flag" language. These changes do not require a consultant's study and can proceed in advance of the rest of the VSS changes.