

**Reactive Power Working Group
Scope of Work
2009 / 2010 Time-Line**

Objective: Develop a Reactive Reserve Guideline and determine the need for Power Factor guidelines.

Scope of Work /Timeline

1. Pre-simulation assessment of the base case and review of applicable criteria and guidelines.

Scope /Time line 4th Qtr. 2009

- A. Use Summer 2014 50/50 case to quantify base case:
 - 1. Zonal quantities e.g. loads, losses, charging shunt compensation, generation, zonal interchange.
 - 2. Bus voltages
 - 3. Local generation margins and terminal voltages
- B. Observe MVAR flow between zones and kV levels
 - 1. Investigate effect of transformer tap settings on potential inter-zonal circulating MVAR flow
- C. Review Local Company Voltage Criteria
- D. Review NYISO Planning and Operating Voltage Guidelines
- E. Based upon pre-contingency observations determine need for further analysis

2. Consider local voltage and generation reactive resources impact on transfer limits.

Scope /Time line 1st-2nd Qtr. 2010

- A. Use Summer 2014 50/50 case:
 - Use NYISO VCAP package to test voltage interface transfer limits on **Central East and UPNY-Con Ed interfaces**. Track (plot) pre and post contingency voltages as well as machine reserve margins and terminal voltages.
- B. Compare results to local Company Criteria and guidelines.
- C. Based upon study results and observations, determine need for draft guidelines.

3. Develop a system wide guideline for zonal reactive reserves.

Scope /Time line 2nd Qtr. 2010

- A. Use Summer 2014 50/50 case:
 - Use NYISO VCAP package to test voltage interface transfer limits on remaining NYISO interfaces which are potentially voltage limited. Track (plot) pre and post contingency voltages as well as machine reserve margins and terminal voltages.

- B. Compare results to local Company Criteria.
 - C. Evaluate the impact of the availability of distribution reactive resources on the proposed reactive reserve guidelines.
 - D. Test any draft guidelines (developed in #2) based upon above study results and observations for the remaining NYISO Zones.
 - E. Assess the proposed reactive reserve guideline adequacy to meet expected NERC power factor requirements. If deemed necessary, develop power factor guidelines.
- 4. Prepare Reactive Reserve and complementary power factor guideline recommendation for the OC. If accepted make formal proposal to NYSRC.**

Scope /Time line 3rd Qtr. 2010