

The following is a proposed replacement for the NYISO Corporate Goal and Objective #4 regarding Compliance with NERC / NAERO Operating Standards CPS-1 and CPS-2.

The current 2003 goal is based upon meeting CPS-1 criteria 12 of 12 months for Threshold Target and Superior and meeting CPS-2 criteria 10 of 12 for Threshold, 11 of 12 for Target and 12 of 12 for Superior.

The proposed goal for 2004 would be based upon meeting CPS-2 criteria as for 2003 and meeting the NERC Disturbance Control Standards (DCS) such that no increase in NYISO reserve requirements are attributable to DCS performance for a Threshold, meeting the NERC criteria 100% of the time for a target and meeting the New York State Reliability criteria 100% of the time for superior performance. It is proposed that the CPS-2 and DCS goals are weighted equally.

BACKGROUND

The NERC Disturbance Control Standard (DCS) requires the Control Area return the Area Control Error (ACE) to zero or its pre-disturbance level within 15 minutes following the start of all NPCC reportable events. NERC standards state that each Control Area shall operate its MW power resources to provide for a level of Operating Reserve.

NPCC states that following loss of resources or load, a Control Area shall take appropriate steps to return its Area Control Error (ACE) to zero or its pre-disturbance level in accordance with the NPCC Operating Reserve Criteria (Document A-6).

NPCC sets the ten-minute reserve requirement in each Control Area shall be at least equal to its first contingency loss multiplied by the Contingency Reserve Adjustment Factor for the most recently completed quarter (normally 1.0). The Contingency Reserve Adjustment Factor is based upon the DCS. Failures to meet the DCS will increase the ten-minute reserve requirement. Each control area or reserve-sharing group not meeting the Disturbance Control Standard during a given quarter, shall increase its Contingency Reserve obligation for the calendar quarter (offset by a month) following the evaluation. The increase shall be directly proportional to the control area or reserve sharing group's non-compliance to the Disturbance Control Standard. The thirty-minute reserve available to each area shall be at least one-half the area's second contingency loss.

The New York State Reliability Council sets the Reliability Rules covering the minimum level of operating reserve to be provided in the New York Control Area. The minimum operating reserve requirement of the NYISO shall be the sum of:

- a. Sufficient ten (10) minute operating reserve to replace the operating capacity loss caused by the most severe contingency observed under normal transfer criteria.

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- b. Sufficient thirty (30) minute operating reserve equal to one-half of the ten (10) minute operating reserve necessary to replace the operating capacity loss caused by the most severe contingency observed under normal transfer criteria.

The NPCC Disturbance Control Standard states a control area or reserve sharing group must calculate and report compliance with the Disturbance Control Standard for all disturbances greater than or equal to 80% of the magnitude of the control area’s or of the reserve sharing group’s most sever single contingency loss.

The NYISO reports monthly to the NYSRC the response of the system to restore ten (10) minute operating reserve after the loss of a major unit (>300MW). For each incident this report shall identify the MW capacity lost; the 10 minute and 30 minute operating reserves prior to the incident; and the ACE, 10 minute, and 30 minute operating reserves at a period of time 10 minutes and 30 minutes after the incident. This report provides the basis for measuring the 2004 DCS goal.

Proposed

Goal 4 - Comply with NERC Standards CPS-2 and the Disturbance Control Standard

2004 Goal:	Threshold	Target	Superior
Comply with NERC CPS-2 Operating Standard: CPS-2 >= 90 %	10 of 12	11 of 12	12 of 12
Comply with NERC Disturbance Control Standard.	No increase in reserve requirements Due to DCS Performance	Meet NERC 15 minute Criteria	Meet NYSRC 10 minute Criteria

Goal Description/Discussion:

- Control Performance Standards (CPS) are defined by NERC to monitor and compare power system operation across North America.
- Parameters are determined on the basis that system reliability is impacted by the effectiveness of frequency control.
- CPS-1 provides a frequency-sensitive evaluation on how well a Control Area met its demand requirements, proven not to be an issue at the NYISO, as such has not been included as an objective for 2004.
- CPS-2 measures the magnitude of short-term ACE values.
- DCS measures the effectiveness of operating reserve activation to recover from large ACE.
- NERC compliance threshold for CPS-2 is 90 % measured on a monthly basis.

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- NYSRC compliance threshold for DCS is 100% reported monthly.
- CPS-1 and CPS-2 values are normally calculated on the following day and monthly. The monthly performance is reported.
- The CPS values are a function of having sufficient generation on Dispatch and Control following their base point signals to address deviations in New York Control Area load, Control Area Contingencies, and schedule changes with adjacent control areas.
- Maintaining compliant CPS performance is particularly difficult during high demand periods where little generation capacity remains to address load and interchange fluctuations.
- The NERC DCS requires the Control Area return the Area Control Error (ACE) to zero or its pre-disturbance level within 15 minutes following the start of all NPCC reportable events, the NYSRC sets this time at 10 minutes.
- Several programs are in various stages of development to address AGC Market performance through ACE coordination with neighboring Control Areas currently in the pilot stage, and with a program to efficiently schedule the amount of AGC generation based on power system dynamics. These programs promise a more efficient AGC market, but also bring uncertain exposure to CPS compliance.
 - o Regulation Study – To change the level of regulation required to hourly values from the current on/off peak method (Business Plan).
 - o Monitoring of Regulation units using Performance Index, TO relaying control signals to generators leaves us vulnerable.
 - o RTS will allow monitoring of CPS 2 in real time. Presently, it is after the fact.

Comparison to 2003 Goal:

- The proposed 2004 CPS-2 goal component is the same as found in the 2003 goal. The DCS component is an addition that addresses ACE during disturbance periods in which controls cannot usually maintain ACE with in criteria for normal load variations.
- With AGC Market enhancing program deployments in 2004 that promise more efficient markets at the cost of uncertain exposure to CPS performance, it is desired to maintain the CPS-2 goal for 2004.