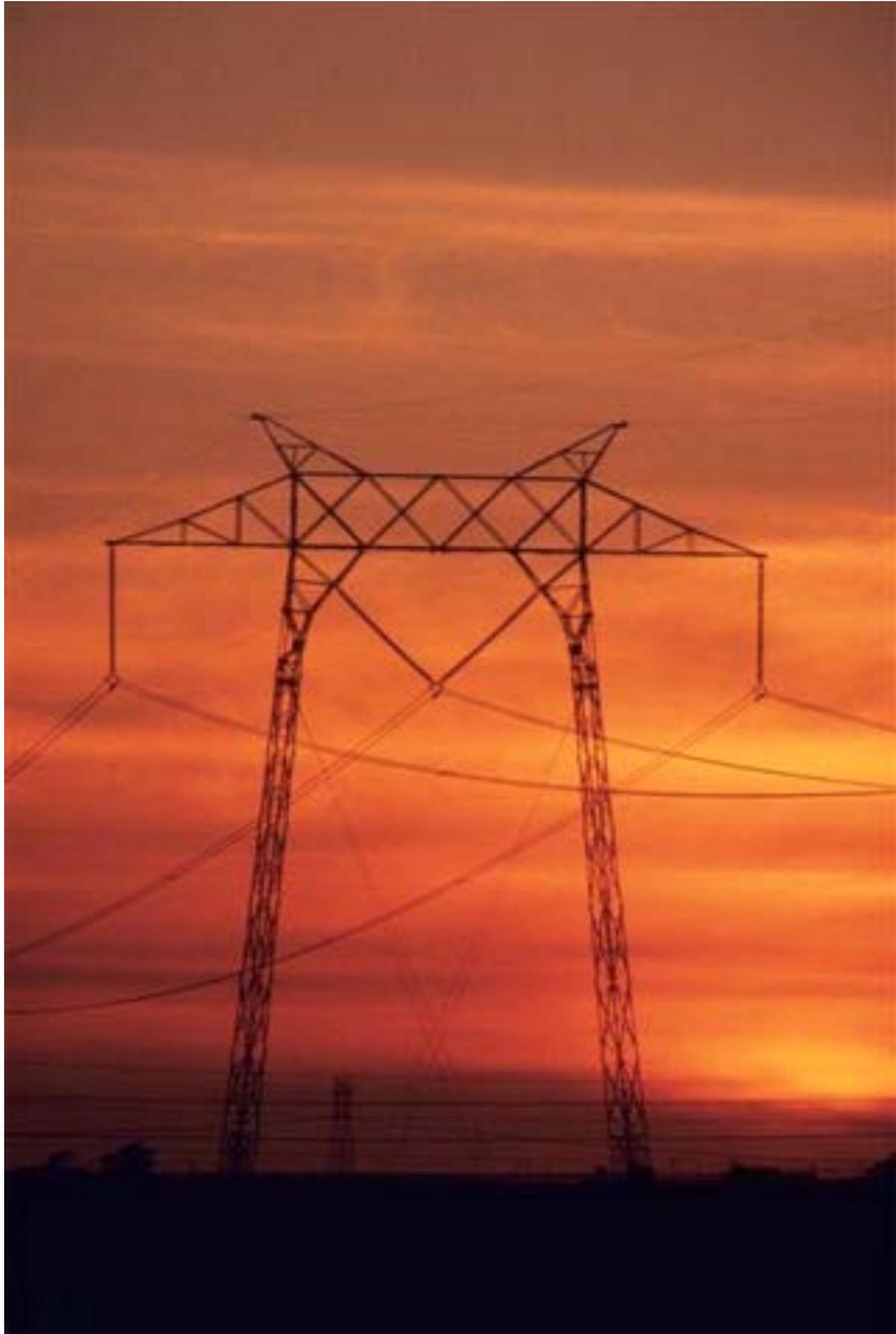


**NEW YORK STATE
RELIABILITY COUNCIL**

**CARRYING ON OUR
MISSION OF MAINTAINING
AND
ENHANCING ELECTRIC
SYSTEM RELIABILITY**

**2003 – 2004
BIENNIAL REPORT**





Carrying On Our Mission of Maintaining And Enhancing Electric System Reliability

A Message from the Chairman

Our number one priority is maintaining and enhancing the reliability of the electric system that powers the New York State economy and affects the lives of its 19 million citizens. The New York State Reliability Council's (NYSRC) role in the development of New York-specific reliability rules and its reliability monitoring compliance program enables us to confirm that the high standards of reliability in New York are attained.

On August 14, 2003, a major power outage occurred that affected large portions of the Northeast and Midwest of the United States and eastern Canada. While most of the State's population lost power, full power was restored to New York within 30 hours. The Blackout causing this significant power interruption originated in the Midwest, and nothing could have been done in New York to prevent it. Nevertheless, the NYSRC conducted its own review of the various issues raised. Working closely with the New York Independent System Operator (NYISO), the NYSRC then undertook several initiatives for continuing its commitment to promote the reliable and efficient operation the New York State electric power system.

*Bruce B. Ellsworth
Chairman of the New York State Reliability Council*



ABOUT THE NEW YORK STATE RELIABILITY COUNCIL

The basic mission of the New York State Reliability Council (NYSRC) is to assist in the maintenance and enhancement of reliability of New York State's electric system. Since its formation in 1999, when it was approved by the Federal Energy Regulatory Commission (FERC) as part of the comprehensive restructuring of the electricity market in New York State, the NYSRC has successfully carried out its mission in accordance with FERC-approved NYSRC and New York Independent System Operator (NYISO) Agreements. The NYSRC is an independent organization whose responsibilities, duties, and obligations are defined by these Agreements.

To Fulfill its Mission, the NYSRC:

- Establishes NYSRC Reliability Rules, consistent with North America Electric Reliability Council (NERC) and Northeast Power Coordinating Council (NPCC) standards. The NYSRC Reliability Rules are consistent with, and sometimes more stringent or specific than, NERC and NPCC standards.
- Monitors and assesses NYISO conformance with NYSRC Reliability Rules.
- Establishes statewide installed capacity requirements.
- Assesses New York State electric system resource and transmission system adequacy.

Organization

The NYSRC is a not-for-profit limited liability company, whose activities are governed by a 13-member Executive Committee (see inside back cover). Nine members represent key sectors of New York's electric industry: transmission owners (six members), wholesale sellers (one member), industrial and large commercial consumers (one member), and municipal electric systems and cooperatives (one member). The remaining four NYSRC members are independent (unaffiliated) members with no affiliation with any sector of New York's electric industry.

A vote of nine members is needed to pass a measure. Three subcommittees report to the Executive Committee. The industry sectors and independent members represented on the NYSRC Executive Committee also are represented on these subcommittees. Their representatives, including consultants, provide expertise in the planning and operating aspects of the reliable operation of New York's electric system.

The Reliability Rules Subcommittee (RRS) manages the review, development, and modification of the NYSRC Reliability Rules to maintain or enhance the reliability of the NYS Bulk Power System.

The Reliability Compliance Monitoring Subcommittee (RCMS) manages the NYSRC compliance monitoring process, develops procedures for measuring and documenting compliance, and accesses compliance with the NYSRC Reliability Rules.

The Installed Capacity Subcommittee (ICS) oversees the development and analysis of studies related to the NYSRC's adoption of the annual statewide installed capacity requirement for the NYCA.



THE 2003 BLACKOUT

On August 14, 2003 – at about 4:10 p.m. – the largest blackout in North America’s history occurred. The Blackout affected an estimated 50 million people in New York, seven other states, and several Canadian provinces. It occurred as the result of events in northern Ohio, well beyond the control of the NYISO. Investigations conducted by the U.S.-Canada System Outage Task Force and NERC have concluded that several entities in the Midwest violated well-established reliability standards, and those violations contributed directly to the start of the cascading blackout.

Soon after the Blackout event, the NYSRC initiated a series of actions to determine whether the NYISO was in compliance with NYSRC Reliability Rules and NERC and NPCC Standards. It looked at the time periods leading up to the Blackout, during the Blackout, and during system restoration; and whether modifications to the existing Reliability Rules were warranted. The NYISO was requested to furnish frequent status reports of the progress of its own Blackout investigations, and to provide a self-assessment as to whether or not the NYISO was in compliance with the NYSRC Reliability Rules and NERC and NPCC Standards during the period of the Blackout.

RCMS was charged with reviewing NYISO compliance with Reliability Rules with respect to the Blackout, as follows:

- RCMS reviewed and concurred with the NYISO compliance self-assessment. This certified that the NYISO was in full compliance with all

applicable NYSRC Reliability Rules and NERC and NPCC Standards following the August 14, 2003 system disturbance.

- RCMS reviewed a NERC Control Area Readiness Audit of the NYISO and concluded that the audit did not indicate any areas of NYISO non-compliance with the rules.
- As part of its 2004 NYSRC Reliability Compliance Review Program, RCMS monitored NYISO compliance with various NYSRC Reliability Rules that were specifically associated with areas of operation during the Blackout; e.g., “Operation During Major Emergencies” and “System Restoration”. Following its assessment, RCMS concluded that the NYISO was in full compliance with these rules.

Blackout Initiatives

The NYSRC review and analysis of the Blackout resulted in a number of initiatives being taken by the NYSRC to maintain and enhance the reliability of the New York State Bulk Power System:

- *Enhance NYSRC Reliability Rules on System Restoration.* Review of a NYISO System Restoration Working Group report shows that, although NYISO operations during system restoration on August 14-15, 2003 were in compliance with NYSRC Reliability Rules, the existing system restoration rules should be modified to make them more stringent and specific, and to implement recommendations of the NYISO System Restoration Working Group. Rules related to system restoration training will also be enhanced.
- *Enhance other NYSRC Reliability Rules.* Other rules will be developed or enhanced covering reactive power and voltage control requirements,

disturbance monitoring, and system modeling. The NYSRC is actively following the progress of an NYISO reactive operating study, which is scheduled to be completed in 2005. This study will be used in the consideration of a proposed NYSRC rule on reactive requirements.

- *NYSRC Reliability Rules and NPCC Standards are already mandatory. NERC Reliability Standards, which are now voluntary, should also be made mandatory.* The reliability of the NYCA is dependent on the compliance of neighboring systems as well as distant systems with accepted national and regional reliability criteria. Accordingly, the NYSRC will continue to support a mandatory system of compliance and enforcement with reliability standards, backstopped by the Federal Energy Regulatory Commission.
- *Monitor implementation of the U.S.-Canada Outage Task Force's 46 recommendations and take appropriate actions.* The NYSRC will continue to track FERC, NERC, NPCC, and NYISO responses to these recommendations. The NYSRC is now considering new reliability rules based on these recommendations.
- *Continue to improve the NYSRC Reliability Compliance Monitoring Process.*
- *Review the NYS PSC Blackout Final Report and implement recommendations as appropriate.* This report is expected to be issued in early 2005.
- *Identify possible Defensive Strategies that may be implemented in the event a problem develops on a neighboring system.* The purpose of this initiative is to investigate strategies intended to maintain continued reliability in New York State in the event operating failures develop in neighboring systems, such as what happened on August 14, 2003. The

NYSRC has identified two defensive strategy approaches: separation *prior* to a disturbance using smaller interconnections and HVDC tie lines, and separation *during* a disturbance using protection and control technology.





RELIABILITY RULE DEVELOPMENT

The NYSRC utilizes an open process approach for its development of Reliability Rules. Consistent with this open process mechanism, comments and recommendations from the NYISO, market participants and other interested parties on proposed new NYSRC Reliability Rules or modifications of current Rules are encouraged and carefully considered. Any party may propose a new or modified Reliability Rule. During 2003-04, 14 new or modified reliability rules were adopted. At the beginning of 2005 there were 11 proposed Reliability Rules at various stages of development.

The NYSRC is active in the NERC reliability standards development process. NYSRC's participation during 2003-04 included considerable effort in reviewing and providing comments to NERC on several proposed new standards. NYSRC has taken the position that NERC should adopt even more stringent standards than their existing standards when it is appropriate. The NYSRC took strong positions that: (1) regional or local entities, such as the NYSRC, should be able to develop more stringent criteria than the NERC standards when necessary to protect reliability, and (2) the issuing of non-compliance letters to appropriate entities - instead of monetary sanctions – is the most effective means of addressing violations of NERC Standards. The NYSRC will continue to support the NERC reliability standards development process in 2005.



NYSRC RELIABILITY COMPLIANCE PROGRAM

A NYSRC Reliability Compliance Program monitors and measures NYISO compliance with the Reliability Rules. When non-compliance is identified by RCMS, corrective actions and mitigation plans are developed by the NYISO to achieve compliance. The NYSRC Reliability Compliance Program has been formally in place since 2003. The NYSRC provides oversight review of NYISO programs examining market participant compliance with NYISO procedures. These address market participant obligations for meeting Reliability Rule requirements. The NYSRC also provides oversight review of NYISO compliance with NERC and NPCC standards, which is separately monitored and assessed by NPCC.

In 2003, NYISO compliance with 15 reliability rules was monitored through the NYSRC Reliability Compliance Program, while in 2004 NYISO compliance with 18 reliability rules was monitored. In addition, several special compliance assessments were conducted.

The NYSRC Rules require the NYISO to annually conduct comprehensive reliability assessments. The 2003 and 2004 assessments focused on the NYCA's ability to meet NYSRC resource adequacy and transmission reliability rules through 2007. These assessments concluded that all NYSRC Reliability Rules were met.



NYCA INSTALLED CAPACITY REQUIREMENTS

The NYSRC has the responsibility to establish an annual statewide capacity requirement, which determines the amount of resource capacity that must be available in the NYCA to ensure reliability. The NYSRC studies for determining the statewide installed capacity requirement utilize state-of-the-art Loss of Load Expectation (LOLE) computer modeling techniques. The statewide installed capacity requirement is implemented by the NYISO. In accordance with NYSRC requirements, the NYISO establishes LSE capacity requirements and determines Locational Capacity Requirements (LCR) for New York City and Long Island.

In 2003 and 2004, the technical results of NYSRC studies showed that the statewide installed reserve margin (IRM) required for the NYCA during the 2004-05 and 2005-06 capability years were 17.1% and 17.6%, respectively, under base case assumptions. To account for sensitivity study results and the uncertainties of study assumptions, the NYSRC Executive Committee decided to maintain the NYCA IRM requirements for both capability years at 18.0%. During 2003-04, ICS made significant progress at further improving capacity and load representations for the NYCA reliability model utilized for the study.

In 2004 the NYSRC and NYISO began a joint study to consider methods of establishing the LCR to ensure the level selected by the NYISO does not result in unreasonably high IRM requirements. Another objective of this study is to develop consistent methodologies for establishing statewide IRM requirements and LCR. The study is scheduled to be completed in 2005.

It is expected that fairly significant levels of wind generation will soon begin to be installed in New York. The NYSRC has been active in a joint NYISO/NYSERDA wind power investigation. Information from the wind power study and proceeding will provide useful guidance for the reliability modeling of these resources, which have unique availability characteristics. The NYSRC also actively participated in a NYS PSC proceeding on Renewable Portfolio Standards to ensure that reliability impacts of renewable resources, particularly wind power, were considered.

THE CHALLENGES AHEAD

The NYSRC has placed substantial emphasis on annual compliance monitoring and system performance measures in order to bring to light necessary enhancements to existing reliability rules and the need for new rules. However, the Council is equally aware of the need to identify longer term reliability signals. These signals are particularly significant because they afford the lead-time necessary to affect transmission transfers and generator capacity installations/locations and to sustain adequate annual reliability performance. To accommodate its longer term obligations, the NYSRC will consider a wide range of actions to protect the integrity of the NYCA's electric system.

- Support for mandatory Federal/NERC, Regional and Sub-Regional Reliability Rules that are at least as stringent as current NERC Criteria. The NYSRC also supports more stringent Regional and/or Sub-Regional Rules, if necessary, and a clear Federal regulatory back-stop for reliability standards.

- Evaluation of the impact of dependency of electric system reliability on a long-term and dependable supply of natural gas and petroleum based fuels.
- Consideration of defensive strategies to mitigate the NYCA's vulnerability over time to (1) expanding system disturbances caused by gradual change to an electrically "tighter" grid, combined with shrinking system inertia and (2) the consequences of terrorist attacks.
- Evaluation of the impact of environmental requirements on dual fuel capability for reliability purposes.
- Performance of horizon year assessments of NYCA IRM requirements and LCR to provide increased lead-time for the development of viable solutions to address reliability problems.

The NYSRC is confident that a diligent process of scrutinizing both short and longer term reliability characteristics - and taking corrective actions as necessary - will lessen the risk of major electrical system disturbances. However, no single entity can protect reliability. State and Federal government, the NYISO, and market participants must constantly be aware of the impact of governmental action, market rules and market participant action on reliability. Open electric markets, cleaner air, and more renewable resources are laudable goals. Unfortunately, none come without potential negative reliability impacts. The NYSRC hopes that the actions it takes will help bring together different viewpoints by (1) broadening the understanding of reliability issues and (2) working toward solutions that fairly balance the priorities of parties without jeopardizing electric system reliability.

NYSRC Executive Committee Members

Bruce B. Ellsworth ... *Chairman, Unaffiliated Member*

Thomas J. Gentile ... *Vice Chairman, National Grid, USA*

Richard J. Bolbrock ... *Long Island Power Authority*

William H. Clagett ... *Unaffiliated Member*

Mark J. Cordeiro ... *Municipals & Electric Co-Op Sector*

Thomas C. Duffy ... *Central Hudson Gas & Electric Corporation*

Joseph C. Fleury ... *New York State Electric & Gas Corporation/Rochester Gas & Electric Corporation*

George C. Loehr ... *Unaffiliated Member*

Robert M. Loughney ... *Industrial and Large Commercial Consumers Sector*

Thomas M. Piascik ... *Wholesale Sellers Sector*

A. Ralph Rufrano ... *New York Power Authority*

Mayer Sasson ... *Consolidated Edison Company of NY*

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