



## NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL

Princeton Forrestal Village, 116-390 Village Boulevard, Princeton, New Jersey 08540-5731

October 10, 2003

**To: NERC Control Areas and Reliability Coordinators**

**Subject: Near-Term Actions to Assure Reliable Operations**

The NERC Board of Trustees, with the endorsement of its Stakeholders Committee, directed on October 10, 2003 that the following letter be sent to the CEOs of all NERC Control Areas and Reliability Coordinators.

NERC is assisting the United States-Canada Power Outage Task Force's joint-international investigation of the August 14 blackout that affected parts of the Midwest and Northeast United States, and Ontario, Canada. Although considerable progress has been made in the investigation to determine what happened, an understanding of the causes of the outage is still being developed through analysis by teams of experts.

The reliability of the North American bulk electric systems, including the avoidance of future cascading outages, is of paramount importance to NERC and its stakeholders. Pending the outcome of the final report on the outage, NERC emphasizes to all entities responsible for the reliable operation of bulk electric systems the importance of assuring those systems are operated within their design criteria and within conditions known to be reliable through analytic study. If the power system enters an unanalyzed state, system operators must have the authority and the capability to take emergency actions to return the power system to a safe condition.

NERC requests that each entity in North America that operates a Control Area and each NERC Reliability Coordinator review the following list of reliability practices to ensure their organizations are within NERC and regional reliability council standards and established good utility practices. NERC further requests that within 60 days, each entity report in writing to their respective regional reliability council, with a copy to NERC, that such a review has been completed and the status of any necessary corrective actions. This brief list of near-term actions is not in any way intended to diminish the need to comply with all NERC and regional reliability council standards and good utility practices.

1. **Voltage and Reactive Management:** Ensure sufficient voltage support for reliable operations.
  - Establish a daily voltage/reactive management plan, assuring an adequate static and dynamic reactive supply under a credible range of system dispatch patterns.
  - During anticipated heavy load days, or conditions of system stress such as caused by heavy wide-area transfers, ensure all possible VAR supplies are verified and available, and VAR supplies are applied early in the day ahead of load pickup.
  - Reserve sufficient dynamic reactive supply (e.g. online generation and other dynamic VAR resources) to meet regional operating criteria and system needs.
  - In accordance with NERC and regional practices maintain voltage schedules of all bulk electric transmission facilities above 95% nominal values and in conformance with regional criteria.

- Report any low voltage limit violations at critical high voltage transmission facilities to the reliability coordinator.
  - Ensure all interconnected generators that have, or are required to have, automatic voltage regulation (AVR) are operating under AVR.
  - Coordinate potential differences of voltage criteria and schedules between systems and ensure these differences are factored into daily operations.
2. **Reliability Communications:** Review, and as necessary strengthen, communication protocols between Control Area operators, Reliability Coordinators, and ISOs.
- Share the status of key facilities with other appropriate Control Area operators, Reliability Coordinators, and ISOs.
  - Control Area operators, Reliability Coordinators, and ISOs should conduct periodic conference calls to discuss expected system conditions and notify all neighboring systems of any unusual conditions. Conduct additional calls as needed for system critical days.
3. **Failures of System Monitoring and Control Functions:** Review and as necessary, establish a formal means to immediately notify control room personnel when SCADA or EMS functions, that are critical to reliability, have failed and when they are restored.
- Establish an automated method to alert power system operators and technical support personnel when power system status indications are not current, or that alarms are not being received or annunciated.
  - Determine what backup capabilities can be utilized when primary alarm systems are unavailable. If a backup to failed alarms is not immediately available, then monitoring and control should be transferred in accordance with approved backup plans.
  - Identify and implement procedures to move to 'conservative system operations' when operators are unsure about next contingency outcomes (i.e., unstudied conditions, loss of SCADA or EMS visibility, unexplained or unknown power system conditions).
  - Ensure all critical computer and communication systems have a backup power supply, and the backup supply is periodically tested.
  - Ensure that system operators have a clear understanding of the impact to their energy management system control functions whenever their transaction tagging and scheduling systems fail. Identify and implement appropriate contingency procedures for loss of real-time ACE and AGC control.
4. **Emergency Action Plans:** Ensure that emergency action plans and procedures are in place to safeguard the system under emergency conditions by defining actions operators may take to arrest disturbances and prevent cascading.
- Actions might include but should not be limited to acting immediately to reduce transmission loading, ordering redispatch, requiring maximum reactive output from interconnected resources, and shedding load without first implementing normal operating procedures.
  - Ensure operators know, not only that they have the authority to shed load under emergencies, but that, in addition, they are expected to exercise that authority to prevent cascading.
5. **Training for Emergencies:** Ensure that all operating staff are trained and certified, if required, and practice emergency drills that include criteria for declaring an emergency, prioritized action plans, staffing and responsibilities, and communications.
6. **Vegetation Management:** Ensure high voltage transmission line rights of way are free of vegetation and other obstructions that could contact an energized conductor within the normal and emergency ratings of each line.

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President and CEO