

February 19, 2004, Media Briefing Talking Points

Participants:

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Mr. Gent

Good Morning. As everyone who is listening to this call should know by now, NERC and the industry have been working non-stop to analyze the causes of the August 14 blackout and develop meaningful recommendations to ensure that such an event does not occur in the future.

Our investigation is nearly complete, and we expect to have a detailed, technical report finished this spring. But rather than waiting until the report is finished, NERC is acting now to implement some of the most significant lessons we have learned.

We scheduled this conference call today to provide you with an overview of the actions the NERC Board of Trustees took last week to reaffirm its unwavering commitment to ensuring the reliability of the bulk electric system in North America. The board's actions are posted on the NERC website and I hope you had time to review them in advance of this call.

The board reviewed the findings of the August 14 blackout investigation. Based upon that review, they ordered NERC to implement the recommendations prepared by the Steering Group that directed NERC's blackout investigation. The board recognizes that we must do everything within our power to regain the public's trust and provide reassurance that preserving the reliability of the bulk electric system is of paramount importance to NERC and to the electric industry as a whole.

A key finding of NERC's investigation, and of greatest concern to me, was that existing NERC reliability standards were violated, and that this contributed directly to the blackout. As you can imagine, I am deeply disturbed by this finding. I am also very concerned that problems identified in studies of prior large-scale blackouts were repeated. We must do better than this.

You may be aware that NERC has been seeking federal reliability legislation that would create a framework for enforcing mandatory reliability standards – compliance with our standards is presently voluntary. While we have worked hard to get this legislation passed over the years, we have yet to achieve this goal.

Despite the absence of legislation, the board has determined that NERC must use all available means to obtain full compliance with our reliability standards. We have also committed ensuring that we give greater visibility to those who violate NERC reliability standards. We are strongly encouraged that we have received the full backing of Federal Energy Regulatory Commission and all sectors of the electric industry as we work to implement these and other initiatives approved by the board.

Specifically, the board resolved to:

- Receive detailed information on all violations of NERC reliability standards;
- Act to improve compliance with NERC reliability standards;
- Provide greater transparency to violations of reliability standards, while respecting the confidential nature of some information and the need for due process; and
- Work closely with the Federal Energy Regulatory Commission and other applicable federal, state, and provincial regulatory authorities in North America to ensure that the public interest is met with respect to compliance with our reliability standards.

The board's directives will be carried out via fourteen recommendations resulting from the blackout investigation. David Hilt, our Vice President of Compliance who led NERC's technical investigation, and Dr. Paul Barber, who facilitated the investigation's blue ribbon Steering Group, will review the team's findings and recommendations with you shortly.

Before I leave you, I would like to express my sincere appreciation to Dave, Paul, and the NERC Steering Group for their objective and thorough work throughout this investigation. I would also like to take this opportunity thank each and every person who volunteered their time and expertise to NERC for the duration of this investigation, and thank those companies who made their participation possible.

Thank you for your time. I will now turn the discussion over to Mr. Hilt, who will provide an overview of our findings and recommendations.

Mr. Hilt

NERC has conducted a comprehensive investigation of the August 14, 2003, blackout. The results of this investigation contributed significantly to the U.S./Canada Power System Outage Task Force Interim Report identifying the root causes of the outage and the sequence of events leading up to and during the cascading failure. NERC fully concurs with the conclusions of the Interim Report and continues to provide technical support to the bi-national task force to develop a final report.

Although we believe that we understand what happened and why for most aspects of the outage, we are continuing to conduct detailed analysis in several areas, notably dynamic simulations of the transient or high speed phases of the cascade, and a final verification of the full scope of all violations of NERC and regional reliability standards that led to the outage.

In short, NERC's investigation concludes that:

- Several entities violated NERC operating policies and planning standards, and those violations contributed directly to the start of the cascading blackout.
- The existing process for monitoring and ensuring compliance with NERC and regional reliability standards was inadequate to identify and resolve specific compliance violations before those violations led to a cascading blackout.

- Reliability coordinators and control areas have adopted differing interpretations of the functions, responsibilities, authorities, and capabilities needed to operate a reliable power system.
- Problems identified in studies of prior large-scale blackouts were repeated, including deficiencies in vegetation management, operator training, and tools to help operators properly visualize system conditions.
- In some regions, data used to model loads and generators were inaccurate due to a lack of verification with actual system data and field-testing.
- Planning studies, design assumptions, and facilities ratings were not consistently shared and were not subject to adequate peer review.
- Available system protection technologies were not consistently applied to optimize the ability to slow or stop an uncontrolled cascading failure of the power system.
- Communications between system operators were not effective and hampered their ability to recognize the developing system emergency

To address these deficiencies, NERC's recommendations fall into three categories: near term actions parties must take to remedy specific deficiencies before this summer; strategic initiatives to strengthen compliance with existing reliability standards and to track the implementation of recommendations from this and other outage investigations; and technical initiatives to prevent or mitigate the impact of future cascading blackouts. Dr. Paul Barber will now discuss some of the 14 recommendations that the Steering Group presented to the NERC board for adoption last week. We will both be available to answer your questions following his presentation.

Mr. Barber

Good afternoon. I will review the highlights of the 14 Steering Group recommendations approved by the board last week. I'll leave it up to you to ask me for details during the question and answer period.

1. Correct the direct causes of the August 14, 2003, Blackout.
 - The companies implicated in the blackout are directed to complete specified remedial actions and certify that these actions have been completed.
 - NERC will assign experts to help these companies develop plans that adequately address the issues identified in this report, and for any other remedial actions for which they require technical assistance.
2. Strengthen NERC's Compliance Enforcement Program.
 - Each Region will report all violations of NERC operating policies, planning standards and regional standards, whether verified or pending investigation.
 - If presented with evidence of a significant violation, the offending organization must correct the violation within a specified time. If an organization is determined to be non-responsive and presents a reliability risk, NERC will request assistance of the appropriate regulatory authorities.

- NERC will review and update all compliance templates applicable to current NERC reliability standards.
 - NERC and ECAR will evaluate violations of NERC and regional standards and develop recommendations to improve compliance with reliability standards.
3. Initiate Control Area and Reliability Coordinator Reliability Readiness Audits.
 - NERC and the Regions will establish a program to audit all reliability coordinators and control areas, with immediate attention given to addressing the deficiencies identified in the blackout investigation. These audits shall be completed within three years, with the 20 highest priority audits to be completed by June 30, 2004.
 - NERC will establish a set of baseline audit criteria that will include evaluation of reliability plans, procedures, processes, tools, personnel qualifications, and training.
 - The Regions, with input from NERC, will audit each control area's and reliability coordinator's readiness to meet these audit criteria.
 4. Evaluate Vegetation Management Procedures and Results.
 - NERC and the Regions will initiate a program to report all transmission line trips resulting from vegetation contact.
 - Each transmission operator will submit an annual report of all vegetation-related high voltage line trips to its Region.
 - Each transmission owner shall make its vegetation management procedures and documentation of work completed available for review and verification.
 5. Establish a Program to Track Implementation of Recommendations.
 - NERC and the Regions will establish a program to document the completion of recommendations resulting from the August 14 blackout investigation and investigations of other historical outages, reports of violations of reliability standards, results of compliance audits, and lessons learned from system disturbances.
 - NERC will establish a program to evaluate and report on bulk electric system reliability performance.
 6. Improve Operator and Reliability Coordinator Training
 - All reliability coordinators, control areas, and transmission operators shall provide at least five days per year of training and drills in system emergencies for each staff person with responsibility for the real-time operation or reliability monitoring of the bulk electric system.
 7. Evaluate Reactive Power and Voltage Control Practices.
 - NERC will reevaluate the effectiveness of the existing reactive power and voltage control standards and how they are being implemented in practice, and develop recommendations to ensure voltage control and stability issues are adequately addressed.

- ECAR will review its reactive power and voltage criteria and procedures and verify that its criteria and procedures are being fully implemented in regional and member studies and operations.
8. Improve System Protection to Slow or Limit the Spread of Future Cascading Outages.
 - All transmission owners will evaluate the zone 3 relay settings on all transmission lines operating at 230 kV and above for the purpose of verifying that each zone 3 relay is not set to trip on load under extreme emergency conditions. NERC will review any proposed exceptions to ensure they do not increase the risk of widening a cascading failure of the power system.
 - Each Region will evaluate the feasibility and benefits of installing under-voltage load shedding capability in load centers that could become unstable as a result of being deficient in reactive power following multiple-contingency events. The Regions are to promote the installation of under-voltage load shedding capabilities within critical areas that would help to prevent an uncontrolled cascade of the power system.
 - Evaluate Planning Standard III – System Protection and Control and propose revisions to adequately address the issue of slowing or limiting the propagation of a cascading failure. Evaluate the lessons from August 14 regarding relay protection design and application and offer additional recommendations for improvement.
 9. Clarify Reliability Coordinator and Control Area Functions, Responsibilities, Capabilities and Authorities.
 - More clearly define the characteristics and capabilities necessary to enable prompt recognition and effective response to system emergencies.
 - Ensure the accurate and timely sharing of outage data necessary to support real-time operating tools such as state estimators, real-time contingency analysis, and other system monitoring tools.
 - Establish the consistent application of effective communications protocols, particularly during emergencies.
 - The operating policies must be clarified to remove ambiguities concerning the responsibilities and actions appropriate to reliability coordinators and control areas.
 10. Establish Guidelines for Real-Time Operating Tools.
 - Evaluate the real-time operating tools necessary for reliable operation and reliability coordination, including backup capabilities and report both minimum acceptable capabilities for critical reliability functions and a guide of best practices.
 11. Evaluate Lessons Learned During System Restoration.
 - Evaluate the black start and system restoration performance following the outage of August 14 and develop recommendations for improvement.
 - All Regions will reevaluate their procedures and plans to assure an effective blackstart and restoration capability within their region.

12. Install Additional Time-Synchronized Recording Devices as Needed.

- Define regional criteria for the application of synchronized recording devices in power plants and substations and facilitate the installation of the devices to allow accurate recording of system disturbances and to facilitate benchmarking of simulation studies.
- Facility owners will upgrade existing dynamic recorders to include GPS time synchronization and, as necessary, install additional dynamic recorders.

13. Reevaluate System Design, Planning and Operating Criteria.

- Evaluate operations planning and operating criteria and recommend revisions.
- ECAR will reevaluate its planning and study procedures and practices to ensure they are in compliance with NERC standards, ECAR Document No. 1, and other relevant criteria; and that ECAR and its members' studies are being implemented as required.
- Reevaluate the criteria, methods and practices used for system design, planning and analysis. This review shall include an evaluation of transmission facility ratings methods and practices, and the sharing of consistent ratings information.

14. Improve System Modeling Data and Data Exchange Practices.

- Establish and implement criteria and procedures for validating data used in power flow models and dynamic simulations by benchmarking model data with actual system performance. Validated modeling data shall be exchanged on an inter-regional basis to support reliable system planning and operation.