



03blackoutupdate

August 2004

One year ago, on August 14th, 2003, an estimated 50 million people in Ontario and the Midwest and Northeast United States, experienced an electric power blackout. In a matter of seconds, these Canadian and U.S. electricity customers understood first-hand how vital electricity is in our day to day lives.

Reliability has always been a priority in the North American system, and those who endured the outage saw the great resiliency of the North American electricity system. Within 12 hours, over $\frac{2}{3}$ of power generation had been restored to service without any damage to the generation or transmission facilities connected to the grid. However, in today's world, 12 hours is a long wait for a service as essential as electricity, and North Americans have come to expect that such incidents should never occur.

On the first anniversary of the 2003 outage, the Canadian Electricity Association (CEA) thought it appropriate to review what has been done to prevent such an event from re-occurring. This document reviews the Canadian response to the 2003 blackout, including Canada's participation in the bi-national taskforce investigation, CEA's advocacy initiatives over the last 12 months and specific measures taken by Canadian industry to enhance North American electric reliability.

Blackout Investigation

The U.S.-Canada Power System Outage Task Force (the Task Force) was established immediately following the August blackout with two objectives: 1) to determine the causes of the blackout and why it was not contained, and 2) to develop recommendations to reduce the possibility of future outages, and minimize the scope of any that may occur.

Canadians participated actively in the deliberations of the Task Force. They oversaw and reviewed investigations of the conditions and events on the Canadian side of the border to determine whether they may have contributed to, or affected the blackout. Canadian members were also active on the Task Force's three working groups (electric system, nuclear and security) that assisted in the investigation. CEA and/or its member companies made oral and written submissions to meetings of the Task Force on December 8 and 16, 2003 and January 9, 2004.

On April 5, 2004, the Task Force released its final report which provided a description and analysis of the blackout and 46 recommendations to prevent or minimize the scope of future blackouts. The mandate of the Task Force was extended in order to oversee the implementation process of these recommendations. In order to facilitate movement on the recommendations, the U.S. Department of Energy and Natural Resources Canada have been in extensive discussions over the shape of the future Electric Reliability Organization (ERO) that would be responsible for developing and enforcing mandatory reliability standards for North America. On September 29, 2004, the Federal Energy Regulatory Commission (FERC) and the North American Electric Reliability Council (NERC) will host a joint conference on the reliability readiness review process.

Key Outage Report Recommendations for Canada

Framework for Standards Application

- "The federal and provincial governments should work together and with appropriate U.S. authorities to complete a framework to ensure that identical or compatible standards apply in both countries, and that means are in place to enforce them in all interconnected jurisdictions." (*Recommendation #1C; p. 143*)

Canada-U.S. Mechanisms for NERC Oversight

- "International coordination mechanisms should be developed between the governments in Canada and the United States to provide for government oversight of NERC or the ERO, and approval and enforcement of reliability standards." (*Recommendation #1D; p. 143*)

NERC Funding Mechanism

- U.S. and Canadian government authorities should work with NERC and the industry to develop and implement a funding mechanism for NERC and the regional councils based on a surcharge in transmission rates. (*Recommendation #2; p. 143*)

Independent Review of Ideal ERO Structure

- FERC, DOE and appropriate authorities in Canada should jointly commission an independent review to address issues concerning how best to structure an international reliability organization for the long term. (*Recommendation #3A; p. 143*)
- Based on results of study, metrics can be developed for gauging the adequacy of the NERC's performance, as well as specifying the functions of NERC's Board of Trustees and the procedure for selecting the members of the Board. (*Recommendation #3B; p. 144*)
- Review NERC's Functional Model (*Recommendation #3D; p. 145*)

Data Collection and Public Reporting

- "Relevant agencies in the U.S. and Canada should cooperate to establish mechanisms for tracking and reporting to the public on implementation actions in their respective areas of responsibility." (*Recommendation #5A; p. 146*)
- EIA, in cooperation with appropriate Canadian government agencies and others, should establish common definitions and information collection standards. (*Recommendation #10; p. 147*)
- "FERC and appropriate authorities in Canada should require generators, transmission owners, and other relevant entities to collect and report data that may be needed for analysis of blackouts and other grid-related disturbances." U.S. and Canadian government agencies should work with NERC and industry to identify information gaps, adopt common definitions, and establish filing requirements. (*Recommendation #11; p. 148*)

Study on Restructuring – Reliability Link

- DOE and NRCAN should commission an independent study of the relationship among industry restructuring, competition, and reliability, including the lack of new transmission investment and its causes. Research on reliability issues and reliability related technologies has a large public interest component, and government support is crucial. (*Recommendation #12; p. 148*)

Research & Technology

- DOE should consult frequently with Canadian authorities in planning and executing its research agenda. "Cooperative and complementary research and funding between nations and between government and industry efforts should be encouraged." (*Recommendation #13; p. 149*)

Framework for Future Blackout Review

- U.S., Canadian, and Mexican governments should establish a standing framework for the investigation of future blackouts and other significant grid-related incidents. (*Recommendation #14; p. 149*)

Enhancing North American Reliability

CEA has focused its attention on the taskforce recommendations that have explicit cross-border relevance on institutional issues related to reliability (see table on p. 2). These include making reliability standards mandatory, an assessment of the role of NERC, and the need for an independent source of reliability performance information.

Since the final blackout report, CEA has released two documents as a contribution to the reliability discussion: the first in April 2004, summarized the current reliability situation in each province and stated CEA's support for mandatory reliability standards; the second in August 2004 outlined specific characteristics of the future ERO that will draft and enforce such standards.

With respect to the latter document, CEA believes the ERO must be independent and international in design and operation, and supports NERC assuming the role of the ERO, with regulatory backstop in Canada and the U.S. CEA members believe this organization is an essential element of a long-term strategy to prevent further major outages.

Industry measures

CEA member companies have also undertaken significant efforts to implement the Task Force recommendations, and participate in continued follow-up to the blackout investigation. A partial list of measures taken by member companies across the country includes:

- increased expenditure on vegetation management;
- developing processes and documentation to ensure compliance with recommendations on IT security;
- participation in on-going revision of NERC reliability standards;
- Addition of 2800 MW of supply in Ontario since August 2003;

- equipment and procedural enhancements at nuclear facilities for a quicker return to service in the event of a blackout;
- participation in NERC internal investigation;
- participation in the drafting of NERC Version 0 standards that will address needs identified in the blackout investigation and provide a transition to the NERC standards currently under development.

Conclusion and Next Steps

The North American electricity system, which interconnects Canadian and U.S. electricity markets, is among the most reliable in the world. Increasingly open markets have brought with them opportunities for new efficiencies, new technologies, and ultimately better customer service and price. However the same system is subject to a host of pressures – aging infrastructures, need for continued new build in generation and transmission to meet demand, and growing regulatory pressures.

These pressures must be alleviated, and the 2003 blackout added urgency to industry and government discussions already underway about how to do that while continuing to deliver a reliable supply of electricity to the North American market.

CEA will remain an active participant in and sponsor of discussions of North American electric reliability. The Association and its member companies are committed to ensuring customers continue to receive affordable, environmentally sound, reliable power to meet their needs day in and day out. Effective enforcement of reliability standards is now recognized as a necessary prerequisite for that commitment to be fulfilled. As we move towards an international mandatory reliability regime, Canadian entities are well-prepared to participate in a manner that will ensure the continued provision of reliable electricity supply across the continent.

CEA members produce 95% of Canada's electricity, and ensure electricity service to Canadians from coast to coast.