



The BLACKOUT

of August 2003: QUESTION AND ANSWERS

What happened on August 14?

Government and industry investigators continued to study the August 14 blackout as Carolina Country went to press. Official statements by that time indicated that a series of equipment outages in the Midwest led to uncontrolled cascading outages of power transmission lines and generators serving parts of the Northeast, Midwest and Canada. These outages caused major losses of electric load affecting consumers in Michigan, Ohio, New York, Pennsylvania, Ontario, Quebec, northern New Jersey, Massachusetts and Connecticut. Automatic protective systems operated to open circuits and shut down power plants to prevent further spread of the outages. Operators were able to restart generators and restore the transmission system methodically, so that within two days, power was restored to virtually all consumers.

Why didn't the blackout affect the Southeast?

The electric grid is designed to withstand the loss of key transmission and generation facilities and continue to operate reliably. If events occur resulting in conditions that exceed the design limits of the system, automatic safeguards are in place that should limit the problem to an isolated area, protecting the rest of the grid. While it is unclear why the events of August 14 allowed the problem to extend over such a wide area, these automatic safeguards did operate to protect equipment within the affected area and prevent the outages from spreading to an even larger area, including the Southeast.

How is the reliability of the transmission grid maintained?

The North American Electric Reliability Council (NERC), a nonprofit organization formed in response to a major blackout that occurred in 1965, is primarily responsible for ensuring that the bulk electric system in North America is reliable, adequate and secure. NERC works with all segments of the electric industry to establish and encourage compliance with rules for reliable planning and operation of the electric grid. NERC is comprised of 10 regional reliability councils that encompass virtually the entire North American electric grid. These reliability councils are responsible for ensuring that each region complies with these reliability standards.

The generation and transmission cooperative owned by North Carolina's Touchstone Energy cooperatives (North Carolina Electric Membership Corporation)—as well as the state's other electric utilities—is a member of the Southeastern Electric Reliability Council (SERC), a nonprofit organization based in Alabama that works to ensure reliable transmission of electricity to 13 states in the Southeast.

What's being done to ensure such a massive outage won't happen again?

The Department of Energy has been working jointly with NERC to investigate the events leading up to the August 14 blackout. Understanding all of the events that led to the blackout is a complex task requiring review by experts from all segments of the industry. As Carolina Country

went to press, it was too soon to determine the exact cause of the event or what additional safeguards might be needed to prevent a similar event from occurring in the future. Once the specific cause or causes are fully understood, current standards and policies will be reviewed and corrective actions taken as appropriate.

To date, the standards and operating procedures followed by regional grid systems such as SERC remain voluntary. NERC and others have called for establishing mandatory and enforceable reliability rules as a means of ensuring compliance. Some analysts have also called for stricter regulatory oversight.

In recent years, power industry stakeholders have supported the formation of entities called "regional transmission organizations" or "independent system operators," which operate independently from utilities to ensure reliability and standard operating procedures within the regional transmission grids.

Since 1996, the Federal Energy Regulatory Commission (FERC) has allowed open access to the transmission grid for all users, regardless of who owns the physical plants, poles and wires. Use of the grid has been likened to a toll highway, where users pay fees for access to the grid. The result has been a significant increase in utilization of the grid to move power over longer distances with the effect of stressing some portions of the grid to the limits of its capability. While it is unclear that this contributed to the August 14 blackout, many analysts believe that investment in additional grid infrastructure is essential to assuring long-term reliability.

It is likely that Congress will consider the reliability of the transmission grid this fall.

What are electric cooperatives doing to help?

Cooperatives continuously maintain their distribution lines, substations and other facilities to ensure safe, reliable delivery of your electricity. Like most local electric cooperatives across the nation, North Carolina's cooperatives depend on neighboring transmission systems owned by other utilities. North Carolina's cooperatives thus have a vested interest in ensuring that transmission facilities systems are planned and operated reliably to ensure continuous service to North Carolina's customers.

The CEO of the National Rural Electric Cooperative Association, Glenn English, said that the August blackout shows that "we need to improve that portion of the grid that serves truly national needs." But he observed that it also "created an atmosphere ripe for political and economic opportunism" and he warned against "any premature rush to judgment." He added, "We know that the transmission system has problems. Let's learn from the experience, and develop an affordable plan to overcome the system's limits — guaranteeing that a true national grid is created."

Electric cooperatives are part of the process to develop that plan.

Information provided by the Power Supply Division of North Carolina Electric Membership Corporation, the generation and transmission cooperative owned by North Carolina's Touchstone Energy cooperatives.