



MAINE POWER RELIABILITY PROGRAM

A CENTRAL MAINE POWER COMPANY PROGRAM
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FACT SHEET

Planning for Reliable Electrical Transmission

Bulk Power Transmission System

- Maine's electric system is comprised of generating plants, transmission lines and distribution facilities. Transmission lines carry electricity from generating plants to parts of the state where considerable amounts of electricity are needed. From there, distribution lines carry electricity to where it is used in homes and businesses.
- The interlocking system of transmission lines, typically 115,000 volts (115kV) or higher, is commonly referred to as the bulk power system or grid.
- In Maine, the grid is owned by Central Maine Power (CMP), Bangor Hydro-electric Company (BHE) or by both utilities in combination with Maine Public Service. Operation of the grid, however, is the responsibility of ISO-New England, the Regional Transmission Operator serving all six New England states.
- Maine's bulk power transmission system, or grid, was placed into service in 1971 and has served Maine well for over 40 years. Maturing infrastructure and growing electric power needs over the last four decades have raised power quality and reliability concerns for the future.
- CMP initiated the Maine Power Reliability Program to study the grid to determine whether the grid could continue to operate reliability to meet forecasted future electrical needs and comply with new federally-mandated reliability standards.

New Federally-Mandated Reliability Standards

- On November 9, 1965, a power blackout left 30 million people across the northeastern United States and Ontario, Canada, in the dark. In an effort to prevent similar blackouts from happening, electric utilities formed the North American Electric Reliability Council (NERC) in 1968. NERC's mission is to promote the reliability of the electrical supply for North America.



- NERC develops standards, guidelines, and criteria for assuring transmission system security and reliability. Utility compliance with NERC standards, until recently, was voluntary and not subject to government oversight.
- In response to yet another widespread power blackout in 2003 that shut down generators and transmission lines across eight states, effecting 50 million people in the Northeast, Midwest and part of Canada, Congress enacted the Energy Policy Act of 2005, mandating that the Federal Energy Regulatory Commission (FERC) create and enforce mandatory standards for reliability.
- In February, 2006, FERC designated NERC as the certified Electric Reliability Organization responsible for developing and enforcing mandatory reliability standards.
- On December 27, 2007, FERC adopted the reliability standards developed by NERC, making them mandatory and enforceable.
- Violations are subject to significant penalties. NERC can fine utilities up to \$1 million per day per violation.

Maine Power Reliability Program's System Planning Studies

- A ***needs assessment***, finalized in June of 2007, evaluated the performance of the grid using thousands of computer simulations and concluded that by 2012, some parts of the grid could not continue to comply with reliability standards.
- Technical evaluations of possible combinations of transmission upgrades yielded 10 ***transmission alternatives***, which were in turn comprehensively examined and compared for electrical performance, cost effectiveness, impacts to landowners and to the environment, and robustness under various forecasts of future conditions.
- ***Non-transmission alternatives***, such as energy conservation and efficiency programs, were also studied as possible substitutes for, or to delay building new transmission lines.

Maine Power Reliability Program's Permitting Process

- On July 1, a petition was filed with the Maine Public Utilities Commission (Docket 2008-255) for a Certificate of Public Convenience and Necessity (CPCN). The petition presents a reliability solution that combines the transmission and non-transmission system planning studies.
- The project will also require environmental permits from the Department of Environmental Protection (DEP) and local permits from the 80 municipalities where the transmission upgrades will occur.