

Blackout of 2003

Distributed Energy Resources is part of the solution

- The August 14, 2003, blackouts robbed power from millions of people in the U.S. Northeast, stretching west to Ohio and Michigan, and in southern Canadian cities.
- The blackout cost an estimated \$4 billion to \$6 billion, which includes revenue lost by manufacturers.
- President Bush claimed a "wake-up call" to the antiquated state of the nation's electrical grid.



DER Success Stories

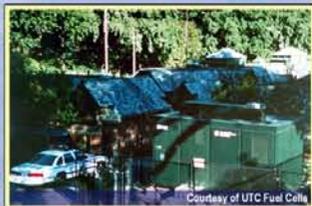
Harbecs Plastics, Ontario, NY

- The facility has an array of 25 ultralow-emission 30-kW Capstone microturbines.
- Heat from the array is used for both heating and cooling.
- The system operated during the blackout without interruption.



Emergency Center Police Station, Central Park, NY

- A 200-kW PC25™ fuel cell provided uninterrupted power.
- Distribution limitations led to installation.
- The station "never skipped a beat."



Courtesy of UTC Fuel Cells

DER will help strengthen the nation's power infrastructure.

Greater Rochester International Airport, NY



- Two 750-kW engines with absorption chiller provide base-loaded CHP for heating, cooling, and electricity.
- Critical loads in the airport were supported by the CHP system and avoided loss of power during the blackout.

Timetable of Other Notable Blackouts

Nov. 9, 1965. More than 80,000 square miles in seven states and two Canadian provinces lost power, and 30 million people reacted to the largest power failure in history. A relay switch in Ontario caused the massive outage.



May 19, 1986. A switching problem in a substation at Grand Central Terminal in New York City caused a 12-hour blackout affecting buildings in a four-block area.



Aug. 11, 1996. Power lines in the Northwest became unbalanced, affecting four main arteries and resulting in a 10-hour outage that stretched from Oregon to California and as far east as Texas. Over 7 million customers impacted



Dec. 8, 1998. A construction crew's mistake caused a blackout across a 49-square mile area of the San Francisco Peninsula. The power went out for about 940,000 people and was restored seven hours later.

1965



July 13, 1977. In New York City, 9 million people were without power for 25 hours after lightning struck an upstate power line. Widespread looting and lawlessness contributed to economic losses.

1977



1986

Dec. 14, 1994. A relay and controller error caused the western power system to fragment, resulting in 1.7 million people without power.

1994

1996

July 2, 1996. A tree fell on a major power line, resulting in power failures across a 15-state region.

1997

Oct. 23, 1997. About 250,000 people in a five-mile stretch of downtown San Francisco lost power for 90 minutes or more. It was determined that someone intentionally cut the power.

1998

July 6, 1999. Three days of record-breaking heat caused a 19-hour blackout in New York City. The midwest system was also impacted by the heat.

1999

