The blackout that crippled New York

The economic disruption to an industrial society due to unreliable electric power is now on the agenda, and has been experienced twice by millions of New Yorkers. Though the blackouts in 1965 and 1977 were caused by a combination of equipment failures and natural disasters such as lightning strikes, and not an overall lack of capacity, the effect of unscheduled shortage-produced blackouts would be similar.

In a June 1990 report, "Physical Vulnerability of Electric Systems to Natural Disasters and Sabotage," the congressional Office of Technology Assessment describes the impact of the 1965 New York City blackout on transportation:

The 1965 Northeast blackout occurred at 5:30 p.m. . . . and lasted for 13 hours. The worst potential hazard was in the air, where at peak hours between 5:00 and 9:00 p.m. some 200 planes from all over the world were headed to New York's Kennedy Airport. . . . Luckily, it was a clear night, and pilots would see the other planes over the darkened cities. . . . Kennedy was shut down for 12 hours.

In 1965, 630 subway trains in transit ground to a halt, trapping 800,000 passengers. Under the East River, 350 passengers had to slog to safety through mud, water, and rats. In the middle of the Williamsburg Bridge, 1,700 passengers were suspended in two trains swaying in the wind. It took police 5 hours to help everyone across a precarious 11-inch-wide catwalk running 35 feet from the tracks to the bridge's roadway. A total of 2,000 trapped passengers preferred to wait it out, including 60 who spent 14 hours in a stalled train under the East River.

Thousands of people were trapped in stalled elevators. In at least three skyscrapers, rescue workers had to break through walls to get to elevators and release 75 passengers. Elevator failure resulted in the only two deaths attributable to the 1965 blackout: one person fell down a flight of stairs and hit his head, and another died of a heart attack after climbing up 10 flights of stairs.

Traffic lights failed and main arteries snarled. At unlighted intersections, countless volunteers took over the job of directing traffic. Hundreds of drivers ran out of gas as they waited for traffic to clear, only to find that service station pumps cannot work without electricity.

TABLE 1
Demand for power exceeds forecasts
1998 summer peak demand growth over 1987, compared to forecast

Region	Growth over forecast
ECAR	10.5%
ERCOT	2.2%
MAAC	8.9%
MAIN	11.6%
MAPP	9.9%
NPCC	4.9%
SERC	3.1%
SPP	3.5%
WSCC	5.0%
National average	6.6%

Source: North American Electric Reliability Council

During the summer of 1988, it became painfully clear that the utilities' projections of growth in demand, which were still based on the depression-level performance of the early 1980s, were now being superseded. Four out of the nine NERC regions registered peak demand that summer, *more than 8% above* what had been projected (**Table 1**). Regions reached peak demands that summer which had not been projected to occur until the mid-1990s.

Company managers crossed their fingers, and hoped that the heat and drought of 1988, which had produced a rate of growth in demand for power more than double the preceding years, was an aberration in an otherwise lackluster electricity demand growth rate. The only way utilities knew they could get away with not building new baseload capacity, was if the real economy continued to stagnate.

Supply system is 'under siege'

During the winter of 1989, the Southeast and Mid-Atlantic regions of NERC were forced to reduce their peak demand through load management, voltage reductions, and the interruption of industrial customers. According to the U.S. Department of Energy report "Annual Outlook for U.S. Electric Power 1990," released on June 14 of this year, peak demand in Florida was 13% higher than the year before, and would have been 16 gigawatts (GW) and not just the 14 GW recorded, if all of the demand had been met. Since it could not be met, Florida Power and Light instituted rolling blackouts. The winter peak recorded had not been projected to occur until 1995.

Across the nation, the 1989 summer peak demand was .03% higher than projected, but the brutally cold December in the South pushed winter peaks up to a whopping 7.7% above forecasts. It was becoming clear that annual growth of consumption was once again on the rise.

In its 1989 Annual Report, NERC declares that the "bulk