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## Why the lights mostly stayed on in the U.S. this summer

By Daniel B. Wood

LOS ANGELES — Temperatures remained stuck somewhere between scorched and scalding across the Northeast this summer, but there was always enough electric power to keep air conditioners humming.

When a misdirected utility crew cut into a bundle of live electrical wires last Wednesday, plunging half of Los Angeles into darkness, power managers were able to prevent the crisis from cascading across southern California and beyond.

And there have been no brownouts or rolling blackouts from Fairfield County, Conn. — where industry watchers say power is chronically inadequate — to northern California, where a summer of brownouts in 2000 captured national headlines.

It's all been enough to prompt even hardened cynics to ask whether the electric-power industry has made headway in improving the reliability of America's electric grid since

the infamous summer of 2003. That year, in a truly unfortunate series of events that surpass those invented by children's author Lemmon Snicket, outages at 21 power plants in three minutes left cities from Toronto to Detroit to New York sweltering in the dark.

With a few exceptions, the U.S. has made considerable strides over the past two years in managing, producing, and distributing electrical power, many analysts agree. New power plants and transmission lines are in place. Some old plants and facilities have been upgraded. Trees near power lines are being trimmed. Most noteworthy, communication and coordination between grid operators in different regions of the country have been vastly improved, by most accounts.

"The blackout of 2003 absolutely turned up the heat and put a spotlight on an industry from top to bottom that didn't get much attention in the previous decade," says

David Turner, senior vice president at Gestalt, a firm that advises the defense and energy industries. "We are doing things today, and creating legislation that addresses detail we would never have looked at if that blackout had not happened."

A case in point is California. Since the brownouts of summer 2001, over 12,000 megawatts (one megawatt powers 1,000 homes) have come online in about 25 new generating plants, and \$3 billion in investment in new facilities is in the offing. One key north-south transmission corridor has added a third transmission line, easing distribution state-wide like an extra lane on a freeway.

And utilities have simply done a far better job at such basics as better training and keeping power lines clear of falling debris.

"We have a new computer system, enhanced training, and an enhanced tree-trimming program," says Ellen Raines,

spokeswoman for First Energy Corp., whose Ohio power line got hit by falling branches, leading to the two-day, 2003 blackout affecting millions in several states. "The entire industry has a greater understanding of how the transmission system is used that is very different from the way it was used then."

Independent system operators and other industry groups have also improved their assessments in the decade following deregulation.

"We made an exhaustive list of needed corrections and told the responsible parties, 'You must fix this series of failures we've identified,'" says Ellen Vancko, director of government affairs for the North American Electric Reliability Council, a watchdog group made up of members from all segments of the electric industry. "And we have kept going back to them."

But some analysts say it has simply been the turn of events that kept the lights mostly on this summer. Cooler weather in some regions — especially in California — rain in the Northwest, which contributes to more robust hydroelectric generation, and the avoidance of electrical accidents coast to coast, are several factors.

**"To the extent that we have avoided problems is as much good fortune as any thing else." says Sterling Burnett, Senior Fellow at National Center for Policy Analysis. "There really has been very little done to fix the energy grid of America. When you factor in growing population needs, and the mothballing of outdated equipment and plants, the amount of available power has not been increased that much."**

Although public and legislative attention to the arcane world of electricity coordination was swift after 2003 others say more formal changes have been slow coming, such as new federal reliability standards signed into law just weeks ago.

Canada and U.S. officials held the first public discussions just last week in Washington to study how investment and other incentives are hindered or helped by being left to market forces. Hearings in the U.S. Congress next week are expected to examine those effects in California.

But challenges still remain as the demand for electricity increases. In California, the population has grown at about 600,000 per year. Yet generating capacity cannot run too far ahead of population, because an unused plant is too costly.

"I don't think that all that much has changed in terms of adding plants and transmission but there has been a quantum shift in mindset in how to monitor and manage," says Bob Fessmire of ABB, a technology-based provider of power. "The electricity industry has all the pieces of the puzzle and is beginning to put them together better."

The new U.S. energy bill, signed by President Bush on Aug. 8, is evidence of this, he and others say. The bill will make reliability rules mandatory, strengthen the power of Federal Energy Regulation Commission to oversee and regulate, create incentives for investment, and give government more say in establishing new power sites, despite local resistance.

Yet regardless of better technology and increased generation, there will always be a delicate balance between supply and demand and the prospect of blackout, say analysts. "It's the hurricane Katrina problem," says Peter Doren, who analyzes the electric industry for the Cato Institute. "There are an infinite number of projects where we could exhaust the gross national product to make sure we are protected from any and all disaster. At some point, the cost to the consumer will rein in what can and is done."