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Progress on preventing blackouts

Mandatory rules governing the reliability of the US power grid go into effect Monday.

By Mark Clayton | Staff writer of The Christian Science Monitor

The average US electricity customer loses power for more than three hours annually – outages that cost the US economy about $80 billion.

That may be about to change.

America's power grid has a new cop on the beat, ready to slap stiff fines on power companies that don't meet new national standards for grid reliability. The standards become mandatory on Monday.

Reliance on voluntary guidelines and collegial cooperation among power companies is out. Fines of as much as $1 million a day are in – levied by the North American Reliability Corp. (NERC), which is freshly armed with a federal mandate.

Some say Monday marks a new generation of better reliability for wholesale electric power trading, with NERC as lead enforcer overseeing eight regional enforcement units.

Others, though, question whether the new cop will provide aggressive enough enforcement of the new rules on power-grid reliability.

"There's a very strong push within NERC to water down these new standards to make them less stringent," says George Loehr, a member of the executive committee of the New York State Reliability Council, an advisory body that oversees the state's grid reliability. "After the 2003 blackout I thought, well, at least we won't have to worry about that sort of thing anymore. I was very naive."

That 2003 blackout in the dog days of August plunged much of the Northeast and 50 million people into darkness. Lasting four days in parts of eight states and Ontario, it cost the US and Canada at least $4 billion. After that, Congress got tough – or tried to.

Though the US Department of Energy endorsed mandatory reliability standards back in 1997, it took the 2003 blackout to push Congress into passing the Energy Policy Act of 2005. As a result, more than 100 guidelines have been updated and transformed into stiff requirements.

Tree trimming along power lines, for example, is no longer discretionary. (A branch touching a power line has been cited as one cause of the 2003 blackout.) No longer is there any flexibility on credentialing operators who work in power-plant control rooms.

Mandatory rules governing grid reliability "were very much needed ... and long overdue," says Alison Silverstein, a consultant who helped investigate the 2003 blackout.

Within the industry, many agree on the need for mandatory national standards to deal with a power grid that has become much more complex. Since deregulation in the 1990s, hundreds of new players have entered the power industry.

"Some of my members have not been paying strict attention to NERC standards," says Allen Mosher, director of policy analysis and reliability for the American Public Power Association, a Washington trade group for municipal and public power companies. "They've been operating reliably, but following their own approach. Now they have a set of formal rules that will help them."

So far, the Federal Energy Regulatory Commission (FERC) has approved 83 standards for NERC to enforce. At least 20 other NERC-approved standards are being reviewed or awaiting review by FERC.

For close observers of grid reliability such as New York's Mr. Loehr, the worry is that national standards will mean the bar is set too low. Several cite a proposed standard that requires regional grids to keep operating in the event one power plant or transmission line goes down. Though that "single contingency" standard is prevalent in the utility industry, some experts – especially in the Northeast – would like to see a requirement that a regional grid keep operating in the face of two such failures.

The single-contingency standard has just been approved by NERC. FERC is now reviewing it for final approval.

Its OK would not mean that New York would have to lower its standards. But it does mean that neighboring regions won't have to raise theirs. For some, that ignores the lesson of August 2003, when New Yorkers learned the hard way that what its Midwest neighbors failed to do (tree trimming, for instance) could affect them, as the blackout cascaded into the Northeast.

"Some of these standards tend to be watered down to lowest common denominator so others [will] accept them," says Richard Bolbrock, an official with Long Island Power Authority, who voted against the single-contingency standard. "They want them to be one-size-fits-all, so they water them down to universal standards."

That's not how NERC sees it. Its new standards are already making a difference, with fewer power lines failing, says NERC president Rick Sergel. "A region can set standards for itself that are tougher than NERC standards," he says. "The implication that standards are being watered down ... is not true. We've had suggestions that a standard be made tougher. But that may not always make sense nationwide in less populated regions."

Some industry experts worry that NERC may be being asked to do too much – and that the way it is set up may hinder its efficacy. NERC has two bosses: the very companies it regulates, and FERC. That's not a recipe for tougher standards, suggests Jay Apt of the Electricity Industry Center at Carnegie Mellon University, who has studied grid reliability. "It's too early to tell, but it's an interesting experiment to have a regulating organization that is entirely funded by and governed by those that it regulates," he says.

Blackouts and the quest for a more reliable grid

Nov. 9, 1965: Thirty million people lose power in the Northeast and in southeastern Ontario, Canada.

July 13-14, 1977: A blackout in New York City later leads to the first federal law about electricity reliability. It allows the government to propose voluntary standards, an authority never exercised.

1996: Two major blackouts in the West prompt some members of a regional reliability council to volunteer to pay fines if they violate certain reliability standards.

Aug. 14, 2003: Fifty million people lose power in the Northeast and Midwest, and in Ontario – the worst blackout ever in North America.

Aug. 8, 2005: Congress passes the Energy Policy Act, which authorizes creation of an "electric reliability organization" for North America and requires that utility compliance with reliability standards be mandatory.

June 18, 2007: Standards set by the North American Electric Reliability Corp. (NERC) become mandatory and enforceable in the US.

Source: NERC
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