

Electricity Grid Reliability: Close to the Edge

Harsh Winter Exposes Threats from EPA Policies

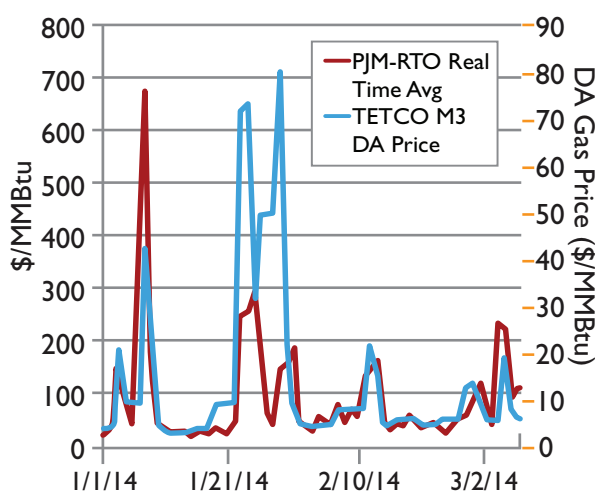
As U.S. Environmental Protection Agency (EPA) regulations force more coal based power plants to close, Americans will pay more for their power and heat according to utility executives. Recent harsh weather exposed the threat from EPA's rules—a less diverse, less reliable and more expensive electricity supply.

Winter 2013-14: A Warning Signal

Electricity consumers in nearly every region of the United States this winter experienced calls from electric utilities to turn down their thermostats and turn off their lights because the power supply system was being stretched to its limits. Despite their efforts, customers will be receiving higher electric and heating bills in the future.

According to Federal Energy Regulatory Commission acting Chairman Cheryl LaFleur the electricity grid was “close to the edge” of breaking. Her colleague, Commissioner Phillip Moeller, has said that “the power grid is now already at the limit” with so many retirements of coal base load power plants as a result of EPA rules. Power company executives warn that future EPA rules for greenhouse gases will make matters even more precarious and expensive.

Natural Gas Prices Soar



SOURCE: U.S. Federal Energy Regulatory Commission analysis of ICE data.

The Cost of EPA Bringing the Grid to the Edge

The Department of Energy estimates that EPA rules that take effect next year will force several hundred coal-based electricity plants to close—plants that have the capacity to power and heat 32 million homes. Pending EPA rules for greenhouse gases could close another 100 power plants. This past winter provided a preview of the future if EPA continues with extreme regulations:

- With fewer coal electricity plants available due to retirements, demand for natural gas reached record levels to heat homes and generate electricity. Natural gas prices spiked to as much as \$123 per million Btu (compared to \$3 to \$5 per million Btu on a normal day).
- Electricity prices reached record levels soaring as high as \$2,000/MWh in some regions. The prime factor leading to high electric prices in the East and Midwest was historically high natural gas prices.
- Coal base load electricity availability and reliability exceeded natural gas, wind and solar generation. Many coal plants that are being forced to close next year due to EPA regulations were running at 90 percent of their capacity.
- Future EPA regulations could force additional coal plant closures that will lead to both greater electric reliability deficiencies and higher costs for consumers.
- The closure of additional coal base load power plant will force more frequent choices between committing natural gas to generating electricity or heating homes.

What Experts Are Saying About Electricity Reliability and Affordability

"EPA rules . . . will lead to higher prices and less reliable service over time. As a result of the US EPA's mercury and air toxic standards, an estimated 376 coal-based units will close in 38 states over the next three to five years—nearly 17 percent of our nation's coal fleet's capacity. And, there are additional EPA rules being considered that could have similar impacts on the fleet."

— **Anthony Alexander, CEO, First Energy,**
April 8, 2014

"Our latest winter exposed an increasingly fragile balance of supply and demand in many areas. Prices at times were extraordinarily high [and] consumers are now beginning to receive utility bills that in some cases are reportedly several times what they paid during similar periods in previous years. The experience of this winter strongly suggests that parts of the nation's bulk power system are in a more precarious situation than I had feared in years past."

— **Philip D. Moeller, commissioner, Federal Energy Regulatory Commission,** April 10, 2014

"Coal and nuclear plant availability far exceeded gas-fired plant, wind, and solar availability and provided much needed system stability and reliability during emergency conditions. The unreliability of gas, wind, and solar provided the lesson that fuel diversity is needed for reliability as well as for other policy reasons."

— **John Sturm, Alliance for Cooperative Energy Services,** April 1, 2014

"Because less expensive coal generation is retiring and in part is being replaced by demand response or other potential high energy cost recourses, excess generation will narrow and energy prices could become more volatile due to the increasing reliance on natural gas for electricity generation."

— **Michael Kormos, PJM Interconnection,**
April 1, 2014

"It became clear that we are having to make a choice in the winter between committing natural gas resources to generating electricity or to heating homes. Right now, we cannot do both. Given the number of additional base load generating units that will be retired in the next 14 months, we face a very real possibility that we will have to make that choice more often in the future."

— **Nick Akins, CEO, American Electric Power,**
April 10, 2014

A common sense approach to grid reliability supports a balanced energy portfolio with coal, which generates more than 40 percent of our electricity—more than any other source in the U.S. today.