



New England had a close call in January

New England suffered a severe cold spell during the period 12-16 January earlier this year with temperatures plunging to below zero Fahrenheit. Peak load reached 22,450 MW on January 14 and 22,733 the following day, both breaking previous winter peak records. Electricity prices shot up close to \$1,000/MWh price limit, 20 times what is considered normal for this time of year. Natural gas prices peaked at \$100 per million BTUs, over 30 times normal prices.



Despite all these upheaval, the lights stayed on — but just barely. The Independent System Operator of New England (ISO NE) managed to get by with the slimmest reserve margins at hand at the peak of the crisis. And now, several investigations are under way to determine what happened, why was the systems pushed so close to collapse, and did the generators behave in ways that aggravated the shortages, and possibly profited from the crisis.

Shortly after the crisis, the Attorney General of Connecticut, Mr. Richard Blumenthal, charged that a number of generators acted in ways that may have exacerbated the capacity shortages, jeopardizing public safety in the process. His office has subpoenaed the records of a dozen suppliers and has launched an official investigation.

The Federal Energy Regulatory Commission (FERC), which has also looked into the matter, released a preliminary report in early April concluding that the New England electricity market performed “adequately” – not a resounding endorsement. Bob Flanders, the head of FERC’s Office of Market Oversight and Investigations said, “The system squeaked by,” adding, “Clearly [there is] a need for better coordination” between natural gas and electricity markets. The co-dependence of the two markets has become more pronounced in recent years by massive amounts of new natural gas capacity that has come on line. When the weather is extremely cold, the electricity sector soaks up a lot of natural gas — which tends to be scarce and expensive due to high residential heating demand.

What really happened during the cold spell, and how could a system which - at least on paper - was awash in excess capacity, come so close to collapse?

New England had added some 10,000 MW of new capacity, nearly all natural gas, in the past 3 years alone. The short answer may be that this crisis was mostly caused by scarcity of natural gas and the extreme volatility of natural gas prices, which spilled into electricity markets.

Most gas-fired plants have long term, take or pay contracts with gas suppliers at fixed prices. During the cold spell, when residential demand soared and prices spiked, some generators decided it made more sense to sell some of their gas into the market at high prices, instead of generating power. FERC’s preliminary analysis indicates that some 8% of the electric capacity sold its natural gas in the market – which may have contributed to the capacity shortages. But FERC concluded that, under current market rules, this is not illegal. While some observers, including Connecticut’s Attorney General, may think otherwise generators, according to FERC, are free to make more money if selling gas is more profitable than generating electricity.



While investigations go on, the facts are plain scary. At the height of the crisis when ISO NE was calling around for additional generation, it found that 7,568 MW of available generation, of which 6,200 MW was natural gas, was in fact not available - either because the plants physically could not generate or because they had already sold their gas in the market. Disaster was averted by importing power from New York, while ISO NE ordered utilities to stay on “high alert” should it become necessary to order rolling blackouts.

The New England crisis once again brings into focus problems of maintaining supply adequacy in competitive markets given the prevailing market rules. In this case, scarcity and high price of

natural gas played a critical role. But the fact that so much available capacity was in fact not available when needed brings into question the need for new rules — and incentives — for capacity.

Current rules for capacity, when they exist, are usually focused on ensuring long-term supply reliability — seldom addressing the short-term operational issues, which nearly brought the New England system to its knees. Policy makers as well as theoreticians clearly need to go back to their drawing boards. The lights don't stay on because a report sitting on the shelf says there is adequate reserve, but because there are enough turbines spinning and there is enough gas in the pipelines and so on.

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