

New England Power Grid Facing Challenges

JAY LINDSAY, Associated Press

BOSTON (AP) — The low price of natural gas and an aging fleet of soon-to-be-obsolete power plants are among several factors that could dramatically change New England's power grid, says the region's electricity grid manager.

And those changes could threaten reliable electricity delivery if not addressed, according to an analysis by ISO New England released Thursday.

The report spells out several challenges facing the region in the next seven years. It says the region is increasingly relying on natural gas for both heat and electrical power, and must build capacity to handle simultaneous spikes in demand for both uses.

Meanwhile, a full quarter of the region's electricity generation capacity is tied up in plants older than 40 years that are likely to soon be retired.

Also, renewables like wind must be increasingly integrated into the grid.

"It's sobering in the sense that there are a number of forces coming together that will cause a transition," said Gordon van Welie, ISO New England's chief executive officer. "The consequence is that you have to do something about that, and it requires investment in additional infrastructure."

"It's not a crisis," van Welie added. "But it is worth taking seriously."

Each year, the ISO updates its plan for the grid, but the analysis released Thursday is more extensive.

"It's something that is out of the ordinary because we think we're going to be facing some out-of-the-ordinary circumstances in the next 10 years," van Welie said.

According to the report, the falling cost of natural gas is driving numerous changes. The discovery of massive domestic reserves has pushed down its price, compared to oil, or even coal.

For instance, in 2003 the price of natural gas was \$5.40 per million British thermal units, while oil was \$4.42. This year, natural gas is at \$5.14 while oil is up to \$17.15, according to IntercontinentalExchange, a markets operator.

The cost and the fact that it's cleaner-burning — and thus better meets pollution regulations — is making natural gas the fuel of choice. It now accounts for just under half of all electricity produced in the region and rising, van Welie said.

He said it could spell trouble if natural gas is under high demand both for heating

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and electricity. There have been a couple "near misses," he said, when electricity generators almost couldn't get the gas they needed.

More gas pipelines will be needed, he said. He added another solution could be giving gas-fired generators the ability and permission to burn other fuels in a pinch.

"The last thing anyone wants is for the lights to go out in a really cold period in New England," he said.

The increasing obsolescence of oil as an electricity source becomes a problem when planning for times of peak energy demand.

Just a decade ago, oil-fueled generators produced 20 percent of the region's electricity. Today it's less than one half of one percent, so those generators are rarely running.

Still, such generators are kept operational so they can be fired up if needed when demand spikes, often during summer's hottest days.

But the plants are so old, they take a long time to ramp up. And their age makes them increasingly unreliable. Also, tightening clean air restrictions will make the generators unaffordable to their owners.

Van Welie says one quarter of New England's 32,000 megawatt generating capacity is older than 40 years and headed for retirement. The region must either replace them, or pay a premium to keep them running after costly upgrades so they comply with new pollution controls.

Building new power plants and infrastructure, such as pipelines, is notoriously tough and often faces vigorous local opposition.

Van Welie said a possible option is changing energy markets to require companies to commit to supplying energy capacity for a longer period into the future. That can prompt companies to invest in new generators to provide that supply and also give investors confidence to back it.

Wind power has been studied as a way to replace what could be lost with plant retirements, but van Welie said, "I don't think it's going to be a complete solution."

Absorbing wind and other renewable energy that's soon to enter the grid has its own challenges, because resources such as wind and solar are intermittent and must be replaced by other fuels when they aren't available. Plus, new transmission lines must be built to carry it, and the best wind is in the most remote areas.

The challenges are complex, but they can't be avoided, van Welie said.

"The question for the region is, 'How do we want to manage our way through that transition?'" he said.

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