

# Shore up our electric grid

The federal government needs a comprehensive strategy to keep the lights on, argues the CEO of the Allegheny Conference

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By Dennis Yablonsky

For 70 years, the Allegheny Conference on Community Development has worked to provide sustainable prosperity and a high quality of life in the Pittsburgh region. The people of our region pioneered and produced many of the technologies that make such prosperity possible, chief among them, a reliable electric grid.

Today, the electricity service that we take for granted is under stress. Market dynamics, inadequate transmission infrastructure, too few new power plants to ensure sufficient supply and new federal regulations are combining to call into question something all of us take for granted — that when we throw the switch, the lights will go on.

The federal government has no overall plan to ensure the stability of the grid. Instead, it has taken a series of piecemeal and ad hoc actions without a full understanding of how they interact and impact the electricity grid.

The United States needs a national grid policy and a comprehensive action plan to ensure an adequate, affordable and reliable electricity supply.

The Allegheny Conference is asking the president to stop ad hoc regulation and changes to the electrical system and appoint a task force with representatives from the Department of Energy, the Environmental Protection Agency, the Nuclear Regulatory Commission, the Federal Energy Regulatory Commission, regional transmission operators, electric generating companies and others to develop such a plan.

This winter proved how vulnerable our electrical supply has become.

PJM Interconnection is the regional transmission organization that oversees the wholesale electric grid in Pennsylvania and all or parts of 12 other states, plus the District of Columbia. It must coordinate electricity delivery to meet the needs of 60 million people from nearly 1,400 generating sources that combined can produce 186,000 megawatts of power.

In January, PJM came within roughly 900 megawatts — less than 0.5 percent of the system's capacity — of having demand outstrip supply.

Nicholas K. Akins, CEO of American Electric Power, testified to the Senate in April that 89 percent of the coal-fired power plants that the company intends to shut down next year were needed by PJM during January's polar vortex.

Natural gas is supposed to take coal's place. But when gas-fired generation was needed in January, many power stations found they could not get any fuel because natural gas companies diverted gas to homes and hospitals to keep people safe and warm.

The Pittsburgh region is blessed with a strong portfolio of energy assets, from our abundant natural resources to our manufacturing and implementation of energy efficiency technology and advanced building materials. All of this and more will be needed as we move forward.

Solar and other renewables must be part of the solution. But they do not yet have the utility-scale storage technology that is necessary to power an economy. Meanwhile, conditions keep changing, rapidly and for the worse.

Together, coal, natural gas and nuclear power account for 85 percent of the country's electricity generation. And all three sectors are under stress.

The EPA recently held public hearings in Pittsburgh to consider new federal regulations that would ultimately reduce coal usage.

At the same time, action is underway at various levels of government around the country that could make natural gas extraction more difficult.

All the while, new nuclear power plants are almost impossible to finance and permit in this country and new federal regulations combined with market dynamics could make it uneconomical for existing plants to keep operating.

In Wisconsin, for instance, market distortions resulted in the Kewaunee nuclear power plant having to pay the transmission system to take the power it produced. So the plant's owner shut it down last year — 20 years ahead of schedule — and in the process wiped out 5 percent of the state's electric supply.

The Kewaunee shutdown and the potential for dozens of others to follow "is a trend we are clearly very, very concerned about," said DOE's Assistant Secretary of Nuclear Energy Peter Lyons.

The EPA has heard a lot about how its proposed greenhouse gas regulations for existing coal-fired power plants will increase costs to consumers. The bigger problem

is that we are on a course where customers may find they can't get enough electricity at any price.

That's not an exaggeration. While PJM came close to the edge during the polar vortex, in South Carolina, hospitals, schools and tens of thousands of customers were subject to rolling blackouts because there wasn't enough of a margin when cold weather took out three power plants.

Ironically, even reduced demand, while part of the long-term solution, can also be a problem short term because of its effect on electric company finances. Ongoing electricity demand isn't back to where it was pre-recession. Part of that is a result of industrial companies closing their doors. But it is also the result of companies implementing energy efficiency measures to do the same amount of work with less power. Add in residential customers who are generating increasing amounts of their own power through home-based windmills and solar panels, and electric company margins are being squeezed.

Why should we care whether an electric company can make money? Because our system relies primarily on those private-sector companies to build the transmission wires and the power plants that keep us supplied. Governments regulate the process, but the private companies do the heavy lifting.

When customers pay their electric bills, they're paying for the actual power they use, along with a charge to maintain the transmission system and an insurance payment of sorts to pay for power plants that sit idle most of the time but are ready to switch on during peak demand. But as the economy changes, that business model is unraveling and, as a result, so is the margin of safety in our electric grid.

Given the various federal, state and local jurisdictions that have a say in the construction of power plants, natural gas supply pipelines and electric transmission lines, major projects take years to complete, without any clear way to jumpstart the process.

The result is that, by the time the grid problem becomes obvious to customers on the street, any solution will be years away. The United States can't maintain a modern economy, or society, under those conditions.

The reliability of the electric grid is so fundamental to our economy and to the wellbeing of our people that it should be a principle that can connect all sides in the conversation about our energy future.

As Evan Bayh, former Democratic governor and senator from Indiana put it at a nuclear energy forum in Philadelphia in May, "We are sleepwalking into our energy future."

We cannot afford to do that.

*Dennis Yablonsky is CEO of the Allegheny Conference on Community Development. This was adapted from testimony he provided to the EPA on Aug. 1.*