

# Cracking the Bottlenecks

## ACT SPURS BUILDUP OF TRANSMISSION CORRIDORS

By Ken Silverstein



FEDERAL REGULATORS ARE revving up. They're preparing to take steps to begin building new transmission lines, particularly lines that are considered vital to the national interest. It's all part of the objectives of the Energy Policy Act of 2005, which include constructing a grid that is in tune with a modern economy and a digital society.

Transmission planning has long been an onerous process. Intellectually, everyone understands the need to carry electrons from one point to another in the most physically and economically efficient manner possible. But disagreements abound over where to put the poles and wires that will facilitate that process. Problems therefore persist, namely tightly constrained grids that may cause transmission operators to curtail service.

The Energy Policy Act gives the Federal Energy Regulatory Commission (FERC) backstop permitting authority as a way to get important transmission built. Specifically, the U.S. secretary of energy can designate national interest electric corridors in those areas that have capacity constraints or congestion. The states still have first crack at the process. But the federal government will step in if state law precludes consideration of interstate benefits and if the state takes longer than one year to act after an application is filed.

"It is important to note that our regulations are intended to supplement the traditional state siting process," said FERC Chairman Joseph Kelliher. "I would expect that most transmission projects would continue to be sited by states under state law. Our jurisdiction to issue a construction permit applies only under limited circumstances, and our proposed rules respect those limits."

The commission does not have a blank check. A proposal brought before it to build or expand electric transmission facilities must be used for interstate commerce, be consistent with the public interest, significantly reduce transmission congestion and maximize existing towers and structures. Under all circumstances, the review process is to be extensive and the public is to remain involved.

Power purchasers need unfettered access to the nation's grid in order to supply electricity whenever and wherever it is needed. But transmission constraints limit the amount of energy that can be transferred to a load center. Grid operators must then find alternative routes, which often demand more costly forms of generation. Congestion therefore has its price.

Is that cost enough to justify building new transmission lines? Well, that's been the subject of a lot of Department of Energy (DOE) studies. In August, DOE designated the area from New York City

to Washington, as well as all of southern California, as "critical." That is, new lines are definitely needed. DOE found that New England, the Phoenix-Tucson area, the Seattle-Portland region and San Francisco were "areas of concern." The next step is to review the comments that come in and then plan a course of action.

The New York State Public Service Commission says that congestion is now defined in nebulous terms – referring to areas where bottlenecks create price spikes, subsequently harming consumers and economic activity. FERC should thus adopt a "clear economic measure of congestion" that considers national concerns, and one in which projects are paid for by the beneficiaries. Such an objective view would narrow the list of sites that might be viewed as vital to the national interest.

### MONEY NEEDED

Transmission investment declined in real terms, from 1975 to 1998. While there have been increases since 1998, FERC says that the level of investment is still less than it was in 1975. Over the same time period, however, the demand for electricity has doubled. That's resulted in a significant decrease in transmission capacity, requiring that new lines be built.

The Energy Department also continues to assert that regional transmission organizations, independent operators that schedule power deliveries, should take a leadership role. As such, PJM Interconnection has asked the department to designate two electrical paths as vital based on authority granted to it by the energy act. They are the Allegheny Mountain Path that extends from West Virginia and serves the Baltimore-Washington region and the Delaware River Path that serves the areas around Philadelphia, New Jersey and Delaware.

The corridor designations address needs that result from continuing growth in electricity use, local generating plant closings, limited construction of new generating facilities and aging transmission infrastructure, according to PJM. In 2005, transmission congestion totaled \$747 million on the Allegheny Mountain Path, and \$464 million on the Delaware River Path. The proposed designation also will assist in the development of renewable resources such as wind power, in addition to bringing other new and existing resources to a broader market.

### News Flash

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#### CHINA POWER INVESTMENT

Russian and Chinese companies will plow \$10 billion into new power plants in northeast China, according to an *Associated Press* article on a Chinese government report.

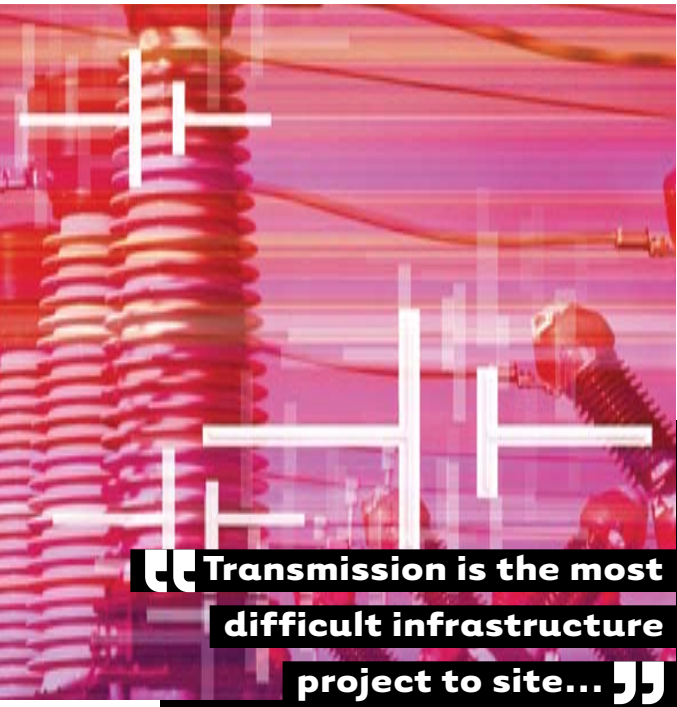
The coal plants will be built in the next five years.

#### COLORADO TO KANSAS LINK

Two companies would like to build 1,000 miles of high-voltage lines linking Colorado and Kansas, according to a report in the *Pueblo Chieftain* newspaper.

Project cost estimates in preliminary plans range widely, between \$8 million and \$1 billion. The effort could include 15 high-voltage lines and four new substations and fiber-optic lines. The new infrastructure could be completed by 2011, backers said.





Transmission is the most difficult infrastructure project to site...

"Expansion of the electric transmission grid and the consideration of alternatives are needed in these key areas to ensure reliability and lower electricity costs," said Phillip Harris, CEO of PJM. "Congress and the president provided a mechanism in the Energy Policy Act to ensure that transmission constraints that adversely impact national interests can be addressed in a timely manner. We appreciate federal leadership and believe these paths and the critical needs of these large metropolitan areas make them the very type of national interest concerns to which Congress was referring."

ISO New England, meanwhile, says that about \$900 million is needed for upgrades to maintain reliability and efficiency. Southwest Connecticut in particular has one of the most severely constrained transmission systems in New England. All told, more than 30 transmission projects have been planned or proposed for the Northeast, although FERC says that it still won't be enough to relieve the expected transmission shortage.

The energy law stipulates that FERC does have the authority to act, although it cannot take final action and issue a construction permit until one year has passed. In any event, FERC emphasizes that the permitting process must remain transparent and inclusive, and that pre-filing is a means by which developers can circumvent problems. The transmission siting provisions enacted last year do not pre-empt the states; rather, they supplement that process and FERC expects the states to make the vast majority of determinations.

#### BREAKING TIES

While the subsequent legal battles are well intended and are meant to ensure that the permitting process is honest, they create bottlenecks that perpetuate uncertainty. Investors are skeptical about supplying capital because they can make more money in alternative investments while the delays impede reliability.

"Transmission is the most difficult infrastructure project to site and more so than generation," said Ron Poff, with American Electric Power (AEP). "You can get support from politicians. But when the not-in-my-backyard factor weighs in, the politicians will pull the rip cord."

AEP has a particularly compelling story to tell. In 1990, it sought permission to build an 89-mile transmission line through West Virginia and Virginia. Sixteen years later, after many twists and turns, the project finally began transmitting power – it's a "poster child" for the transmission provisions within the new energy law, Poff said. To be sure, AEP had to rethink its route because of the area's rivers and wildlife. The 765-kilovolt deal was needed and won the necessary concessions.

The proposed 200-mile New York Regional Interconnection (NYRI) project could be the first test of the new energy law and whether FERC's backstop authority is real. Concerns about the line prompted the state's public service commission to say in May that the proposal is "incomplete." In the meantime, state legislators have stepped in and now vow to block the deal.

"Opposition to NYRI has been widespread because citizen concern extends far beyond its effects on views and natural landscape to include issues of energy policy, private property laws, corporate transparency, good government, economic fairness and natural habitat," said Lynn Phillips, a citizen activist in New York City.

Looking to the future, FERC can now authorize a greater return on transmission projects so as to motivate investors. It's all having some effect: PEPCO has proposed a \$1.2 billion line that would run 230 miles and cross through Virginia, Maryland and New Jersey – a line to be built exactly where the Energy Department says the need is critical.

Indeed, none of this is to say that developers would ever be able to railroad projects. All transmission lines must go through an exhaustive permitting process and, in the end, the footprint they would leave behind must do the least environmental damage possible while still being economically and physically efficient. Often, the parties are able to agree on alternative paths – all to meet an expected growth in future electrical demand.

In those instances in which agreement cannot be reached, FERC would now have the power to step in and break the tie. But, the commission has similar rights when it comes to permitting natural gas pipelines – a process still mired in time-consuming court fights and regulatory battles.



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