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Article

Regulating Strategic Assets - The Puzzling Case of Electric Transmission

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To those who pine for national energy policy, energy policies are hardly in short supply.

U.S. energy policies, especially those governing the power business, continue to proliferate by locale, state, region, resource base, across governmental entities and according to political philosophy. A widely accepted, single-minded, long-term objective — whether decarbonization of the energy supply, greater energy independence or stronger energy markets — still proves elusive. There is a way to approach electric power and energy in general more strategically: Ensure investment in infrastructure is adequate to meet reasonably foreseeable needs and let the market do the rest. A focused plan to upgrade one of our most strategic assets — the high-voltage electric grid — would constitute a resilient foundation upon which decisions about energy production, commerce and consumption could be based for decades.

The Infrastructure Crisis

Despite the grid's importance to the economy and U.S. standard of living, the U.S. is emerging from three decades of declining transmission investment only to realize that much U.S. transmission infrastructure is aging and deteriorating.

It is in jeopardy of being outpaced by electricity demand, which doubled between 1980 and 2007, creating significant reliability challenges. Its inadequacies retard emerging competitive wholesale power markets that help ensure reliability, resource diversity and low prices. This is part of the "national infrastructure crisis" identified in 2009 by The American Society of Civil Engineers and which, according to concerned observers such as former Sen. Warren Rudman of New Hampshire and financier Felix Rohatyn, "is no less serious for being silent."

Today's grid must meet different demands than when most of the grid was built in the middle of the past century. Generation sources are more dispersed, and particularly challenging is the prospect of tremendous growth in renewable energy sources such as wind and solar power. The best of those resources exist in remote areas and offshore, far from major load centers that can support their development. Add to that the new developments that depend on the wires-complex, regional bulk power markets driven by federal open-access policies, competition among power sources and the growth of the electron-guzzling, reliability-sensitive digital economy — and the enormity of the challenge becomes evident.

The Policy Response

What, then, is our national policy toward transmission infrastructure? We have important choices to make:

- Is transmission an enabler of new resources and technologies or a competitor and threat to localized energy initiatives?
- Do we want a strong, extensive grid like other networks (e.g., highways) or should it principally serve local needs?
- Is the grid's breadth and capacity to balance resources and loads an asset? Or should risk-adversity lead us to insulate load from gridwide problems?
- Should transmission planning be driven by generation investment, established business and regulatory assumptions, public policy objectives (such as renewable portfolio standards) or the assumption that if we build it, they will come?

For transmission providers and customers who favor a stronger grid and are willing to put their money where their mouths are (such as the WIRES group, to which I serve as counsel), these are answerable questions. Our national leadership has not come together on these issues, however, partly because the resource mix and configuration of the grid varies among regions and the cited proliferating policy preferences that result. The rifts in informed opinion illustrate why we continue taking one step forward and one back.

Development Obstacles

Studies have found that the debate on who should pay for new transmission facilities remains

a serious barrier to transmission development. Building expensive infrastructure without a path to cost recovery is highly risky and an especially important consideration because, unlike some other infrastructure, most new transmission will not be government-owned and government-financed. (The highway analogy peters out here.) Even a massive building program would not balloon the national debt. Access to capital seldom is seen as a barrier to transmission development and transmission makes up only 7 to 10 percent of the average electricity bill. The debate among policymakers about who benefits from expansion of a multistate or interregional electricity network — which we all generally share and depend upon — will lead to longer regulatory approval cycles, increases in risk and therefore costs. The United States is staring blankly at a tremendous opportunity to employ private capital for a public good, but the lightbulb hasn't yet come on.

Permission to site transmission facilities remains the province of state and local governments and, in many cases, federal land management agencies. Acknowledging that most landowners tend not to invite latticework or monopole towers into their backyards, these entities usually are charged with protecting their constituents to the exclusion of other considerations. They carry out inconsistent and often outdated mandates and policies. And they use different methods and criteria for adjudicating what constitutes public interest. Even the more than 30 states that have established policies requiring renewable or low-carbon energy supplies that justify stronger intraregional or interregional transmission connections often implement their differing standards without coordination.

Finally, although the integrated high-voltage grid tends to operate as a single regional machine, planning the lines that comprise it is too often a local or subregional tug-of-war among competing resources and constituencies. Mapping the most economical, operationally practical transmission configurations is a long, often thankless campaign waged at state, regional and even interconnection-wide levels or, with respect to some interregional "seams" in wholesale markets, not at all. Planning, nevertheless, is essential. More of these efforts should move from concept to construction.

Is There a More Orderly Approach?

Transmission investment benefits are identifiable and the need for action in the next two decades is clear. Most benefits accrue to energy consumers and job seekers and some will warm the hearts of economists:

- Adequate transmission tends to reduce systemwide production costs.
- Enhanced transmission will reduce costs for generation and congestion.
- System reliability will improve significantly in most places.
- More transmission creates more competition for customers and lower costs.
- Transmission increases efficient use of generation and tends to reduce emissions.
- Transmission investment helps ensure against emergencies and improve operations.
- Construction and employment will generate tax revenues for state and local jurisdictions.
- Transmission is critical to accessing and integrating new domestic energy sources. For example, if the U.S. is to attain the ambitious goal of 20 percent of its electricity from wind power by 2030, two-thirds of that 300 gigawatts of new generation would necessitate new transmission.
- Transmission investment creates jobs and stimulates the economy.

WIRES' recent study with The Brattle Group indicates that building the estimated $300 billion of transmission needed for all purposes by 2030 will create 150,000-200,000 full-time jobs annually until then, plus $30 billion to $40 billion in annual economic activity, not counting the significant economic impacts of developing the new energy resources that transmission enables.

Many ambitious projects have been proposed, despite the lack of a coordinated national drive to prioritize infrastructure development. Many of those projects will not materialize. This Congress and probably the next will not address the balkanized regulation of the transmission grid, although Republican Wisconsin Rep. Jim Sensenbrenner's HR 3280 shows that Capitol Hill is not brain-dead. Given its history as an industry designed to use local resources to serve local load and the legal bar, which keeps retail markets under state supervision, the power industry likely will remain heavily state-regulated, which is appropriate. That need not thwart the evolution of an integrated power market at the wholesale or bulk power level, however. Many hope state leaders will understand the benefits of larger wholesale markets and the risks involved in fencing out the resources of other jurisdictions by opposing interregional transmission projects, as California and several northeastern governors have attempted.

Coming to Grips With Regulatory Reform

There is a strategic role for the federal government. The Federal Energy Regulatory Commission (FERC) intends to drive development of the 21st-century grid. Under the 1935 Federal Power Act, FERC ensures just and reasonable rates and nondiscrimination in wholesale power markets, provides risk-based

incentives for transmission development and has taken on oversight of grid reliability. Its role is limited, nevertheless. The commission cannot authorize or site actual transmission facilities, despite its plenary jurisdiction over transmission, and that transmission is quintessentially interstate commerce. Siting facilities is primarily the job of a shifting collection of state and federal agencies and local boards and cooperative members. There is no electric transmission counterpart to FERC's certification and siting of interstate natural gas pipelines. Congress' effort in 2005 to encourage better state siting is based on the implausible assumption that some parts of the grid — "national interest electric transmission corridors" — are more vital to interstate commerce than others and justify greater potential federal intervention.

Consistent with its efforts to open transmission lines to competition among electric generators on a nondiscriminatory basis, FERC recently returned to its regulatory first principles regarding the rates and terms of service for use of the interstate grid. FERC Order No. 1000, issued in 2011 and still subject to numerous petitions for rehearing, is an open-ended, flexible and deferential plan to encourage regularity in planning and allocating the costs of new transmission across the country to produce results that are just, reasonable and not unduly discriminatory or preferential. I hope FERC is prepared to reject compliance filings that do not promote efficient and nondiscriminatory market outcomes in regional markets, but the commission has yet to articulate what those outcomes must look like.

While one might have wished for stronger directives from FERC, Order No. 1000 provides at least a pathway to a regulatory environment that can foster a stronger grid and more resilient electricity markets without unnecessarily undoing differing operational and market practices that regional grids have developed. Order No. 1000 directs transmission providers to come to grips in new tariff filings with basic issues.

How do we determine which lines are needed? Who decides this critical issue is unclear. The order requires regional planning mechanisms everywhere with intraregional and interregional collaboration on mutually acceptable solutions. Under Order No. 1000, state renewable portfolio standards and other public policies must be taken into account during planning.

Who pays for new lines and upgrades? Cost allocation must be part of planning. FERC does not dictate a methodology except that "beneficiaries must pay" commensurate with the benefits received. All others are held harmless. A lot will hinge on how transmission benefits are defined.

Any federal rights of first refusal (ROFR) that incumbent utility transmission providers possess — at least in theory — to build all transmission within their footprints are eliminated as anti-competitive, although similar state and local ROFRs are not affected. Those same incumbents still are responsible for ensuring reliability, however. The ROFR issue likely will be resolved in the courts.

The Obama administration's actions in the transmission area are a modest acknowledgment that federal authority can either block or benefit grid development. In 2011, the Department of Energy created a Rapid Response Team that has focused on improving the siting for projects on federal lands, including a better way to process environmental reviews for projects that affect federally protected resources.

Second, the Environmental Protection Agency's new Clean Air Act regulations, such as the Cross-State Air Pollution Rule, likely will result in more coal plant retirements and billions of dollars in retrofits, complicating transmission planning and creating reliability concerns even as the situation accelerates the need for renewables integration.

Third, although a lack of clear transmission policy makes it hard to know what to plan for, the Eastern Interconnection Planning Collaborative (EIPC) is using economic stimulus dollars to better understand transmission futures across the entire interconnection. While generating enormous amounts of data, EIPC's usefulness for grid planning cannot be judged until after its 2013 completion.

Time to Think Strategically

If we continue to lack an energy delivery policy that favors a national market for power in which all resources can compete, the outlook will remain clouded. An interstate highway for electrons requires interstate — or at least regional — solutions. More harbingers of progress are in evidence than in a quarter century:

- A growing recognition that there's a problem in need of attention and concern about the nation's basic infrastructure;
- Emerging technologies that improve efficiency and lower the costs of all forms of energy and help integrate variable renewable resources;
- Federal and state agencies that are prioritizing the development of regional and interregional transmission-planning solutions in the public interest;
- Capital markets that are prepared to participate to the extent regulatory certainty can be ensured;
- Integrated utilities within which the competition for capital often is won by the transmission function;
- Grid entrepreneurs that find transmission

such an attractive opportunity that they take development risks with no guaranteed return; and

- State governors and other policymakers that are actively engaged in regional power generation, delivery and regulatory issues.

Industry is not waiting for Washington, D.C., to act. Comprehensive federal energy policymaking is all but off the table until well beyond the 2012 elections. In the meantime, we must tolerate election-year accusations about responsibility for high crude oil and gasoline prices, which are largely products of global commodity markets that politicians are powerless to control. If this leaves you puzzled about why more attention is not focused on rationalizing the regulation of the domestic electricity industry, which drives and sustains much about our economy and over which policymakers exercise significant authority, all I can say is, "Me too." ■