Easier Said Than Done: The Continuing Saga of Moving from Principle to Practice in Crafting Transmission Infrastructure Investment Rules

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Examples of WSJ Articles

Nov 7th 2010: The Great Transmission Heist

- The latest scheme to subsidize solar and wind power to the detriment of rate payers. How would you like to pay higher utility bills to finance expensive electricity from solar and wind power, which you would never use? That's the issue now before the FERC, and it deserves more public and political scrutiny before it becomes a reality.
- FERC has a draft rule that could effectively socialize the costs of paying for multi-billion dollar transmission lines to connect remote wind and solar projects to the nation's electric power grid. If FERC rules in favor of Big Wind and Big Solar, the new policy would add billions of dollars onto the utility bills of residents of at least a dozen states—including California, Michigan, Oregon and New York—that will receive little or no benefit from the new power lines.

Dec 16th 2010: U.S. Backs Plan to Divvy Up Power-Line Costs

- Federal regulators Thursday cleared a plan to spread the costs of new interstate, high-voltage power lines to utility rate payers in several Midwestern and Western U.S. states, even if the electricity bypasses most of those customers.
- The approval by the FERC, comes as power companies, states and the federal government wrestle with the challenge of upgrading the nation's aging power grid and connecting solar and wind generation with distant urban centers.
- Divvying up the costs of new lines has proven contentious, with some state regulators arguing residents shouldn't have to shoulder additional costs if a new power line bypasses them or is planned hundreds of miles away. That opposition has sunk or stalled several projects.
- The plan approved by FERC calls for the costs of new interstate transmission lines to be divided among 13 states from Montana to Ohio. The share paid by rate payers in each state would vary, depending on the amount of generation capacity in the state.

Examples of WSJ Articles (Contd.)

Dec 30th 2010: The Midwest Wind Surtax: The latest scheme to socialize the costs of renewable energy.

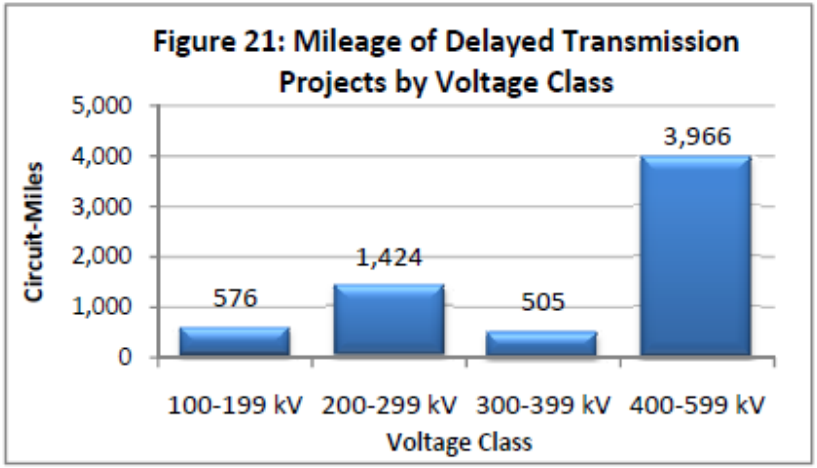
- You'd think poor Michigan has enough economic troubles without the FERC placing a $300 million to $500 million annual surtax on the state's electric utility bills. But on December 16 FERC Chairman Jon Wellinghoff announced new rules that would essentially socialize the cost of transmission lines across 13 states in the Midwest.
- That region-wide pricing scheme, according to a study commissioned by utility companies, will force Michigan to pay about 20% of as much as $20 billion in new high-voltage transmission lines—though Michigan businesses and homeowners will get little benefit. Thanks to FERC's new tariff, nearly everything in Michigan—from cars and trucks to Frosted Flakes—will be more expensive to make. Indiana will also absorb new costs, as will industrial users and utility rate payers in Illinois, Minnesota and Wisconsin.
- This is another discriminatory subsidy for wind energy that will raise electricity prices on everyone, notably on those who don't rely on wind for electric power.

Jan 10th 2011: FERC Is Doing the Right Thing

- Your editorial "The Midwest Wind Surtax" (Dec. 30) mischaracterizes the actions of the FERC as increasing costs to consumers. To the contrary, investment in transmission promotes efficient and competitive electricity markets, which hold down prices for consumers. Transmission investment also enhances reliability and allows access to new energy resources. Contrary to the Journal's claims, our recent actions reflect these principles. As an independent agency, we took these actions on a unanimous and bipartisan basis. While we approved a recent proposal on who pays for new transmission facilities in the Midwest, that proposal was not developed by FERC. Rather, that proposal was submitted to FERC, based on months of negotiations among diverse stakeholders from 13 states in the Midwest. The proposal's objective is to promote the development of needed transmission capacity.
- And contrary to the argument that we are proposing to "socialize transmission costs nationwide," our June 2010 **proposed rule provides that those receiving no benefits from transmission facilities would not be required to pay.** In addition, subject to proposed principles, **each region would have flexibility to determine how to allocate the cost of new transmission investment.** Since the 1970s, consistent with congressional directives, FERC has sought to facilitate competitive wholesale electricity markets to benefit consumers. Our actions will assist regions that seek to modernize their electric infrastructure to better compete in the global economy.

Perception vs. Reality

- Primary argument against broad based cost allocation are:
  - Provides incentive for over building of transmission
  - Promotes free rider problem as benefits may be unevenly distributed
  - Makes new generators insensitive to location
  - Distorts market signals
- Experience in RTO's:
  - Broad based cost allocation in fact brings multiple stakeholders to question the need for the project during the RTO planning process
  - Free rider can be addressed by reforms in transmission planning where totality of benefits are considered
  - Higher scrutiny from stakeholders on the costs and changes in cost estimates of approved projects [e.g. in ISO NE and SPP]
  - Overbuilding of transmission is mitigated by Checks and balances during the siting process.
  - Generators insensitive to location (primarily for renewables) addressed by proper transmission that co-optimizes transmission and future generation
  - Market signals significantly impact the need date of these projects as Transmission is planned after incorporating all possible market signals [capacity prices, demand response etc.]. Also a valid argument if generation was deregulated in all regions within an RTO.



From NERC 2010 Long-Term Reliability Assessment October 2010

Cannot Disassociate Cost Allocation and Planning

- Cannot address Cost Allocation in vacuum but need to acknowledge cost allocation principles in light of the principles of transmission planning
- Broad based cost allocation works only when:
  - Broad based transmission planning
  - Need for totality of benefits of transmission projects to be evaluated against costs.
    - Reliability benefits beyond the short term least cost solution
    - Economic benefits {congestion losses lower capacity needs}
    - Fuel diversification
    - Renewable integration and environmental benefits
    - Operational flexibility and loss savings
- Having broad based cost allocation mechanism followed by narrow transmission planning principles would result in skew of benefits
  - E.g. PJM analysis of approved RTEP projects shows a significant skew of benefits to various regions based on their DFAX analysis.
  - $6.6B of backbone RTEP upgrades were allocated to entire PJM region.

Transmission Zone	Allocation DFAX Method ($M)	Allocation Socialization Method ($M)
AEC	$246.16	$132.30
AEP	$87.79	$1,193.99
APS	$434.78	$416.83
BGE	$646.44	$322.43
ComEd	$15.17	$1,037.76
Dayton	$0.92	$163.54
DL	$0.59	$133.63
DPL	$351.28	$188.14
Dominion	$860.49	$886.85
JCPL	$848.18	$280.55
ME	$90.24	$138.94
Neptune	$132.00	$33.24
PECO	$579.01	$390.91
PENELEC	$22.87	$140.27
PEPCO	$361.05	$309.14
PPL	$181.48	$372.29
PSEG	$1,684.95	$473.34
RECO	$64.16	$17.95
ECP	$40.51	$15.96

From PJM response to FERC's paper hearing in Docket No. EL05-121-006

Issues with Quantification of Benefits

- Assessment of Model Based Traditional Benefit Quantification Methods by Lawrence Berkeley Labs:
  - Production cost simulation and present worth analysis methods are commonly used to quantify benefits of transmission projects.
  - Models understate benefits of long life assets (50+years) by discounting future benefits using high interest rate based on cost of capital—essentially reducing the impact of benefits beyond the first 10-years.
  - Models utilize an expected value approach that tends to minimize the consequences of high impact but low probability events.
  - Models are data intensive—requiring assumptions about future generation mix, fuel prices, and transmission network.
  - Models are static with no feedback—they assume no change in investment for new generation resulting in a zero sum benefit distribution game, for example, Devers-Palo Verde No. 2.
  - Extreme market volatility and multiple contingency system events which can be very costly and risky to society are not captured in current models.
    - 2001 California market dysfunction—$20–40 billion.
    - 2003 Northeast Blackout—$5–10 billion.
    - 2011 Rolling Black outs in ERCOT

Other Options

- Use of look back provision to analyze the portfolio of transmission projects that comes from the transmission planning process over a period of 5-10yrs
- Analyze the costs and benefits between various regions for the portfolio of these projects
- Re-evaluate the share of benefits between regions [not important to calculate benefits precisely but ratio between regions]
- Need to incorporate existing transmission assets and not just new transmission assets