
HOT TOPICS – TRANSMISSION AND GENERATION ISSUES IN THE CAROLINAS

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Energy Legislation – General

- Senate Bill 14 is being debated on the floor of the Senate.
- House Bill 6 passed the House.
- FERC may not issue a final SMD rule until July 1, 2005 (Senate Bill).
- The sense of the Congress is that all transmitting utilities should voluntarily join RTOs.

Legislation – FERC Jurisdiction

- FERC may require a unregulated transmitting utility to provide transmission service at rates that are comparable to the rates it charges itself; and at terms and conditions that are comparable to the service it provides itself and that are not unduly discriminatory or preferential.
- Unregulated transmitting utilities must file rates, but FERC does not have suspension and hearing authority. FERC may remand rates that do not meet the requirements.
- Unregulated transmitting utilities that provide 90% of the energy they transmit to retail customers are exempt if they (a) sell more than 4 million MWh per year; or (b) do not operate transmission facilities that are necessary to the grid.
- G&T cooperatives are not exempt. Distribution cooperatives are exempt.

Legislation – Native Load

- Load Serving Entities (“LSEs”) that own or have contract rights to transmission facilities that are necessary to meet service obligations can retain their priority rights and transfer them to successor LSEs. [i.e., forced auctions of FTRs are prohibited.]
- There is no impact on PJM, NYISO, ISO-NE, MISO or CAL-ISO.

Legislation – Transmission Investment

- FERC must issue a rule that promotes capital investment in transmission, subject to “just and reasonable” requirements. Participant Funding is permitted.
- DOE is to conduct a survey of transmission congestion every three years. FERC has siting authority if the state delays or places undue restrictions on construction that would relieve congestion.
- States may establish regional siting agencies for new construction.
- Members of RTOs should receive a return on equity that is sufficient to attract new capital for transmission expansion (House Bill).
- FERC cannot compel unregulated transmitting utilities to transfer control of their facilities to RTOs.
- Unregulated utilities, including cooperatives that sell more than 4 million MWh of energy that make spot market sales, are subject to FERC refund authority if they violate FERC rules (House Bill).

Legislation – Other Issues

- PUHCA is repealed.
- The authority of FERC or a state to determine if a public utility can recover in rates costs incurred through affiliate transactions is preserved.
- The obligation to purchase power from Qualifying Facilities is terminated if the QF has access to day-ahead long-term markets.
- Net metering for customers with generation is required.
- Smart metering is encouraged; states have control.
- Marketing manipulation is prohibited; criminal fines are increased to \$1 million; civil fines are increased to \$1 million per day.
- The refund effective date for a complaint is the date of filing.

The Future For RTOs in the Southeast

- FERC has reaffirmed its intent to make RTOs mandatory.
- FERC cannot compel utilities to join RTOs under Section 203 of the FPA. It has the authority to permit transfers of control but not the authority to require it.
- While FERC has repeatedly asserted that it has authority over whether utilities join or leave RTO's, the Court of Appeals disagreed. When FERC persisted, the Court issued an Order on Mandamus, re-emphasizing its previous decision.
- FERC could try to compel utilities to join RTOs under Section 205 of the FPA. However, even if a case could be made for "undue" discrimination:
 - It would have to be made utility-by-utility;
 - FERC's authority to compel transfers of control is completely untested.
- Even if utilities are forced to join RTOs they will retain their rate – setting authority. The Court of Appeals reaffirmed this.

Cost-Benefit Analysis of SMD: SEARUC (1/03)

- SEARUC did a cost-benefit analysis of SMD in the Southeast. It concluded that the Carolinas would not benefit from SMD in most scenarios, and that implementing SMD in the Grid South region would actually have a net cost, not a net benefit.
- Most of the “benefits” from SMD relate to the fact that with participant funding, generators would be less likely to request transmission upgrades, which would reduce the need for transmission investment to connect generators to the grid.
- Given the reduction in planned generation construction, even fewer benefits (or more net costs) can be expected.
- Production cost savings are .5% to 1.0% – comparable to other studies.

Cost-Benefit Analysis of SMD – DOE (4/03)

- SMD will reduce pancaked transmission charges in VACAR, leading to greater use of imports and the displacement of more expensive in-region generation.
- In-system generation will be reduced from about 320 billion kWh to 315 billion kWh, and be replaced by imports. Prices will drop about 4% for wholesale customers and 1-2% for consumers.
- The SEARUC Study estimated about \$200 million/year in RTO costs over 10 years for Grid South, Grid Florida and SeTrans. DOE estimated about \$330 million in costs per year. This is about 50¢/MWh. CP&L's cost of transmission is \$1.20/MWh.
- There is no discussion of whether pancaked rates could be eliminated without spending \$100 million per year per RTO.

Cost-Benefit Analysis of SMD – DOE (4/03) continued

- While VACAR is expected to import more power, the study assumes that it will not come from SERC (Southern Company), where exports will fall. Most imports will come from ECAR – primarily AEP territory – and some from TVA.
- The study projects that without SMD, the interfaces between ECAR and VACAR are unused 30% of the time and fully used only 7% of the time. Under SMD, full utilization will occur in 76% of the hours. Is this true?
- The spot price is expected to drop 25% in VACAR. [Why would this occur with only a 2% increase in imports?]

Does Competition Reduce Prices?

- The mantra of the pro-market forces is that competition will reduce prices to consumers. The DOE Study assumes this will occur.
- The GAO concluded last December that there is as yet no evidence that competition has reduced prices.
- Remember that independent generators got into the market so they could get higher returns than regulated utilities, not lower returns.
- Regulators on the other hand, expect prices to decline.
- The only way to fulfill both expectations is if merchant generators can construct and operate plants more cheaply than utilities. However, new technology is equally available to all.
- The DOE Study's cost-benefit assumptions are subject to challenge.
- Obviously, we will have "dueling consultants" on the benefits of SMD.

SMD and Transmission Congestion

- Will LMP stimulate generation construction that reduces congestion?
The factors to consider are complicated.
 - If a generator locates where nodal prices are high, it will reduce the price at that node.
 - New transmission construction can eliminate congestion, destroying anticipated nodal pricing differences.
 - Generators will have a vested interest in blocking projects that reduce transmission congestion. This is currently happening in New England.

What's Really Behind The Lack Of Transmission Investment?

- Net investment in transmission continues to decline. It should be increasing if we are to maintain reliability.
- FERC's proposed incentives for new transmission construction are based on the assumption that investment is not occurring because the risks outweigh the returns.
- The actual situation is much more complex.

Investment in Grid Extension Facilities

- Investment in grid extension facilities (new transmission lines on new routes) is undeniably high risk.
- The risk relates primarily to opposition to the siting of new lines.
- A 100 basis point adder to Return on Equity ("ROE") is unlikely to be sufficient to stimulate investment.
- Returns would likely need to reach levels appropriate for speculative ventures to stimulate more investment in grid extension facilities.
- The effectiveness of ROE adders will in any event be determined by whether the higher returns can be collected from retail customers as well as wholesale customers. Many retail customers have capped or frozen rates.
- The real solution to increases in the construction of grid extension facilities is to reduce the risk and the time needed to obtain approvals.
- The Energy Bill gives backstop siting authority to FERC. This is unlikely to significantly reduce regulatory lags in approving projects.

Investment in Grid Enhancement Facilities

- Construction of grid enhancement facilities (upgrades of existing facilities) involves much less risk.
- There is no evidence that a 100 basis point ROE incentive is needed to stimulate that kind of investment.
- The reasons behind the lack of investment in grid enhancement facilities are more complex than whether there is a 100 basis point premium on ROE.

Factors That May Inhibit Investment in Grid Enhancement Facilities

- Inability to recover investment as a result of retail rate freezes or grandfathered retail rates.
- Unwillingness to compete with more “nimble” generation investment that has more options, higher returns, and quicker payouts.
- Competition between ownership interests in transmission and generation.
- License plate pricing can create disincentives to new investment in transmission facilities.
 - The cost of the facilities often is not paid for by beneficiaries.
 - In some instances, transmission owners cannot recover investment costs from anyone.

Roll-In Versus Participant Funding of Transmission Upgrades

- The FERC's current policy is to roll in all grid enhancement costs needed to connect new generators.
- The policy eliminates controversy over who should pay.
- The policy also is based on the assumption that the benefits of increased generating capacity outweigh the economic inefficiency that results from socializing the costs of sub-optimal generator siting decisions.
- There is no evidence that socializing the costs of inefficient siting decisions is necessary to stimulate generator construction.
- There also is no evidence that rolling in generator interconnection costs is economically desirable from the standpoint of consumer prices.
- From a theoretical standpoint, the most economically efficient result is to stop adding merchant generation when the reduction in market prices resulting from a new generator exceeds the increase in socialized transmission costs.

Roll-In Versus Participant Funding of Transmission Upgrades continued

- The same result can be achieved by requiring Participant Funding for all generator-related grid enhancement costs since generators will have greater incentives to site their units efficiently.
- The SEARUC Study concluded that a substantial part of the benefits of Standard Market Design derives from Participant Funding of generator interconnections.
- The reason is that with Participant Funding, economically inefficient grid enhancement decisions will not be made.
- Reversing interconnection policy to require Participant Funding will not be easy. FERC is now retroactively applying its rolled-in pricing policy to investments that originally were participant funded.

Is Merchant Transmission The Answer?

- Merchant transmission is being touted as the solution to the declining transmission infrastructure.
- Whether this is true depends on the reasons why transmission is not being built.
- There is no evidence that the capital cost of merchant transmission will be less than the capital cost of regulated transmission.
- Merchant transmission is unlikely to construct grid enhancement facilities because of the complexities caused by overlapping with existing facilities.
- Merchants have the same risks with respect to grid extension facilities as do regulated transmission providers. Why award them returns that are not available to regulated utilities?

Joskow and Tirole on Merchant Transmission

- Hogan and other writers demonstrate the viability of merchant transmission only in a theoretical world with strict, unrealistic assumptions.
- When the analysis incorporates real-world assumptions, the arguments for merchant transmission become much less persuasive.
- The paper gets very involved in economic theory.
- There are only two completely operational merchant transmission projects in the entire world that expected to recover all of their revenues from congestion rents.
- Neither project is profitable, and one is seeking to switch to a traditional regulated rate based on cost of service.
- Litigation over the right of merchants to construct transmission will delay projects.
- Regulatory limits on energy prices (price caps) skew the incentives.

Joskow and Tirole on Merchant Transmission continued

- The need to make “lumpy” transmission investments creates an incentive to not fully relieve congestion. [Increased transmission capacity reduces price differentials.]
- Merchant generation and transmission compete, and can pre-empt each other, producing results that are less efficient than coordinated planning.
- The separation of transmission ownership and dispatch creates conflicting incentives.
- The complexity of determining and allocating benefits of new investment makes it likely that rights allocations will be controversial.
- Loop flows and free ridership (unintended beneficiaries) reduce incentives to construct.
- Regulatory oversight will not be reduced; regulation will be needed to administer the relationship between generation, regulated transmission and merchant functions.

Infrastructure Enhancement and Market Forces

- Market-based decisions on infrastructure enhancement are efficient only if the markets are efficient: if there is no market power and free competition between alternatives (generation, electric transmission and gas pipeline construction) exists.
- Inter-alternative competition is marginal at best.
- When multiple interests have inconsistent objectives, efficient, coordinated decision-making becomes problematic. The likely results are paralysis or tyranny of the majority.

What Will The Future Look Like?

- Opposition to SMD LMP and RTOs in the Southeast is likely to continue.
- FERC will require the creation of RTOs. If the states resist, FERC will try to increase pressure, using both a carrot and a stick.
- FERC's proposal to allow regions to demonstrate that they should not have to adopt some aspects of SMD will lead to litigation and "dueling consultants".
- We haven't yet found the way to stimulate transmission investment. The problem is likely to get worse before it gets better.
- Competition in the transmission business is unlikely to be the answer.
- A strong, centralized planning process may be the answer – either an RTO that is truly independent of market forces or regional regulatory compacts.