

TRANSMISSION WATCH

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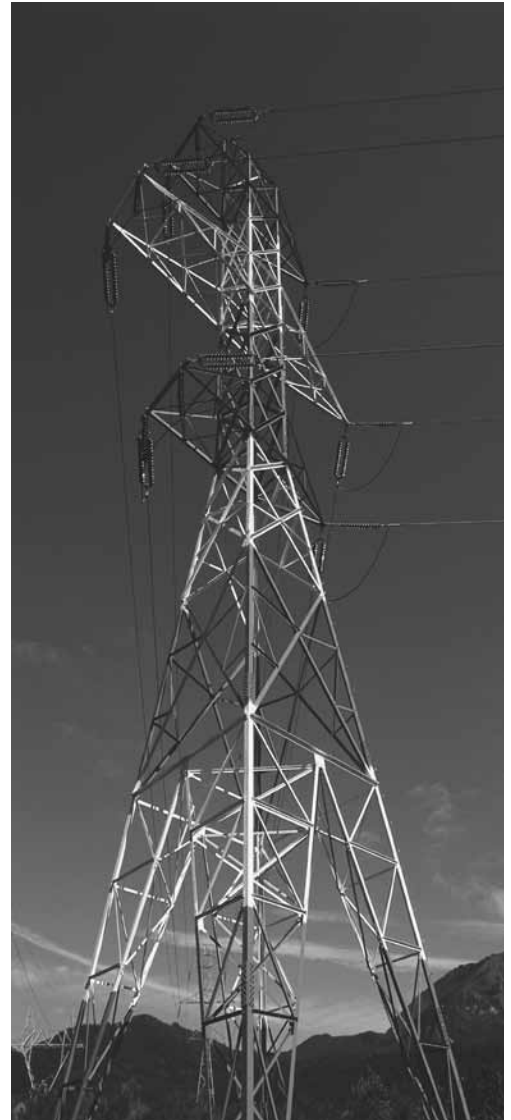
EXECUTIVE SUMMARY

Cost allocation continues to be the issue for transmission development and investment, and is the focus of the Policy Watch section of this quarter's edition of ESAI's Transmission Watch.

In taking the FERC to task for its "insouciance" in approving a regional postage stamp cost allocation framework for PJM backbone transmission facilities, the Chicago-based 7th Circuit Court of Appeals has injected considerable uncertainty into the business of transmission investment. Not all of the 7th Circuit judges agreed with the finding that FERC was indifferent or casual in approving PJM's mechanism to spread the costs of new 500 kV and above transmission facilities, setting the stage for yet another chapter in the national argument over who pays for transmission. One consequence of the Court's decision may be a call to action for Congress to resolve the cost allocation debate once and for all with a national approach.

Also reviewed in this issue is FirstEnergy's proposal to move its Midwest ISO utilities to PJM. Transmission cost allocation policy also rears its head in the proposed RTO switch. FirstEnergy's proposal to exempt its utilities from bearing the costs associated with PJM-authorized backbone transmission projects raises important issues regarding the costs and benefits of switching RTOs.

Finally, our Project Update section focuses on the preliminary results of ISO-NE's renewable-enabling transmission 'blueprint' for New England, as requested by the region's state regulators. The scope and costs of this renewable blueprint are massive. It will be interesting to see whether New England state regulators will accede to ratepayers footing the bill for billions in new renewable transmission investment, on top of the billions spent and planned to be spent for reliability reasons as well as the ongoing surplus of resources in the region.



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COURT OVERTURNS FERC APPROVAL OF PJM SOCIALIZED COST ALLOCATION

The issue of cost allocation is once again thrust to the forefront of the transmission industry. On August 6, the 7th Circuit of the U.S. Court of Appeals (based in Chicago) remanded back to FERC its approval of PJM's cost allocation methodology that socializes the costs of all 500 kV and above facilities in PJM. The reversal is a setback to the large west-to-east backbone facilities authorized by PJM, representing well over \$5 billion in new transmission. This decision also has significant implications for any Eisenhowerian national interstate renewable transmission buildout.

Postage Stamp Rate for New Facilities 500 kV and Above

For years, several PJM stakeholders had been advocating that PJM move away from its beneficiaries pay, license plate rate design and implement a socialized, postage stamp rate to spread transmission costs across all of PJM. The debate culminated with FERC's issuance in April 2007 of Opinion No. 494, in which FERC reaffirmed PJM's license plate rate design for allocating the cost of existing transmission facilities and of new facilities below 500 kV, but ordered a new allocation method for new transmission facilities of 500 kV and above. FERC determined that the costs of all new PJM-planned facilities that operate at or above 500 kV should be shared on a region-wide basis. Notably, FERC extended this postage stamp rate treatment to both reliability projects and economic projects.

FERC's decision represented a marked departure for transmission cost allocation in PJM, which has long been premised on a license plate rate 'beneficiary pays' approach. The ruling was a watershed event for American Electric Power (AEP) and other transmission developers seeking to build large west-to-east backbone transmission facilities in PJM. AEP had stated that it would not develop its proposed \$3+ billion I-765 proposal, a 550-mile 765 kV line from West Virginia to New Jersey, absent cost recovery via a regional, PJM-wide cost allocation mechanism.

Not all of AEP's arguments prevailed with FERC, as AEP had advocated for an extension of postage stamp rate treatment to all existing and new transmission facilities of 345 kV and above. AEP appealed FERC's decision regarding existing transmission facilities. Separately, state regulatory commissions from Illinois and Ohio appealed FERC's approval of a socialized cost allocation framework for new 500 kV and above facilities, arguing that the transmission costs to be borne by Illinois and Ohio utilities under the PJM rate design would unreasonably exceed the benefits of that transmission to these states and thus violate long-standing rate and regulatory principles on cost causation.

A Divided Court

The Court's ruling was a split decision with respect to the allocation of the costs of new transmission facilities. The majority found that allocating new backbone transmission costs on a region-wide basis violated cost causation principles because FERC failed to consider the disproportionate impact on utilities in western PJM. The majority also found that FERC failed to support its decision by detailing the benefits that the new transmission would provide to the western PJM utilities, noting that:

No particulars are presented concerning the contribution that very high-voltage facilities are likely to make to the reliability of PJM's network. Not even the roughest estimate of likely benefits to the objecting utilities is presented.

The Court then noted the acknowledgement by FERC's counsel that under FERC's decision Commonwealth Edison (ComEd, the utility serving the 7th Circuit's offices in Chicago) would bear roughly \$480 million in backbone transmission project costs in order to derive some \$1 million in benefits. The majority concluded that:

FERC is not authorized to approve a pricing scheme that requires a group of utilities to pay for facilities from which its members derive no benefits, or benefits that are trivial in relation to the costs sought to be shifted to its members.

Notably, one of the judges hearing the case strongly dissented on this aspect of the decision, citing the urgent need to upgrade the U.S. transmission grid and the problems in identifying beneficiaries of new transmission lines. The dissenting judge stated:

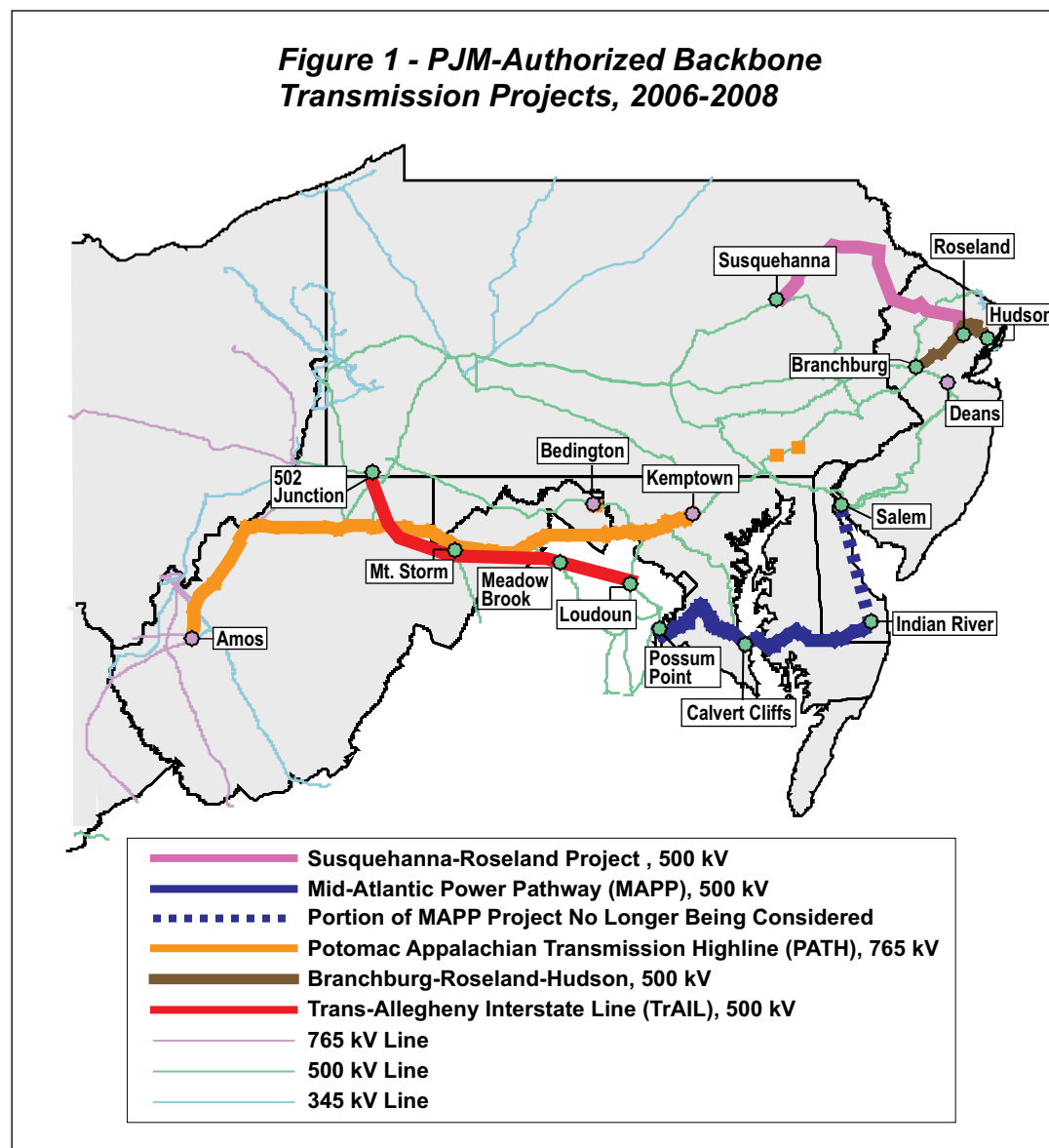
However theoretically attractive may be the principle of "beneficiary pays," an unbending devotion to this rule in every instance can only ignite controversy, sustain arguments and discourage construction while the nation suffers from inadequate and unreliable transmission.

...

While an effort to identify specific benefits to specific utilities is a traditional rate design approach and may be appropriate for most electric plant facilities, it may miss the forest and focus on the trees when applied to very high voltage "backbone" facilities having a generalized role in supporting reliability and high capacity power transfer.

Analysis and Implications

Once again, the question of who pays for transmission looms large over the fate of a planned transmission buildout. The 7th Circuit decision throws an uncertainty-laden monkey wrench into the ongoing development process for several billions of dollars of PJM-authorized transmission investment (Figure 1 provides an overview of backbone transmission projects authorized by PJM since 2006). AEP, Allegheny and other PJM transmission owners are already spending considerable costs (and collecting them in FERC-approved incentive rates) associated with several PJM-authorized backbone transmission projects.



NEW ENGLAND STUDIES MASSIVE RENEWABLE TRANSMISSION BUILDOUT

State regulators in New England have requested ISO-NE to conduct a comprehensive study of the region's potential for renewable resources and the transmission that would be required to deliver these resources to load centers. This renewable "blueprint" includes several conceptual overlays of new backbone transmission to deliver various levels of renewable resources, including cost estimates for the conceptual transmission buildouts.

The so-called "New England 2030" study is in its final stages of completion; however, ISO-NE has released preliminary results and conclusions. The preliminary results offer alternate visions of a new backbone transmission system in New England, with estimated costs as much as \$25 billion (not including the cost of the renewable generation resources). Notably, the study represents the region's response to calls for a "top-down" planning mechanism for a federally mandated renewable transmission "interstate highway" system, including plans advocated by Midwest interests such as the DOE-sponsored Joint Coordinated System Plan (JCSP).

Aside from the political and Congressional implications of this effort, the New England 2030 study raises important issues for the region's policymakers regarding renewable energy. By attempting to price out the cost of alternative renewable transmission buildouts, state policymakers' renewable energy development bluffs are being called.

Request from New England Governors

The New England 2030 study arose from requests received pursuant to ISO-NE's economic transmission planning process under Attachment K of the ISO-NE tariff. Attachment K establishes a process for stakeholders to request (by April 1 each year) and ISO-NE to review proposals for economic studies, consistent with requirements of FERC Order No. 890. Under the provisions, ISO-NE can conduct up to three studies each year, and six study proposals were received by the annual April 1 deadline:

1. New England States Committee on Electricity (NESCOE) – renewable resource study;
2. New England ITC – GreenLine transmission project between Maine and Boston;
3. Mirant – installation of new combined-cycle gas turbine (CCGT) unit in Cape Cod (Lower SEMA);
4. NRG – replace all oil-fired, pre-1980 units with CCGTs;
5. LS Power – new transmission to deliver renewable resources from upstate NY; and

6. NextEra Energy (formerly FPL) – HVDC cable from Seabrook to Boston and/or Canal.

The NESCOE study request followed a formal request by the governors of the six New England states for a “blueprint” for the regional planning of renewable energy resources. Specifically, the NESCOE request asked ISO-NE to identify “significant sources of renewable energy available to New England, the most effective means to integrate them into our power grid, and the estimated costs.” NESCOE explicitly noted that funding or cost allocation for transmission investment identified by this effort was not to be part of the study.

After review and accounting for resource constraints as well as state political considerations, ISO-NE determined that it would perform only the NESCOE-requested study, although ISO-NE did agree to refine the scope of the NESCOE request to encompass some of the issues raised by the other requests. The horizon for the study is approximately 20 years into the future, hence the New England 2030 name.

Economic and Environmental Metrics for Over 40 Renewable Resource Scenarios

The scope and scale of the New England 2030 study are enormous. Scenarios with over 40 combinations of renewable energy resources were modeled – wind, demand resources, plug-in electric vehicles (PHEV), energy storage and expanded imports – using a range of resource penetrations (low/medium/high). The study also included evaluation of generation retirement scenarios, assuming the addition of gas units as needed to meet installed capacity requirements. Assumptions in the study included:

- Existing capacity modeled as new and existing resources cleared in the Forward Capacity Market (FCM);
- Load forecast based on the 2009 Regional System Plan (RSP09) 10-year forecast extrapolated to 2030, corresponding to a peak demand of approximately 34,500 MW in 2030;
- Additions of up to 12,000 MW (nameplate) of on- and off-shore wind in New England, with off-shore wind distributed evenly between Maine, Massachusetts, and Rhode Island;
- Significant penetration of new demand resources: on-peak and seasonal peak energy efficiency (passive), real-time demand response (active), and emergency generation;
- Scenarios with generic energy storage as a proxy for new pumped storage hydro, batteries, compressed air, or other storage technologies;
- Scenarios with up to 2.5 million PEVs in New England by 2030;

Group 2: 4,000 MW of wind on/offshore – This scenario envisions the interconnection of 4,000 MW of wind resources evenly split between onshore and offshore. Similar to Group 1, this on/offshore scenario assumed that most of the on land wind resources were in Maine and New Hampshire, and evenly split 2,000 MW of offshore resources among Maine, Massachusetts and Rhode Island. Table 2 provides the breakdown of the 4,000 MW by resource zone.

This scenario creates a new backbone loop of transmission facilities across the six New England states, as shown in Figure 3. Other backbone components include additional 345 and 115 kV lines in central Maine, central New Hampshire, northern Vermont, Cape Cod, and southern Rhode Island. As with the Group 1 scenarios, collector loops of 345 and 115 kV lines would also be required. The Group 2 scenario envisions the construction of a staggering 3,615 circuit miles of new high voltage transmission.

The Group 2 scenario illustrates two key features that differentiate it from the other scenarios. First, the 4,000 MW Group 2 scenario does not envision an undersea HVDC transmission link, in contrast to the 2,000 MW Group 1 scenario backbone facilities. The free-flowing nature of the robust regional high voltage AC backbone under this scenario was viewed to be superior to a point-to-point HVDC solution.

Second, the Group 2 scenario contemplates the possibility that the new backbone may need to be of a higher voltage class than the existing New England bulk transmission system. While the thermal capabilities of 345 kV facilities are likely to be able to handle the additional power flows under this scenario, system stability and voltage concerns may require the new extensive backbone loop to be built at 500 kV, thus introducing a new voltage class into the New England transmission system.

ISO-NE estimates that the split on/offshore 4,000 MW wind scenario would cost approximately **\$10.7 billion** if built at 345 kV and **\$14.3 billion** using 500 kV facilities.

Figure 5 - New England 2030 Study Group 4 Scenarios (8,000 MW and 12,000 MW Wind Onshore and Offshore)

