

**Tripping Over Each Other:
Sorting Out the Roles of FERC, States, Non-Jurisdictional Utilities,
and Regional Transmission Organizations**

Rob Gramlich, Grid Strategies LLC¹

**Energy Bar Association Mid-Year Energy Forum
October 2017**

Regional Transmission Organizations (RTOs) are being asked to mitigate state policies², provide greater compensation for baseload resources, expand to cover more states and utilities, do more and better transmission planning, and improve their market designs to integrate variable energy sources. Just because they are convenient vehicles for performing many functions does not mean they should. In the Central and Eastern regions, unnecessary functions distract RTOs from being able to perform and improve on necessary functions. In the West, the goal of expanding RTO participation is harmed by the fear of these non-core functions being taken from states and non-jurisdictional entities and decided by FERC in Washington. Competition, reliability, and the clean energy transition can best be achieved if regulators keep RTOs focused on their core functions and avoid mission creep into functions that tilt the playing field or meddle in state policy.

Two Core RTO Functions

There is wide recognition that RTOs should perform two key functions. The two functions are:

1. Operate regional spot markets. Regional spot markets for energy and operating reserves using bid-based security-constrained economic dispatch not only improve efficiency and reliability, they reduce the variability of wind and solar by aggregating geographically diverse resources with different wind, sun, and cloud patterns that net each other out.
2. Perform regional transmission planning. Pro-active economic planning improves reliability and efficiency, and allows remote low-cost wind and solar sites to be accessed.

These are core functions because they are natural monopoly services. It is most efficient for a natural monopoly service to be performed by a single entity. It is especially efficient for them to be large, across many states. The two functions have been recognized by FERC as core functions for the last 20 years, well before wind and solar became significant sources of energy, including in Orders No. 888 (1996) and 2000 (1999). Attempts to divide either of the functions, such as the early California approach of the separate Power Exchange (PX) and ISO, failed because of the tight integration needed between congestion management and market

¹ www.gridstrategiesllc.com.

² FERC proceeding on State Policies and Organized Markets, AD17-11.

operation. These two functions are especially important for reliable and efficient transition to a grid that relies more on wind and solar energy.³

Efforts to expand RTOs to fill gaps and cover much of the West are hampered by their voluntary nature and the prevalence of utilities that are not FERC-jurisdictional. As a result, participation will be decided by those states and utilities who will want to know that the RTO is improving their situation and not taking away functions for which they do not need help.

RTO Participation Will Suffer if State Resource Policies are Pre-empted or Mitigated

Western utilities and states are very well-aware of FERC policies to mitigate state policies. Minimum Offer Pricing Rules (MOPR) in Northeast RTOs are in place to limit the effect of state policies on wholesale markets. Greater use of Minimum Offer Pricing Rules would likely lead to higher prices to consumers. Bids of certain units would be raised by MOPR, and those higher bids could set the price. While many resources would likely be infra-marginal in which case their bids would not affect the market price, according to ISO-New England, many would be high enough not to clear.⁴ Therefore it is very possible some resources would be on the margin, directly raising prices. Figure 1 below illustrates the raised bids due to MOPR (in yellow) setting a higher price than without MOPR. The ISO-NE market monitor said with the amount of policy-driven entry, “[t]he MOPR in this case is likely to significantly increase costs for New England’s consumers. It can also cause conventional new resources to clear the [capacity market] inefficiently by preventing higher-cost renewables from clearing (even though they are committed to entering).”⁵ Moreover, consumers could essentially pay twice for capacity if they pay for a public policy that supports a resource that ultimately does not clear in the market because it is mitigated, hindering state objectives. MOPR is only one form of state policy mitigation; many others are possible.

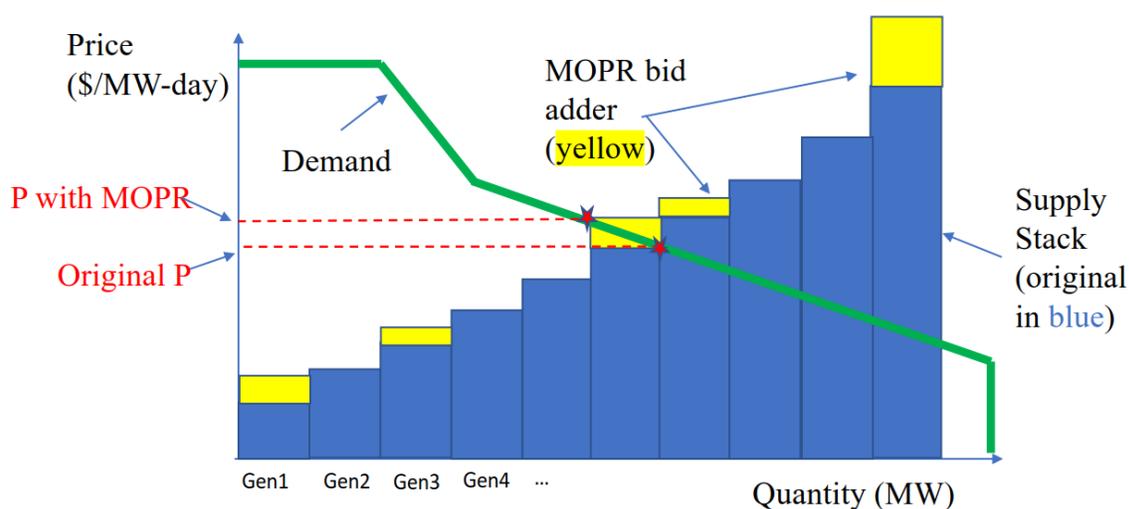
³ Robert Gramlich and Michael Goggin, “The Ability of Current U.S. Electric Industry Structure and Transmission Rules to Accommodate High Wind Energy Penetration,” Proceedings of the 7th International Workshop on Large Scale Integration of Wind Power, 2008. AWEA/SEIA, “Green Power Superhighways: Building a Path to America’s Clean Energy Future,” 2009, <https://www.awea.org/files/FileDownloads/pdfs/GreenPowerSuperhighways.pdf>. US Department of Energy, 20 Percent Wind Energy by 2030, July 2008

<http://20percentwind.com/20p.aspx?page=Report>. US Department of Energy, Wind Vision: A New Era for Wind Power in the United States, March 2015, https://www.energy.gov/sites/prod/files/WindVision_Report_final.pdf.

⁴ https://www.iso-ne.com/static-assets/documents/2017/06/a5_presentation_competitive_auctions_with_subsidized_policy_resources.pptx slide 9.

⁵ Comments of David B. Patton, PhD, Potomac Economics, AD17-11, p.4.

Figure 1: Higher Prices due to MOPR



States traditionally have had lead responsibility for resource adequacy and generation resource portfolios. States have authority “over facilities used for the generation of electric energy.”⁶

Deviating from this fundamental jurisdictional split harms regulatory certainty more than certain state policies do. Until recently there was ample regulatory certainty about when FERC might intervene in markets. It is widely recognized that FERC will intervene to prevent the exercise of market power and market manipulation. These have been areas of FERC intervention since the beginning of competitive bulk power markets in the US, based on the framework established by FERC and the courts when electricity competition began in the early 1990s.⁷ The framework was updated to address certain limited actions by states in the *Hughes v. Talen Energy Marketing LLC* Supreme Court decision where it blocked a Maryland state action that infringed on FERC wholesale rate-setting authority. But there it stated “Nothing in this opinion should be read to foreclose Maryland and other States from encouraging production of new or clean generation through measures “untethered to a generator's wholesale market participation.”⁸

If FERC were to move the traditional line dividing state and federal jurisdiction over power markets, it is not clear where a new line could be drawn nor how it could be implemented. In multiple current court and FERC proceedings there are requests to pre-empt or mitigate state

⁶ 16 U.S.C. § 824. FERC Order No. 888, 61 Fed. Reg. 21,540, at 31,782 n.544 (1996).

⁷ Robert Gramlich, “The Role of Energy Regulation in Addressing Generation Market Power,” *Environmental and Energy Law and Policy Journal*, Vol 1. No. 1, 2005. “[I]n a competitive market, where neither buyer nor seller has significant market power, it is rational to assume that the terms of their voluntary exchange are reasonable, and specifically to infer that the price is close to marginal cost, such that the seller makes only a normal return on its investment.” *Tejas Power Corp. v. FERC*, 908 F.2d 998, 1004 (D.C. Cir. 1990). *Elizabethtown* 10 F. 3d. at 870 (DC Cir. 1993).

⁸ 136 S. Ct. 1288 (2016).

policies that subsidize certain generation sources. Pre-emption or mitigation of subsidies would either require similar actions done for the plethora of subsidies, or somehow choosing between them on a non-discriminatory basis. Types of mitigation would also need be designed to account for the varying types of incentives: state vs federal, capital cost vs operating cost support, forms of insurance vs direct cost support, environmental vs economic development vs other social objectives, forms of zoning and resource access vs economic factors, upstream vs downstream policies, and more. Some policies such as Renewable Portfolio Standards are based on competitive bidding while others pick a single technology or even specific companies and plants.

Respecting states' ability to pass laws on energy resources does not mean one must agree with them. Some of the laws passed in recent years spend a great deal of consumers' money in ways that do not seem to be the most efficient ways to achieve environmental or other objectives. But each observer likely has different opinions of which of those policies are ill-advised and which are "legitimate." RTOs and FERC can provide their input into state legislative processes. But states get to decide that and do not want to surrender that role.

Some of the approaches being proposed to mitigate state policy are by definition discriminatory. Two-Tier policies where some generators are allowed to bid one way and others allowed to bid another, when there is no claim of market power or unlawful state rate-setting of wholesale rates, clearly discriminates against certain suppliers.

RTO Participation will suffer if FERC puts its own thumb on the scales

Many states, utilities, and other stakeholders are watching how federal regulatory policy might change to support baseload generation. The recent Department of Energy grid report stated "Markets recognize and compensate reliability, and must evolve to continue to compensate reliability, but more work is needed to address resilience"⁹ and lauded coal and nuclear plants' resilience attributes. While the report in other places advocated for "fuel-neutral" policies, there are many ways that the details of market design can be tweaked to favor certain resources without doing so explicitly. States and utilities with carbon emissions goals are not likely to want to join RTOs that have some rules requiring or favoring units with on-site fuel or "on-site hydrocarbons" which is what EPA Administrator Pruitt claims is needed for reliability. On the flip side, other states and utilities without such goals would likely not want rules that favor renewable energy. Given the fact that every region includes states with different resource and environmental objectives, RTO expansion can be furthered if they stick to their core functions and avoid tilting the playing field in any direction.

RTO Participation will suffer if their missions creep beyond core functions

⁹ P. 11, Staff Report to the Secretary on Electricity Markets and Reliability, <https://energy.gov/downloads/download-staff-report-secretary-electricity-markets-and-reliability>

Most states and utilities considering RTO participation cherish the resource adequacy function in particular, and watch closely FERC and RTO actions in other regions to see how this is treated. It is a non-core function that could be left in states' hands.¹⁰ Unlike real-time grid operation and transmission planning, the resource adequacy function is not a natural monopoly for which a single central entity performs better than all loads doing it themselves.

It is true that in the past, resource adequacy was deemed to be a different kind of market failure, a public good, because each load could lean on the system and under-provide generation. And sharing reserves across all the entities in a region could achieve equal reliability with less generation, creating economic savings.¹¹

However the public good characteristics of resource adequacy are fading. It may have reached a point where it can be a private good where heavy-handed central capacity obligations and penalties can be eased, allowing more decentralized decision-making. When FERC accepted mandatory capacity obligations on load-serving entities in the late 1990s and early 2000s, it was for three reasons that may no longer exist: 1) "resources take years to develop," 2) "spot prices that are subject to mitigation measures may not produce an adequate level of ... investment" and 3) "regional resources are made available to all regional load-serving entities" with no ability to curtail those customers who failed to procure enough.¹² Point 1 is no longer true, with demand response and batteries now able to enter markets and provide peak energy within six months at prices comparable to other sources.¹³ Point 2 can be fixed with scarcity pricing and raising offer caps. Point 3 may not be true any longer either, with improvements in demand response, metering, control, and scarcity pricing.

Operating an RTO can certainly work without mandatory capacity obligations. CAISO, SPP, ERCOT, and MISO operate without them. The justification for these obligations in the Northeast has been that there is retail competition throughout much of the region. Yet states such as Michigan which is part of MISO have resource adequacy policies that take retail competition into account.¹⁴ Michigan happens to favor 4 year ahead fuel-neutral resource adequacy policies. Other states may opt for different terms and resource mixes. It can all be accommodated by the RTO.¹⁵ ERCOT in Texas uses an energy-only market and it is the job of load-serving entities to do their own resource adequacy planning, or else risk paying high spot market prices, just like typical markets in other industries.

¹⁰ See, 16 USC 824(a), (b)(1); Midwest Indep Transmission System Operator, Inc., 153 FERC ¶ 61,229, pp. 23-24 (2015).

¹¹ Economic Assessment of RTO Policy, Prepared by ICF Consulting for FERC, February 26, 2002. https://www.ferc.gov/legal/maj-ord-reg/land-docs/RTOSTudy_final_0226.pdf

¹² Remedying Undue Discrimination through Open Access Transmission Service and Standard Electricity Market Design, Notice of Proposed Rulemaking, 67 Fed. Reg. 55,452 (Aug. 29, 2002), par.460-473, citing Power System Economics by Steven Stoft. This NOPR was not finalized but reflected the policy views of the Commission at the time.

¹³ Denholm, Diakov, and Margolis, <http://www.nrel.gov/docs/fy15osti/64841.pdf>.

¹⁴ MI Act No. 341 <https://www.legislature.mi.gov/documents/2015-2016/publicact/htm/2016-PA-0341.htm>. Regulations: <https://efile.mpsc.state.mi.us/efile/docs/18197/0125.pdf>

¹⁵ See MISO Comments in MPSC proceeding, <https://efile.mpsc.state.mi.us/efile/docs/18197/0125.pdf>.

Participation will suffer if bilateral contracting is harmed

RTO representatives and market monitors sometimes say that bilateral contracts are outside of “the market,” and favor all transactions flowing through the central market. This reflects a fundamental misunderstanding of markets. In every other functioning market, willing buyers and sellers reach bilateral agreements on various terms of sale. Buyers care about the type of power, the term of the contract, whether costs are front- or back-loaded, delivery points, and many other factors. Many well-functioning markets include a central clearing exchange as well, and those can be very beneficial for market transparency and efficiency, but that exchange is used as a residual market for trading shortages and surpluses held by market participants. Many utilities, particularly public power interests, have made it quite clear that they like their bilateral contracting ability and will hold out if possible from any RTO that removes this ability. This is also important for the clean energy transition because wind and solar generation is almost always financed through long term bilateral agreements. Long-term PPAs reduce the financing costs that are passed on to consumers. RTOs in the Northeast should begin by expanding self-supply options that have recently become available.

RTO Distractions Hinder Needed Improvements

Ridding RTOs of capacity obligation duties would remove most of their stakeholder fights. The subjectivity of their rules and the amount of money at stake causes extensive argument and litigation. RTO Committees have become a forum for regulatory policy which they are not designed to do.¹⁶ Renewable energy, demand response, and storage resources have recently been partially excluded from certain capacity markets sending those interests and their supporters to court.¹⁷

There is much to do. Regulators, RTOs, and their stakeholders can more fruitfully work on grid operations changes needed to support the clean energy transition. “Flexibility,” or ramping service is something that most grid operators around the world need more of as low-cost variable wind and solar penetrates the market. CAISO and MISO introduced explicit flexibility products and PJM is considering a similar load following service. ERCOT is continuing to gain support for improving the design and co-optimization of its energy and reserves markets. Many systems could benefit by re-defining contingency reserves to cover situations such as the loss of a fleet due to a common weather event—something that likely was not even imagined decades ago when ancillary services were defined. Requirements and payments for voltage and frequency support must evolve to procure sufficient resources at the right times and places efficiently. Any services needed for grid operation should be defined based on technical need, and all supply and demand resources should be allowed to bid to provide it in a resource-

¹⁶ Christina Simeone, PJM Governance: Can Reforms Improve Outcomes?, May 19, 2017.

<http://kleinmanenergy.upenn.edu/paper/pjm-governance>

¹⁷ https://www.nrdc.org/sites/default/files/petition_for_review-_natural_resources_defense_council_sierra_club_and_union_of_concerned_scientists_v._federal_energy_regulatory_commission.pdf

neutral manner, something that is easier said than done. RTOs can also actually “manage congestion” rather than merely account for it in dispatch, through implementing Dynamic Line Ratings, power flow control, and topology optimization.¹⁸

On the other core RTO function of transmission planning, greater RTO attention is needed there as well. Other than CAISO, generator interconnection processes operate too independently from the transmission planning process. A greater connection is needed where pro-active planning to resource development areas is incorporated. Another missing element is inter-regional transmission planning. Almost no lines have resulted from the attempts in Order No. 1000 requiring inter-regional planning. Finally, DOE, NERC, FERC, and RTOs should continue incorporating resilience into transmission planning, to harden systems against severe weather and physical and cyber-attack, and develop plans for speedy recovery.

A Positive Agenda for RTOs and FERC

By preserving regulatory certainty through the traditional state-federal jurisdictional division as updated by recent court decisions, placing appropriate responsibility on load-serving entities to do their own planning and procurement, and keeping RTOs focused on their two core functions, federal regulators can promote greater RTO participation and needed improvements to current RTO planning and operations. This would result in a more reliable, resilient, efficient system that supports the energy transition.

¹⁸ <http://issues.nawindpower.com/article/using-grid-weve-got>