De-Carbonization: An End to RTO Mission Creep?

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John P. Coyle
Duncan & Allen
1730 Rhode Island Avenue, N.W.
Suite 700
Washington, D.C. 20036
(202) 289-8400
jpc@duncanallen.com

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Section 201(b)(1) of the Federal Power Act (16 U.S.C. § 824(b)(1)) was meant to draw a "bright line, easily discerned" between federal regulation of wholesale transactions and transmission, and state regulation of generation and distribution.[1] That line has been blurred and moved by the centralized procurement, single-buyer, all-load-pays model adopted by ISOs and RTOs as "markets."[2] Nonetheless, the jurisdictional line that Congress drew when it enacted the Federal Power Act retains both vitality and importance for the electric utility industry. It is unlikely that Congress in 1935 envisioned the context for the current tensions between the wholesale and transmission side of the "bright line" and the retail and distribution side of that line. The tension created by Section 201(b)(1) in a simmering conflict between the centralized capacity auction construct promoted by the Federal Energy Regulatory Commission ("FERC") and the inability of the undifferentiated "resource adequacy" capacity product procured through that construct to meet State needs in the electric generation arena will ultimately influence the future direction of large segments of the industry.

The absence of a federal statutory policy on de-carbonization has led the States to take increasingly active and diverse roles in promoting the de-carbonization of various economic sectors – with the utility generation sector being far easier to inventory and regulate than, for example, the transportation or home heating sectors. The Regional Greenhouse Gas Initiative ("RGGI"), currently a consortium of nine Northeastern States, instituted a regional cap-and-trade program for carbon emissions from electric generation in 2003, and recently announced a proposal to reduce their regional carbon dioxide emissions cap beginning in 2020.[3] Massachusetts has emulated California's effort to legislate global warming

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1 *FPC v. So. Cal. Edison Co.*, 376 U.S. 205, 215-216 (1964).

2 *See Hughes v. Talen Energy Mktg., LLC*, ___U.S. ___, 136 S. Ct. 1288, 1299 (2016) (state public utility commission directing retail distribution companies to enter into an agreement with a power plant developer to hedge their costs in an RTO capacity market is preempted by the Federal Power Act "because it disregards an interstate wholesale rate required by FERC"); *FERC v. Elec. Pwr. Supply Assn.*, 577 U.S. ___, 136 S. Ct. 760, 774 (2016) (decision of a retail customer not to consume electricity can be subject to FERC jurisdiction because it can "affect" rates in RTO-administered markets).

3 The current RGGI participant States are Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island and Vermont. Each participating State is a signatory to a memorandum of understanding, pursuant to which each State has enacted parallel legislation and regulations limiting electric generation carbon dioxide emissions. *See* Note, *The Compact Clause and the Regional Greenhouse Gas Initiative*, 120 HARV. L. REV. 1958 (2007).

solutions,[4] and Massachusetts and New York each have Clean Energy Standards mandating specific levels of reduction in carbon emissions from generating resources by specific dates.[5] Numerous States have adopted renewable portfolio standards and mechanisms for trading in the environmental attributes of non-carbon emitting generation, which have become common features of energy trading.

At the same time, many in ISO and RTO management, with the support of the Federal Energy Regulatory Commission ("FERC"), have come to view the centralized capacity auction construct as critical to promoting the orderly and economically efficient entry and exit of generation within the RTO footprint.[6] In particular, the deployment of administratively-determined bid floors – called the Minimum Offer Price Rule or "MOPR" in PJM, and the Offer Review Trigger Price or "ORTP" in New England – to support the auction prices for gas-fired generation, has assumed an importance in the eyes of ISOs, RTOs, merchant generators and FERC[7] that may need to be re-visited as States reassess their own energy needs and futures.

Some ISO/RTO management view these administratively-set bid floor price supports for gas-fired generation as integral to the future of RTO markets, even under a de-carbonization scenario. As ISO-NE CEO Gordon van Welie phrased the approach back in 2016 (ISO-NE Regional Energy Outlook 2016 at 4 (emphasis added)):

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[4] California originally enacted its Global Warming Solutions Act, AB 32 (codified at Cal. Health & Safety Code §§ 38500-38599), in 2006. Massachusetts enacted its Global Warming Solutions Act (Mass. Stats. 2008 c. 298, *codified at* G.L. c. 21N §§ 1-9).

[5] *See* Case No. 15-E-0302 – *Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard*, Order Adopting a Clean Energy Standard (N.Y. Pub. Svc. Comm'n August 1, 2016); 310 C.M.R. §§ 7.74 (establishing a carbon dioxide allowance trading program for electricity generation); 7.75 (establishing a minimum percentage of energy sales by regulated utilities and competitive suppliers that must be procured from non-carbon emitting resources).

[6] "The markets, particularly the centralized capacity markets in the three regions we are talking about today and tomorrow are designed to signal new entry and exit through a transparent price signal rather than through integrated resource planning used in the vertically integrated model." FERC Docket No. AD17-11-000 – *State Policies and Wholesale Markets Operated by ISO New England, Inc., New York Independent System Operator, Inc. and PJM Interconnection, L.L.C* (May 1, 2017 Transcript at 10) (then-Chair LaFleur).

[7] As then-Commissioner Honorable remarked at the May 1, 2017 Technical Conference, ". . . it is often the point of friction between state policies and wholesale markets that we regulate but I also believe MOPR is naturally a part of this conversation and I hope that we can talk more about how this tool and other mitigation tools may be employed going forward." FERC Docket No. AD17-11-000, May 1 Transcript at 21-22.

> Renewables have low to no fuel costs and receive policy-based financial incentives outside the ISO markets, enabling them to profitably produce electricity when prices are below their actual operating costs. Therefore, major additions of renewable energy should be expected to further reduce already low annual energy market revenues for traditional generating resources. *To remain viable, conventional plants and the new technologies needed to complete the transition to carbon-free electricity production will become more dependent on capacity market revenues.* Appropriate price formation in the capacity market becomes essential to maintaining adequate capital investment for all types of competitive resources and to achieving a graceful transition from high- to low-carbon emitting energy resources.

At the same time, States (and their political subdivisions) have little reason to place confidence in FERC or the ISOs and RTOs that strive to implement its policies. From the capacity "market reforms" of 2011-2012[8] through FERC's arguments in support of pre-emption of State strategies for dealing with capacity "market" outcomes in the litigation that became *Hughes v. Talen Energy Mktg.*, FERC has placed its thumb squarely on the side of the scales favoring RTO mission expansion and the interests of merchant generation, rather than protecting consumers.[9]

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[8] *See, e.g., New Eng. Pwr. Gen. Assn. v. FERC*, 757 F.3d 283, 295 (D.C. Cir. 2014) ("FERC made the judgment that encouraging renewable energies was less important than allowing such out-of-market entrants to depress capacity prices. Such is FERC's prerogative. That it is unfortunate does not make it arbitrary"); *N.J. Bd. of Pub. Utils. v. FERC*, 744 F.3d 74, 102 (3rd Cir. 2014) ("It is more than mildly disturbing that, by endorsing a state-mandated exemption with perfectly predictable incentives, FERC would allow sovereign states and private parties to be drawn into making complex and costly investments, only to later pull the rug out from under those who were persuaded that the exemption was somehow real. That FERC has done so based on little more than the claim that the agency had an 'ah ha' moment when foreseeable outcomes approached fruition only makes matters worse. Our power to rein in bureaucratic behavior like this is, however, constrained").

[9] By 2012, the FERC had eliminated capacity self-supply rights for which New England public power utilities had negotiated in a 2006 settlement. *See ISO New England, Inc.*, 135 FERC ¶ 61,029 (2011) at P 164 ("bedrock principle"), 230-232 (jettisoning self-supply), *order on reh'g, ISO New England, Inc.*, 138 FERC ¶ 61,027 at PP 74-75 (2012), *review den. sub nom. New Eng. Pwr. Gen. Assn. v. FERC*, 757 F.3d 283 (D.C. Cir. 2014). As a result of ISO-NE's February 2013 Forward Capacity Auction ("FCA 7"), a 674 MW combined cycle plant that has yet to enter commercial operation in 2017 nonetheless manages to impose a $14.99 per kW-month capacity charge on consumers in the Boston/Northeastern Massachusetts region (*Footprint Salem Harbor Development LP*, 149 FERC ¶ 61,211 (2014)). In ISO-NE's February 2014 FCA 8,

This background in turn frames the question whether and to what extent efforts by ISOs and RTOs to assimilate state-directed procurements of renewable resources into their own administrative-price-floor-driven centralized auction, single-buyer, all-load-pays model can be undertaken consistently with the functional division of jurisdiction established in Section 201(b)(1) of the Federal Power Act. The industry has already moved both far and quickly past the issues decided by the Supreme Court's 2016 decisions in *FERC v. Elec. Pwr. Supply Assn.* and *Hughes v. Talen Energy Mktg., LLC*. The scholarly literature on this subject to date generally concludes that the assimilation will be easier than is likely to be the case, at least in the current and foreseeable future legal and federal policy landscape.[10]

Current Status of De-Carbonization and RTO Assimilation Initiatives

The degree of potential conflict between State de-carbonization initiatives and the centralized auction, single-buyer, all-load-pays model for regional resource adequacy varies widely by region. Three broad generalizations inform the current landscape. First, single state ISOs (California and New York) generally work very hard to harmonize their wholesale bid-based pricing constructs with State policy, and present no obvious conflict because State policy is a significant driver of the shape of the wholesale "marketplace." Similar observations could probably be made about ERCOT, which represents a unique case given the very limited presence of federal regulation in ERCOT's wholesale trading constructs.

Second, RTOs that either do not have a resource adequacy construct yet (the Southwest Power Pool), or that employ a "residual" capacity auction construct (the Midcontinent Independent System Operator) also do not present any conflict at this time between federal energy "market" dogma and State de-carbonization initiatives (where those initiatives exist within the relevant regions). The prevalence of vertical integration within these RTOs may also help to explain the wide deference afforded to State policies.

FERC was unable to must a majority to support conducting an evidentiary hearing on allegations of market manipulation related to the sudden retirement of a 1500 MW coal plant causing FCA 8 not to clear, which led in turn to even higher region-wide capacity charges ($7.035 per kW-month) through the regulatory stalemate found unreviewable in *Public Citizen v. FERC*, 839 F.3d 1165, 1174 (D.C. Cir. 2017).

[10] See, e.g., A. Peskoe, *Easing Jurisdictional Tensions by Integrating Public Policy in Wholesale Electricity Markets*, 38 ENERGY L.J. 1 (2017); J. Gundlach and R. Webb, *Carbon Pricing in New York ISO Markets: Federal and State Issues* (Columbia Law School, Sabin Center for Climate Change Law) (2017); J. Eisen, *FERC's Expansive Authority to Transform the Electric Grid*, 49 U.C. DAVIS L. REV. 1783 (2016); J. Moot, *Subsidies, Climate Change, Electric Markets and the FERC*, 35 ENERGY L.J. 345 (2014).

Third, multi-state RTOs with entrenched mandatory centralized capacity auctions and divergent State de-carbonization policies within their footprints (ISO New England and the PJM Interconnection) face potentially substantial conflicts in attempting to make the centralized auction construct assimilate State de-carbonization policies. In these RTOs, the success of the merchant generation sector in promoting both mandatory participation of load in the centralized capacity auction construct and the use of bid floors to support higher auction pricing for gas-fired generating capacity presents real obstacles to the implementation of State de-carbonization policies. In these RTOs, efforts to assimilate State de-carbonization policies into the centralized capacity auction construct face substantial challenges, both in legal and practical dimensions.

Single-State ISOs

There is no obvious conflict in single-state ISOs (New York and California), where State interests and ISO interests align more or less as a matter of necessity. The New York ISO, with the encouragement of New York's Department of Public Service, was the original proponent of the current centralized capacity auction construct for resource adequacy.[11] The New York ISO is currently the only ISO actively engaged in developing a carbon pricing construct for central dispatch, an effort that could only succeed with significant encouragement from State government.

California has never adopted centralized capacity auction construct. Instead, California manages its resource adequacy as a planning and direct resource acquisition obligation imposed on load-serving entities under the supervision of the California Public Utilities Commission.[12] As a result, California's de-carbonization policies tend to drive the shape of the California ISO's wholesale pricing and trading mechanisms, rather than the other way around.

The complicating factor for California is likely to be the California ISO's Energy Imbalance Market ("EIM"), viewed by some cynics in the industry as either a Trojan horse for a West-wide RTO or an effort to externalize the increasing costs of managing the intermittency associated with California's policy-driven increases in renewable, non-carbon emitting, power supply. FERC's original approval of the EIM incorporation of pricing mechanisms for compliance with California greenhouse gas regulation turned on the fact that sales into Balancing Authority Areas ("BAAs") subject to cap-and-trade regulation by the California Air Resources Board were

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[11] *New York Ind. Sys. Op., Inc.*, 103 FERC ¶ 61,201, *reh'g denied*, 105 FERC ¶ 61,108 (2003), *rev. den. sub nom. Electric Consumers Resource Council v. FERC*, 407 F.3d 1232 (D.C. Cir. 2005).

[12] *See, e.g.,* D.15-06-063, R.14-10-010 *Order Instituting Rulemaking to Oversee Resource Adequacy Program, etc.*, 2015 Cal. PUC LEXIS 368 (June 25, 2015); Cal. Pub. Utils. Code §§ 380 *et seq.*

voluntary, and that EIM sellers could choose not to participate in sales into the CAISO BAA or other California BAAs in order to avoid these costs.[13] As the expanded EIM pursues efforts to become a single Balancing Authority – an initiative that may face more significant political hurdles than those discussed here – insulating EIM participants from the costs of compliance with California greenhouse gas regulation will become a substantially more complex undertaking than the "opt-out" feature of the original CAISO EIM tariff provisions.

RTOs West of PJM

There are also no obvious or imminent conflicts between state-directed resource procurement and ISO or RTO capacity auction constructs in the Midwest west of PJM – the Midcontinent Independent System Operator ("MISO")[14] and the Southwest Power Pool ("SPP").[15] In these regions, vertical integration remains the norm, and inroads made by renewable generation – primarily wind – against coal-fired generation are driven predominantly by economics.

MISO operates a centralized capacity auction, but MISO's auction is both voluntary and residual.[16] The auction wraps around a regional resource adequacy construct in which load-serving entities can satisfy their regional resource adequacy obligations in any one (or a combination of) four ways: (1) use a Fixed Resource Adequacy Plan which demonstrates that it has designated capacity to meet all or a portion of its Planning Reserve Margin Requirement; (2) self-schedule capacity and bid it into the Auction at a price of zero; (3) purchase required capacity in MISO's voluntary Auction; and/or (4) pay a Capacity Deficiency Charge of about 2.75 times the administratively determined Cost of New Entry ("CONE") for shortfalls in securing its share of capacity required to satisfy the regional resource adequacy requirement.[17] Price excursions apparently attributable to market manipulation in

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13 *California Ind. Sys. Op. Corp.*, 147 FERC ¶ 61,231 at PP 228-240, *order on reh'g*, 149 FERC ¶ 61,058 at PP 56-59 (2014).

14 The MISO footprint extends across all or parts of Arkansas, Illinois, Indiana, Iowa, Kentucky, Louisiana, Manitoba, Michigan, Minnesota, Mississippi, Missouri, Montana, North Dakota, South Dakota, Texas (outside ERCOT) and Wisconsin.

15 The SPP footprint extends across all or parts of Arkansas, Iowa, Kansas, Missouri, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota and Texas (outside ERCOT).

16 *Midcontinent Ind. Sys. Op., Inc.*, 153 FERC ¶ 61,229 at PP 35-52 (2015)

17 *Public Citizen, et al. v. Midcontinent Ind. Sys. Op., Inc.*, 153 FERC ¶ 61,385 at P 5 (2015), *citing* MISO, FERC Electric Tariff, Module E-1, § 69A (30.0.0).

the April 2015 MISO capacity auction for the 2015/2016[18] are sufficiently fresh in memory as to discourage State reliance on the MISO centralized auction mechanism as a vehicle for implementation of State policy. In addition, a substantial diversity among State de-carbonization policies within the MISO footprint also makes State efforts to integrate de-carbonization initiatives with the MISO capacity auction unlikely.[19]

The SPP is developing, but does not yet have, a FERC-approved resource adequacy construct.[20] Given the prevalence of vertical integration and extensive investments in coal-fired generation within the SPP footprint, it appears unlikely that the SPP would have a centralized capacity auction in the near future and equally unlikely that any centralized auction the SPP might adopt would be mandatory. Given a wide divergence among State de-carbonization policies throughout the SPP footprint, it is even less likely that conflicts between State policies and any SPP resource adequacy requirement will emerge in the foreseeable future.

The Eastern RTOs

Profound conflicts between State and FERC jurisdiction are emerging in both ISO-NE's Forward Capacity Market[21] and PJM's Reliability Pricing Model.[22] Both of these centralized capacity auction constructs are the products of FERC-brokered settlements approved in 2006. Designed in those settlements as "residual" mechanisms for the supply of capacity not procured bilaterally by Load Serving

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18 *Public Citizen, Inc. v. Midcontinent Ind. Sys. Op., Inc.*, 153 FERC ¶ 61,385 (2015), *order on reh'g*, 154 FERC ¶ 61,224 (2016).

19 Indeed, Xcel Energy subsidiary Northern States Power recently proposed to split its century-old operating company, literally along State lines, because of differences in State generation resource acquisition and support policies between Minnesota (which has a relatively ambitious de-carbonization policy for the generation sector) and North Dakota (which has been more interested in insulating its retail customers from the cost impacts of Minnesota's resource choices). *See* N. Dakota PSC Case Nos. PU-12-813 *et al. – In the Matter of Northern States Power Co. Jurisdictional Cost Allocation Matters* (Testimony of Aakash Chandarana for Xcel Energy, filed July 15, 2017).

20 In its August 29, 2017 order on tariff filing in *Southwest Power Pool*, 160 FERC ¶ 61,033 at P 27 (2017), FERC rejected the SPP's resource adequacy proposal without prejudice to a resubmission addressing three observed deficiencies.

21 ISO New England, Inc. is the RTO for the six New England States: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont.

22 The PJM Interconnection, LLC is the RTO for all or parts of Delaware, the District of Columbia, Illinois, Indiana, Kentucky, Maryland, Michigan, North Carolina, New Jersey, Ohio, Pennsylvania, Tennessee and Virginia.

Entities, both the ISO-NE and the PJM centralized auction constructs transitioned to mandatory arrangements between 2010 and 2012, when FERC and the RTOs essentially reneged on the basics of the 2006 settlements in order to support higher capacity revenues for merchant generation.[23] RTO executives in both regions have stated intentions to submit "interim" capacity pricing proposals to FERC by year-end 2017, in an effort to "mitigate" the impacts of anticipated state-directed renewables procurements that are expected to enter commercial operation over the next eight to nine years. Both ISO-NE and PJM appear to intend to propose forms of "two-tiered pricing," intended to filter out the purported impact of State renewables "subsidies" on centralized auction price formation. ISO-NE's version, called "Competitive Auctions with Sponsored Policy Resources" or "CASPR" (pronounced "Casper"), was formally unveiled in a discussion paper issued by ISO-NE on April 24, 2017[24] -- just in time for FERC's Technical Conference in Docket No. AD17-11-000 – *State Policies and Wholesale Markets Operated by ISO New England, Inc., New York Independent System Operator, Inc. and PJM Interconnection, L.L.C.* held on May 1-2, 2017. PJM's version does not appear to have a name yet, but was initially unveiled in August 2016 at PJM's *Grid 2020* Conference in a whitepaper entitled *Potential Alternative Approach to Expanding the Minimum Offer Price Rule to Existing Resources.*

In response to both of these proposals, merchant generator interests in both ISO-NE and PJM have proposed expanding the reach of the bid floor mechanisms to existing generation, which currently enters the centralized auction construct as a price taker in an auction in which new entry (or, in PJM's case, new entry by gas-fired generation resources) is supposed to set the clearing price.[25] These proposals for expansion of the price floor/price support construct are premised on claims of "price suppression" that owe more to reductive sloganeering than to reasoned economic or legal analysis. These shortcomings do not mean that efforts to expand

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[23] *See* cases cited at notes 8 and 9, *supra.* For an informative and insightful discussion of the shift of the PJM Reliability Pricing Model from a residual construct to a mandatory one, and the diseconomies that have followed from that transition, see James Wilson, *"Missing Money" Revisited: Evolution of PJM's Capacity Construct* (American Public Power Association, September 2016).

[24] *Competitive Auctions with Subsidized Policy Resources* (ISO New England, April 24, 2017).

[25] *See* Motion to Amend, and Amendment to, Complaint and Request for Expedited Action on Amended Complaint in Docket No. EL16-49-000 – *Calpine Corp., et al. v. PJM Interconnection, L.L.C.* (January 9, 2017) (requesting that FERC extend PJM Minimum Offer Price Rule to existing generation in response Illinois General Assembly's Enactment of its Future Energy Jobs Act, 20 Ill. Comp. Stat. 3855 (2016), which provides for the procurement by the Illinois Power Agency of zero emission credits ("ZECs") from non-carbon emitting generation resources, and particularly nuclear generating facilities).

the reach of the price floor construct will not gain traction at some point in the regulatory process. However, because exclusion from the centralized capacity construct does not preclude renewable resources procured by State direction from entering other centralized electricity product auctions (for energy or ancillary services), expansion of the price floor construct may only operate to slow the disruptive effects of State-directed procurement on current "market" constructs.

De-Carbonization and RTO Mission Creep

State-directed procurements of renewable resources respond to a limitation in the centralized capacity auction construct adopted in the Eastern RTOs.[26] By definition, those constructs procure a single, undifferentiated capacity "product" in the name of ensuring regional resource adequacy. As a result of that limitation, the centralized auction constructs in place in the Eastern RTOs are very likely incapable of adapting to – let alone assimilating implementation of – State-mandated de-carbonization of each State's generation sector. The arguments that have been asserted in support of efforts to persuade the States toward assimilation of their de-carbonization initiatives into the current centralized auction construct tend not to hold up under critical scrutiny. More importantly, both economics and limitations on FERC's jurisdiction appear likely to make efforts to leverage the MOPR price floor into a broader price support for fossil-fueled generation ultimately self-defeating. This is true of both carbon pricing and two-tiered pricing, although for different reasons as to each. A sounder course would be to promote a more market-driven approach to resource adequacy, in which responsibility for procurement resides directly with the load-serving entities required to bear the costs of that procurement.

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[26] The expression "centralized capacity market" appears to have originated in the efforts of consultants to Regional Transmission Organizations ("RTOs") to implement a capacity construct of greater complexity than the Long-Term Resource Adequacy construct proposed in FERC's subsequently abandoned "Standard Market Design" initiative. *See New York Independent System Operator*, 103 FERC ¶ 61,201 at P 82 (discussing the "the multi-ISO Resource Adequacy Markets Working Group (RAM WG), particularly the development of a Centralized Capacity Market (CCM)"), *reh'g denied*, 105 FERC ¶ 61,108 (2003), *review denied sub nom. Electricity Consumers Resource Council v. FERC*, 407 F.3d 1232 (D.C. Cir. 2005); *Remedying Undue Discrimination Through Open Access Transmission Service and Standard Electricity Market Design: Notice of Proposed Rulemaking*, FERC Stats. & Regs. ¶ 32,563 (2002), *notice terminating proceeding*, 112 FERC ¶ 61,073 at P 7 (2005) (concluding that "the SMD NOPR has been overtaken by events"). By early 2010, FERC had adopted the expression as its own. *Integration of Variable Energy Resources: Notice of Inquiry*, 130 FERC ¶ 61,053 at P 37 & n. 29 (2010) ("Centralized capacity markets exist in ISO New England, Inc., New York Independent System Operator, Inc., and PJM Interconnection LLC. California Independent System Operator Corp. and Midwest Independent Transmission System Operator, Inc. rely primarily on bilateral resource adequacy programs to procure capacity services").

In this way, the constant cadence of improvisation that has marked the history of the centralized auction construct can be replaced by more flexible strategies for meeting consumer requirements at the lowest possible cost.

Misconceptions

Before examining the legal deficiencies of arguments for assimilation of State renewables procurement, it may be useful to examine some practical issues with arguments that State-directed procurements represent some kind of existential threat to RTO centralized auction constructs. Claims that State-directed renewables procurement will disrupt the function that FERC, RTOs and merchant generators attribute to the centralized capacity auction construct – the promotion of the orderly and (economically) efficient entry and exit of generation from the resource mix within an RTO footprint – may well be overstated, not to say hyperbolic. The "threat" posed to existing centralized capacity auction constructs by state de-carbonization initiatives in the utility sector, and particularly by state-directed procurement of renewables, is likely overstated for at least three reasons.

First and most obviously, the intermittent output of solar, wind and small hydroelectric resources does not permit an informative one-for-one comparison of renewables nameplate capacity ratings to those of fossil-fueled generation. The impact of intermittency reduces the double-payment for capacity problem considerably, by reducing the capacity value attributed to intermittent resources. The critical problem, from the perspective of the eastern RTOs, is that the zero fuel cost of renewable resources upsets the economic foundations of their centralized capacity auction constructs.

Second, the intermittency of renewable generation also allows the "performance" penalties developed and implemented by ISO-NE and PJM to operate as barriers to the entry of renewable resources into the centralized capacity auction construct.[27] These performance penalty structures create significant and largely

[27] The FERC approved ISO-NE's Pay-for-Performance program in *ISO New England, Inc.*, 147 FERC ¶ 61,172 (2014), *reh'g pending*. The ISO-NE program will impose a penalty for failure of generating resources acquiring a Capacity Supply Obligation in ISO-NE's Forward Capacity Auction to produce Energy when called on to do so during a Capacity Shortage Event. The penalty will phase in from $ 2,000/MWh for the period June 1, 2018 through May 31, 2021; $ 3,500/MWh for the period June 1, 2021 through May 31, 2024; and $ 5,455/MWh for the open-ended period starting June 1, 2024. The FERC approved PJM's "Capacity Performance" program in *PJM Interconnection, L.L.C.*, 151 FERC ¶ 61,208 (2015), *order on reh'g*, 155 FERC ¶ 61,157 (2016), *rev. den. sub nom. Adv. Energy Mgmt. All. v. FERC*, 860 F.3d 656 (D.C. Cir. 2017). The PJM program uses a penalty mechanism similar to (although less expensive than) ISO-NE's, penalizing a Capacity Performance Resource at its yearly Net CONE, and a Base Capacity Resource at its yearly resource clearing price, in each case divided by 30 (a proxy for the number of Performance Assessment Hours in a

unpredictable risks for intermittent resources that may choose to participate in either of the centralized capacity auctions. Proponents of the expansion of anti-"price suppression" measures in centralized capacity auctions in ISO-NE and PJM have yet to produce a plausible explanation of how intermittent resources acquired through State-directed procurement would mitigate this risk.

Third, the prevalence of "sloped demand curves" in all centralized capacity auction constructs requires load to pay for more capacity than is necessary to meet regional resource adequacy requirements. This aspect of the existing centralized capacity auction construct tends to create and sustain surplus supply, which in turn already "suppresses" price to some extent. In addition, the imposition of a sloped demand curve – essentially, an administratively determined schedule of prices keyed to the intersection of regional (or zonal) demand and excess supply – significantly limits the ability of low-cost entry to affect price.

In summary, the economic leverage point for ISOs, RTOs and merchant generator interests for somehow "federalizing" State-directed renewables procurement by distribution utilities seems to rest on overstatement. Application of current bid floor elements of the centralized auction price support structure for merchant generation could, in principle, be applied to make consumers pay twice – once for the fossil-fueled resources that "clear" the centralized capacity auction (as constrained by the bid floor) and a second time for capacity from renewables procured at State direction. However, the performance penalty feature recently added to both the ISO-NE and the PJM centralized auction constructs will likely operate as a significant barrier to the entry of renewable resources into the auction process in the first place. This, in turn, may make it more likely that the price impacts of renewable resources procured at State direction will be felt in the Energy markets in the Eastern RTOs. What those price effects may be remains largely unexamined, probably due to the assumption that resources with a zero fuel cost will consistently bid at or near zero in a daily, hourly and sub-hourly Energy auctions. Such an outcome seems unlikely, particularly in light of anticipated cost of some of these resources (*e.g.*, offshore wind), and the fact that pricing at sub-hourly intervals was expressly designed to allow intermittent resources to compete more effectively.

Limitations on FERC's Authority to Regulate De-Carbonization

Efforts of multi-state RTOs to assimilate State-driven de-carbonization initiatives through further morphing of the centralized capacity auction construct are not likely to succeed, at least not without the active concurrence of all affected States.

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year) for each failure to product energy when called upon during a Performance Assessment Hour. The objective of the penalty is essentially to wipe out Base Residual Auction revenues for a Capacity Resource that fails to produce during all Performance Assessment Hours in a given year. Then-Chair Norman Bay launched a pointed and apt critique of the PJM program in dissent (155 FERC ¶ 61,157 at 62,124-62,128).

This prognosis is based on both the broad range of State activities that are both permitted, and exempted from federal oversight, by FPA Section 201(b)(1), and the substantial limitations on FERC's regulatory authority with respect to de-carbonization.

State Scope under FPA Section 201(b)(1)

The federal pre-emption claim on which merchant generators prevailed in overturning Maryland's Contract for Differences program for incentivizing construction of new generation through a hedging arrangement in *Hughes v. Talen Energy Mktg., LLC*, ___ U.S. ___, 136 S. Ct. 1288, 194 L.Ed.2d 414 (2016) has limited scope in two respects. First, the analysis of standing to assert claims that federal law pre-empts state laws explained in the Court's 2015 decision in *Armstrong v. Exceptional Child Ctr., Inc.*, ___ U.S. ___, 135 S. Ct. 1378, 191 L.Ed.2d 471 (2015) will generally (but not inevitably) preclude pre-emption claims based on the Federal Power Act by private parties. *Armstrong* reasons that there is no private right of action to enforce the Supremacy Clause of the Constitution.[28] *Armstrong* further holds that federal pre-emption is not enforceable by private parties through injunctive relief where Congress has implicitly foreclosed equitable relief.[29] The Court's pre-emption decision in *Hughes* deliberately side-stepped the standing question to reach the merits of the pre-emption claim in that case.[30] Decisions following *Hughes* have paid more attention to the standing issue. Second, *Hughes* was by its own terms a "limited" ruling.[31] Federal courts that have considered pre-emption claims in the energy field have tended to take the Court at its word, and have construed *Hughes* (as the Supreme Court intended) as a "limited" ruling.[32]

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[28] *Armstrong*, 135 S. Ct. at 1383 ("It is . . . apparent that the Supremacy Clause is not the 'source of any federal rights,' . . . and certainly does not create a cause of action. It instructs courts what to do when state and federal law clash, but is silent regarding who may enforce federal laws in court, and in what circumstances they may do so") (internal citations omitted).

[29] *Armstrong*, 135 S. Ct. at 1385, *citing Verizon Md. Inc.* v. *Public Serv. Comm'n of Md.*, 535 U.S. 635, 647 (2002).

[30] *Hughes*, 136 S. Ct. at 1296 n. 6 ("Because neither CPV nor Maryland has challenged whether plaintiffs may seek declaratory relief under the Supremacy Clause, the Court assumes without deciding that they may").

[31] *Hughes*, 136 S. Ct. at 1299 ("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'")

[32] *Coalition for Competitive Electricity v. Zibelman*, ___ F. Supp.3d ____, 2017 U.S. Dist. LEXIS 116140 at *20-29 (S.D.N.Y. No. 16-cv-8164 (VEC) July 25, 2017) (upholding the New York Public Service Commission's implementation of "Zero Emissions

Ongoing State-level de-carbonization initiatives for electric utility industry are all firmly rooted in authority allocated to the States under FPA 201(b)(1), and are thus subject to State (rather than federal) control. Cap and trade programs – such as the nine Northeastern States' Regional Greenhouse Gas Initiative or the California Air Resources Board's Cap-and-Trade Program – operate directly on electric generation activities, which are exempted from federal jurisdiction by Section 201(b)(1) of the Federal Power Act.

Regulations requiring the acquisition and trading of Environmental Attributes of generation – renewable energy credits ("RECs") or zero emissions credits ("ZECs") – are similarly within the sphere allocated to the States by FPA Section 201(b)(1). More specifically, these are property rights that are created by State law, and are not subject to federal rate regulation.[33]

Finally, State-directed procurement of renewable resources by State-regulated distribution utilities have also withstood federal pre-emption claims, again based on the "limited" nature of the Supreme Court's pre-emption holding in *Hughes*.[34]

In summary, efforts by merchant generators to expand the pre-emption holding in *Hughes v. Talen Energy Mktg.* into a broad mandate for FERC regulation of State efforts to de-carbonize the electric generation sector have proven remarkably unsuccessful. At least in the early innings, several soundly reasoned decisions have rebuffed efforts to expand *Hughes* and have instead tended to confine its reach to the situation it sought to address: "the contract at issue here differs from traditional bilateral contracts in this significant respect: The contract for differences does not

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Credits" purchase requirement under its Clean Energy Standard based on the lack of relationship between the New York ZEC program and actions to be taken by participating generators in FERC-regulated wholesale markets); *Village of Old Mill Creek v. Star*, ___ F. Supp.3d ____, 2017 U.S. Dist. LEXIS 109368 at *39-40 (N.D. Ill. No. 17 CV 1163 (July 14, 2017) ("Read together, *EPSA* and *Hughes* stand for the proposition that preemption applies whenever a tether to wholesale rates is indistinguishable from a direct effect on wholesale rates. The qualifier "direct" is important; influencing the market by subsidizing a participant, without subsidizing the actual wholesale transaction, is indirect and not preempted. Since a generator can receive ZECs for producing electricity and the credits are not directly conditioned on clearing wholesale auctions, ZEC payments do not suffer from the "fatal defect" in *Hughes, see* 136 S. Ct. at 1299, nor do they alter the amount of money that is exchanged for wholesale electricity").

[33] *Wheelabrator Lisbon, Inc. v. Conn. Dept. of Pub. Util. Control*, 531 F.3d 183, 186 (2d Cir. 2008); *American Ref-Fuel*, 105 FERC ¶ 61,004 at 4 (2003) *reh'g denied*, 107 FERC ¶ 61,016 (2004), *dismissed for lack of jurisdiction sub nom. Xcel Energy Services v. FERC*, 407 F.3d 1242 (D.C. Cir. 2005).

[34] *Allco Finance, Ltd. v. Klee*, 861 F.3d 82, 97-102 (2nd Cir. 2017).

transfer ownership of capacity from one party to another outside the auction." *Hughes*, 136 S. Ct. at 1299.

Limitations on FERC Authority

The elements that have been proposed to be incorporated into the Eastern RTOs centralized capacity auction constructs in order to attempt to assimilate State de-carbonization initiatives while preserving the price support function of current bid floor mechanisms have substantial legal infirmities. In the case of carbon pricing, the infirmity traces to the fact that there is no federal de-carbonization policy incorporated in the Federal Power Act. In the case of two-tiered pricing in all of its various forms, the animating principle of combatting State "subsidization" of renewable resources is undue discrimination. All generation is subsidized by various means, and two-tiered pricing simply prefers one form of subsidization over another, without any discernable relationship to the level of service or consumer benefit obtained as a result of the discrimination.

Carbon Pricing

Carbon pricing is viewed in some regulatory circles as an "easy" response to State-directed procurement in an administrative sense.[35] However, for those who pay the bills, carbon pricing is empirically difficult. Consensus on the "social cost of carbon" is elusive. In addition, and as the recent DOE "baseload" study demonstrates (albeit perhaps inadvertently), low natural gas prices resulting from the "Shale Revolution" have already done much of the heavy lifting in terms of eliminating the more carbon-intensive forms of electric generation (coal and oil) from the resource mix.[36] Of course, one consequence of the economics favoring more gas-fired generation is that the "carbon price" would probably have to be set significantly in excess of the federal "social cost of carbon" level[37] to have much of an impact on carbon emissions in a system where energy pricing is driven by natural gas. This, in turn,

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35 *See, e.g.,* RTO Insider, "Lack of Carbon Pricing Distorting RTO Markets, CEOs, Ex-Regulator Say" (June 20, 2016) (reporting commentary by ISO-NE CEO Gordon van Welie, NYISO CEO Brad Jones and former FERC and Pennsylvania Public Utilities Commissioner Nora Brownell on merits of carbon pricing).

36 United States Department of Energy, *Staff Report to the Secretary on Electricity Markets and Reliability* (August 2017) at 13 ("The biggest contributor to coal and nuclear plant retirements has been the advantaged economics of natural gas-fired generation").

37 Interagency Working Group on Social Cost of Greenhouse Gases, *Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866* (August 2016). The "central estimate," reported in August 2016, of the social cost of carbon dioxide emissions for 2020 (based on a three percent discount rate) is $42 per metric ton.

exacerbates the political and economic resistance to using explicit carbon pricing in FERC-supervised, centralized auction procurements. Finally, the track record of RTOs for improvisation and complexity of price-setting mechanisms, the absence of any explicit linkage between the "cost" of carbon incorporated in electric dispatch and the construction of new renewable generation (the pay-and-pray problem) and uncertainty concerning the timing and extent to which "carbon pricing" electricity revenues would be returned to consumers under the customary paradigm for carbon pricing, all operate to create distrust of the construct.

The legal problem with carbon pricing is that there is currently no federal de-carbonization policy applicable to the electric utility industry. The concurrence of Judges Tatel and Millett of the United States Court of Appeals for the District of Columbia Circuit in that Court's August 8, 2017 Order continuing to hold the appeal of the EPA's Clean Power Plan[38] in No. 15-1363 – *West Virginia v. United States* (D.C. Cir.) summarizes the situation succinctly:

> The Supreme Court stayed the Rule under review here "pending disposition of the . . . petitions for review" in this court and, if certiorari were granted, in the Supreme Court. *West Virginia v. EPA*, 136 S. Ct. 1000 (2016). As this court has held the case in abeyance, the Supreme Court's stay now operates to postpone application of the Clean Power Plan indefinitely while the agency reconsiders and perhaps repeals the Rule. That in and of itself might not be a problem but for the fact that, in 2009, EPA promulgated an endangerment finding, which we have sustained. *Coalition for Responsible Regulation, Inc. v. EPA*, 684 F.3d 102 (D.C. Cir. 2012) (*per curiam*), *aff'd in part and rev'd in part on other grounds*, *Utility Air Regulatory Grp. v. EPA*, 134 S. Ct. 2427 (2014). That finding triggered an affirmative statutory obligation to regulate greenhouse gases. *See Massachusetts v. EPA*, 549 U.S. 497, 533 (2007) ("Under the clear terms of the Clean Air Act, EPA can avoid taking further action only if it determines that greenhouse gases do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do."). Combined with this court's abeyance, the stay has the effect of relieving EPA of its obligation to comply with that statutory duty for the indefinite future. Questions regarding the continuing scope and effect of the Supreme Court's stay, however, must be addressed to that Court.

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[38] *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, 80 Fed. Reg. 64,662 (October 23, 2015).

The absence of a federal de-carbonization policy in the generation sector, let alone one that is properly part of FERC's responsibilities under the FPA, effectively eliminates the notion of a principled basis on which FERC might authorize an RTO to implement carbon pricing. "Unsurprisingly, the Supreme Court has never indicated that the discretion of an agency setting 'just and reasonable' rates for sale of a simple, fungible product or service should, or even could, encompass considerations of environmental impact (except, of course, as the need to meet environmental requirements may affect the firm's costs)."[39]

Two-Tiered Pricing

Two-tiered pricing is a variation on the centralized capacity auction construct in which the RTO would conduct two auctions to procure generation capacity on a forward basis to cover peak load plus reserves. Under a two-tiered pricing scheme, the first auction uses bid floor limits (like PJM's Minimum Offer Price Rule ("MOPR") or New England's Offer Review Trigger Price ("ORTP")) to support pricing for gas-fired (or other fossil-fueled) generation. The second auction allows state-procured (or "subsidized") generation resources to bid unencumbered by a bid floor, with the objective of setting a separate clearing price for those resources.

The problem with two-tiered pricing is that the pervasive rhetorical characterization of particular generating resources as "subsidized" or "state-supported" is simply reductive sloganeering that attempts to mask the fact that each and all generation resources are subsidized to some extent. Singling out renewable, or carbon-free, resources for differential treatment on the basis of characterization as "subsidized" or "state supported" is undue discrimination in light of the pervasive and long-standing grant of one form or another of governmental subsidization to fossil-

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[39] *Grand Council of the Crees v. FERC*, 198 F.3d 950, 957 (D.C. Cir. 2000). *See also NAACP v. FPC*, 425 U.S. 662, 670 (1976) (holding that the Federal Power Act's use of the expression "the public interest" did not give the Federal Power Commission (now FERC) the authority to regulate employment discrimination); *Bob Jones University v. United States*, 461 U.S. 574, 611 (1983) (Powell, J., concurring) (agency authority to promote "public policy" is "limited to those areas in which the agency fairly may be said to have expertise, and this concern applies with special force when the asserted administrative power is one to determine the scope of public policy"); *Process Gas Consumers' Group v. FERC*, 930 F.2d 926, 935 (D.C. Cir. 1991) ("such common goods do not accrue to existing ratepayers qua ratepayers and thus are not properly included in a net-benefits determination"); *Pub. Utils. Comm'n of Cal. v. FERC*, 900 F.2d 269, 280-281 (D.C. Cir. 1990) ("public convenience and necessity" standard for gas pipeline certification did not require FERC to consider claims of misappropriation of intellectual property asserted by competing pipeline proponent); *Office of Consumers' Counsel v. FERC*, 655 F.2d 1132, 1148 (1980) ("public interest" in development of synthetic natural gas did not justify FERC's requiring pipeline customers to fund development of synthetic natural gas plant).

fueled resources. As then-Commissioner Bay explained in one of his final concurrences: "The fact of the matter is that all energy resources receive federal subsidies, and some resources have received subsidies for decades. Yet the MOPR is only concerned with state subsidies, not federal ones, though both can have a similar impact on markets."[40]

CONCLUDING OBSERVATIONS

In New England, apart from the shared enterprise of the Regional Greenhouse Gas Initiative, de-carbonization of power supply has been very much a State-by-State undertaking. The northern tier States (Vermont, New Hampshire and Maine) have each independently pursued their own de-carbonization initiatives (e.g., renewable portfolio standards). They have exhibited little interest in sharing the cost of the efforts of their southern neighbors (Massachusetts, Connecticut and Rhode Island) to de-carbonize their power supply through State-directed procurement of renewable resources by load-serving distribution utilities. In PJM, it is easy to envision a comparable divergence of interest between the PJM states that are RGGI participants (Delaware and Maryland), or that otherwise have a strong "green" inclination (District of Columbia), and those states that still have significant coal-fired generation in their contribution to the regional portfolio (Pennsylvania, West Virginia, Kentucky and Ohio).

Three viable policy solutions suggest themselves as an alternative to currently ongoing efforts to force assimilation of State de-carbonization initiatives in the generation sector into the RTOs' centralized capacity auction construct:

- First, phasing out the mandatory participation aspects of the centralized capacity auction construct would provide a federal regulatory structure better suited to accommodating de-carbonization initiatives in the generation sector reserved to the States under FPA Section 201(b)(1). Dr. James Wilson's seven-step proposal in his September 2016 *"Missing Money" Revisited* whitepaper offers a logical and well-sequenced program for accomplishing this transition. Unfortunately, the proposal has thus far not gained much traction in regulatory circles, although that may change if currently ongoing assimilation efforts (and merchant generator efforts to expand the use of bid floors to existing generation) succeed.

- Second, public power systems would be well-advised to demand restoration of the self-supply rights and other elements of the 2006 Settlements that

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40 *N.Y. Pub. Svc. Comm'n v. N.Y. ISO, Inc.*, 158 FERC ¶ 61,137 at 61,865 (2017) (Bay, Comm'r, concurring), *citing* U.S. Energy Information Administration, *Direct Federal Financial Interventions and Subsidies in Energy in Fiscal Year 2013* (March 2015). *See also* T.M Roberts, *Picking Winners and Losers: A Structural Examination of Tax Subsidies to the Energy Industry*, 41 COLUM. J. ENVTL. LAW 63 (2016).

established the centralized auctions as a minimum *quid pro quo* for acquiescence in the eastern RTOs forthcoming two-tiered pricing initiatives. FERC has previously concluded that application of bid floors to at least some self-supplied capacity resources is unjust and unreasonable.[41] The pending remand of the PJM self-supply exemption from the D.C. Circuit presents one opportunity for restoration. Ongoing two-tiered pricing proposals in both PJM and ISO-NE may present another.

- Third, and in any event, the potential expansion of the current RTO centralized auction, single-buyer, all-load-pays construct into carbon pricing, two-tiered pricing or acquisition of one or more renewables "products" or environmental attributes will tend to incentivize measures aimed at reducing peak load exposure to RTO charges by load-serving entities capable of pursuing such strategies. Battery storage, microgrids, behind-the-meter renewables, demand response and other strategies all become increasingly economic as expanding RTO mission creep drives costs up and siphons economic benefit out of broader pooling arrangements.

[41] *N.Y. Pub. Svc. Comm'n v. N.Y. ISO, Inc.*, 153 FERC ¶ 61,022 at PP 61-65 (2015), *order on reh'g*, 154 FERC ¶ 61,088 (2016); *PJM Interconnection, L.L.C.*, 143 FERC ¶ 61,090 at PP 107-115 (2013), *reh'g den.*, 153 FERC ¶ 61,066 (2015), *vacated and remanded sub nom. NRG Pwr. Mktg. v. FERC*, 862 F.3d 108, 115-117 (D.C. Cir. 2017).