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## CHASING THE UNCATCHABLE

### Why Trying to Fix Mandatory Capacity Markets is Like Trying to Win a Game of Whack-a-Mole

*By Delia Patterson and Harvey Reiter*

To ensure service reliability, companies responsible for supplying electricity to consumers - what the industry refers to as "load-serving entities" - are obligated by regulators to hold adequate levels of reserve generating capacity. Many of these companies look to auctions run by regional transmission organizations (RTOs) and independent system operators (ISOs) to meet some or all of their capacity obligations. While something of a misnomer, these capacity "markets" have been a fixture of RTO/ISO operations around the country for over a decade.

In three of these regions - PJM, ISO New England and New York ISO - participation by load-serving entities is mandatory. But it is impossible to say that these mandatory markets have made things better for suppliers, consumers or state regulators. On the contrary, existing generators continue to complain that they are undercompensated, state regulators worry that needed capacity is not being built, or at least is not being built where it is needed, and higher payments to generators have not improved reliability.

FERC's efforts to get capacity markets "right" in these regions have instead led to endless - and futile - tinkering. As the problems with mandatory capacity markets have popped up, FERC has been chasing them like the arcade player in a game of whack-a-mole: FERC hits the problem, seemingly head on, only to see the same problem, or a brand new one, pop up somewhere else. And the process starts all over again. Worse yet, as FERC has attempted to address each problem it has adopted a hodge-podge of fixes and exemptions - particularly related to its rules setting floors on seller bids - that become increasingly hard to reconcile with one another. It's time for FERC to start over, or at least to regroup and reassess.

### Background

Understanding FERC's view of the role of capacity markets begins with its conception of the principal benefit it expected to come from separating the generation of electricity from its delivery. "One of the benefits often ascribed to restructuring was that this risk would be allocated in a more efficient manner, specifically, on those most responsible for the risk and best able to bear it. That principle was expected to result in shifting more of the risk to investors, rewarding good decisions and penalizing bad ones, rather than the regulatory approach of giving all (or at least all minimally prudent) investments the same return."<sup>1</sup>

Central to the success of wholesale competition in the RTO/ISO markets was the locational marginal pricing (LMP) of energy. This, FERC said, would "send price signals that are likely to encourage efficient location of new generating resources, dispatch of new and existing generating resources, and expansion of the transmission system."<sup>2</sup>

But the use of LMP was not unqualified. To protect ratepayers in the restructured wholesale market environments FERC had encouraged from market power abuses, the newly-formed ISOs proposed caps on the prices of energy sold in their markets.<sup>3</sup> These price caps, however, themselves soon prompted complaints from generators. With caps on energy prices mandated by ISO market rules, generators successfully argued, they would be undercompensated if they could not be paid for their capacity to make up the revenue shortfall created by these energy price caps.<sup>4</sup> The first capacity markets proposed by the eastern ISOs were a direct response to the so-called "missing money" problem posed by these very caps. The cure proposed in PJM, ISO New England and the New York ISO, however, - making their capacity auction markets mandatory - has unfortunately proved far worse than the disease. Initially touted as "auxiliary markets" intended to supplement long term bilateral markets, the mandatory auction markets in ISO-NE, PJM and NYISO quickly morphed into the default mechanisms for capacity procurement.

And the problems appeared almost immediately.

### Stamping Out "Artificial Price Suppression" Fires, with Floors on Seller Bids

It was only a few years after the first mandatory capacity markets were put in place that merchant generators complained of a new problem with these capacity markets. They warned that net buyers - sellers who were predominantly buyers - might lowball bids in capacity markets, selling below cost to depress the auction prices "artificially."<sup>5</sup> This would be a profitable strategy, the generators

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argued, because the net buyers could make up for sales losses with the savings they'd enjoy on their purchases of capacity at suppressed prices.<sup>6</sup>

Responding to this perceived problem, FERC approved the implementation of minimum offer price rules - or MOPRs - that would set floors on seller bids. But the bid floors had limited scope. They had applicability only to new generation and then, only to net sellers, because only net sellers had the motive to suppress prices artificially.<sup>7</sup> In PJM and ISO New England, these bid floors also did not apply at all to sellers who self-supplied their capacity needs (mostly municipal utilities, rural electric cooperative and other vertically-integrated utilities). Nor did the bid floors apply to sellers acting under state procurement programs. The latter exemption, FERC found, was "reasonable because it enables states to meet their responsibilities to ensure local reliability."<sup>8</sup>

### Which Sellers Bids Should be Subject to Bid Floors? Should Any? Does FERC Have a Consistent Rationale?

The ink had hardly dried on the new bid floor rules when, a few years later, the merchant generators complained that capacity prices were still being depressed. This time the alleged culprits were self-supplying utilities and state commissions that had established capacity procurement programs to acquire capacity under long-term contracts. Removing MOPR exemptions for self-suppliers' capacity or capacity procured under state programs, they said, would fix this problem.<sup>9</sup>

Far from fixing this problem, or even establishing that one exists, however, FERC has spent the last several years defending a hodge-podge of orders that: remove MOPR exemptions in some RTOs but not others, restore previous exemptions and add new ones - all with no unifying rationale or consistent application across RTOs.

Take for example, FERC's varying positions on the role of intent in approving bid floors. Ignoring its earlier statements that MOPRs were needed to tackle the problem of net buyers who "might have an incentive to depress market clearing prices," in 2011 FERC removed the state and self-supply exemptions in New England. Bids below cost, FERC now reasoned, would have the same price-suppressing effect irrespective of the intent of the seller.<sup>10</sup>

But within the same month FERC issued its ISO New England order, it adopted a completely different rationale for removing the state and self-supply exemptions from the PJM MOPR. A MOPR that covered all sellers of new capacity, not only net buyers, "addresses the concern that some market buyers may have an incentive to depress market clearing prices by offering supply at less than a competitive level."<sup>11</sup>

Yet, at the same time, it retained exemptions for bids of nuclear units, hydroelectric facilities, Integrated Gasification Combined Cycle facilities and upgrades or additions to existing capacity resources. Bids from these types of facilities, it reasoned, were conclusively presumed to be economic in PJM because they have no incentive to depress auction prices.<sup>12</sup> Sellers of renewable generation in PJM, it said, were likewise exempt because they also presumably have no reason to bid below cost. "Wind and solar resources," FERC has reasoned, "are a poor choice if a developer's primary purpose is to suppress capacity market prices."<sup>13</sup>

A couple years later FERC was still asserting that intent should be irrelevant to defining the scope of bid floor rules. But it nonetheless began carving out or restoring a broad range of exemptions based entirely on the rationale that the exempted entities lack the intent or ability to suppress prices artificially. While simultaneously rejecting the relevance of intent, it incongruously intoned "that buyer-side market power mitigation rules are intended to address market power exhibited by certain entities seeking to lower capacity market prices."<sup>14</sup> Thus, for example, in 2013, FERC approved a PJM MOPR exemption for both competitive entry and self-supply resources. The competitive entry exemption applies to resources without any support from a utility customer charge. The self-supply resource exemption applies to resources that have long-standing business models (i.e., public power, cooperative and vertically integrated utilities) that are not net buyers or that would not likely have the incentive or ability to profit from making below cost sales.<sup>15</sup>

But even in granting exemptions based on the seller's assumed lack of intent to suppress prices, FERC's policies have been scattershot. The self-supply exemptions it has approved in PJM, for example, did not become available in New York until 2015.<sup>16</sup> And even though FERC's rationale for New York's self-supply exemption was generic,<sup>17</sup> a general self-supply exemption is still not available in New England, where it approved only a limited exemption in 2014.<sup>18</sup> Similarly, independent generators have been exempt from bid floor rules in PJM and New England for several years,<sup>19</sup> but were not exempted in New York until 2015.<sup>20</sup>

There is no obvious pattern to the bid floor exemptions FERC has granted for wind and solar resources, either. Reasoning that "wind and solar resources are a poor choice if a developer's primary purpose is to suppress capacity market prices," for example, FERC has extended an unqualified exemption to renewable resources in PJM since 2011.<sup>21</sup> But that same year, and once thereafter, it rejected any exemption for renewable resources in New England.<sup>22</sup> Then, in 2014, at the ISO's behest, it approved the limited 200 MW exemption mentioned earlier.<sup>23</sup> And late last year, finding that many intermittent renewable resources "provide their developers with limited or no incentive and ability to exercise market power to artificially suppress ICAP market prices," it found the lack of a bid floor exemption from the NYISO tariff unreasonable.<sup>24</sup> Yet, having found that a bid floor for these renewable resources was unnecessary,

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FERC nonetheless placed a megawatt cap on the renewable resources eligible for the exemption "to further limit any risk of artificial price suppression."<sup>25</sup>

While FERC continues to say that intent is irrelevant, the identity of the party asking for the exemption also apparently makes a difference in whether FERC will grant it. FERC has said, for example, that it would consider RTO-sponsored MOPR categorical exemptions for state-mandated resources,<sup>26</sup> but has rejected state pleas for such exemptions that were not supported by the RTOs in their regions.<sup>27</sup>

One area where, until now, FERC has remained constant is its position that bid floors should not apply to existing generators that have already participated in prior auctions. Because their costs are sunk, FERC has reasoned, they may participate in the auctions as price takers.<sup>28</sup> But, as if to prove this article's thesis that no mandatory capacity market issue ever truly remains settled, a group of generators recently filed a complaint with FERC seeking to "expand" PJM's bid floor rules. Those rules, they argue, should cover not only new generation, but "existing resources whose continued operation is being subsidized by State-approved out-of-market payments."<sup>29</sup> The complaint presented FERC with an uncomfortable choice. For more than twenty years it has maintained that states "may seek to encourage renewable or other types of resources through their tax structure, or by giving direct subsidies."<sup>30</sup> Should it now eschew settled policy and take up yet an additional theory of "artificial price suppression" in its so far elusive effort to perfect mandatory capacity markets? The Commission has ducked that question for now. Instead, it granted contemporaneous complaints that the sellers were engaged in transactions with their affiliated local utilities (FirstEnergy and AEP), that the conditions previously justifying waiver of FERC's affiliate rules were no longer present and that the sellers had not met FERC's affiliate transaction standards.<sup>31</sup>

### The Search to Define Below Cost Bids

At their core, bid floor rules are intended to prevent sellers from submitting below cost bids. So the rules generally allow sellers to bid below the bid floor if they can show their actual costs are lower. But the search to define cost is an elusive one and FERC's approach, to say the least, has been unpredictable. Who, for example could logically have predicted that FERC would reject proof of the seller's actual capital costs and impute to it higher *hypothetical* capital costs? Yet that is precisely what FERC did in a case a few years ago.

The case was *Astoria Generating Co. LP et al. v. New York Independent System Operator, Inc.*<sup>32</sup> It involved a complaint that, in assessing whether a seller had submitted a below cost bid under the ISO's MOPR rules, the New York ISO had improperly used the sellers "actual cost of capital."<sup>33</sup> In an earlier case, *PJM Power Providers Group v. PJM Interconnection, LLC*,<sup>34</sup> FERC had rejected a generator complaint that PJM be required to substitute a proxy cost of capital for the seller's actual capital cost. PJM, it said, must be permitted "to recognize the lower financing costs of sellers that are especially creditworthy *or that have negotiated contracts that have enabled them to secure favorable credit terms.*"<sup>35</sup> The RTO, it added, "must exercise discretion" in determining whether a seller's cost advantages are legitimate.<sup>36</sup>

Exercising *its* discretion, NYISO had determined that the seller had negotiated a contract with the New York Power Authority (NYPA) that did, in fact, enable it to secure favorable credit terms. Indeed, FERC agreed that this was precisely the case.<sup>37</sup> But citing the earlier *PJM* case - a case which FERC described as supporting the need for RTOs to exercise *their* discretion - FERC surprisingly substituted *its* judgment for NYISO's, finding that that the seller's lower financing costs were "inconsistent with a competitive offer."<sup>38</sup>

The process by which the seller had won its contract with NYPA, FERC acknowledged, had been an open and transparent one.<sup>39</sup> But open and transparent or not, FERC concluded, the process was nonetheless discriminatory.<sup>40</sup> The seller, FERC said, had experienced lower capital costs because the state agency procuring capacity had sought only new generating capacity, benefitting sellers of new capacity at the expense of existing generators. So it substituted a *proxy* capital cost for the seller's *actual* capital cost.<sup>41</sup>

FERC eventually reversed itself, allowing the NYISO to use Astoria's actual cost of capital.<sup>42</sup> But it took nearly four years to do so. And, while the agency finally reached the right conclusion, it reiterated its belief that in future cases it might still approve of RTOs substituting hypothetical for actual capital costs.<sup>43</sup> Cases like this send confusing market signals. Sellers, FERC has said, should be able to reflect their actual cost advantages in their bids. But RTOs must have the discretion to police the bids to make sure that a seller's actual costs are not the result of "anomalous" advantage. Yet if the RTOs find no anomaly, FERC will disregard the seller's actual costs and substitute its own judgment by devising an artificial proxy figure to be used instead.

This type of micromanagement - disqualifying bids based on a seller's actual costs as too low - is not protecting competition, but distorting the competitive process. In the *Astoria* case NYPA chose to solicit new generation in an open and transparent process. As a buyer, what obligation would NYPA have in a competitive market to invite existing generators into that process? Had NYPA chosen to build its own new generation would that have been discriminatory? Suppose it needed a particular type of generation, e.g., large scale solar, and that there were no existing generators who could offer it. Would the solicitation be discriminatory?

Would the winner have secured an "anomalous" advantage?

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Are there other types of seller advantages FERC could gauge as "anomalous" or "irregular"? Should FERC disregard evidence of the seller's actual cost and include proxy costs because the seller operates in a low wage "right to work" state? What if the seller is a well-funded new company coming into existence in a cheap money era and is not saddled with the higher capital costs of existing competitors? Is that an artificial advantage? What if the seller has been encouraged to enter the market by the promise of subsidized loans from the same state that has made a procurement request for electric capacity? Should its bid be adjusted too? These questions all highlight why FERC's bid floor rule changes are a futile attempt to solve a problem FERC cannot even seem to define.

### Have FERC's Attempts to Define Bid Floor Rules Been Worth the Effort? Or Are the Rules a Solution in Search of a Problem?

The Commission's efforts to stamp out artificial price suppression have provided neither sellers nor consumers any real sense of a predictable or consistently applied policy. But FERC's search for the right anti-price suppression strategy overlooks the biggest flaw in the entire undertaking - FERC never seriously grapples with whether minimum bid floor rules have been a solution in search of a problem.

The downside of bid floors is obvious. By putting self-supplying utilities and state agencies at risk that new capacity they have contracted to build or purchase will not clear mandatory auction markets, bid floor policies approved by FERC place self-supplying utilities and state agencies at risk of paying twice for capacity. That is, they will have paid for their self-supply, but have to purchase additional capacity to meet ISO minimum capacity requirements because the self-supply - having failed to clear the auction - won't count toward those requirements. Rather than encouraging new entry, self-supplying utilities have argued, this policy tends only to benefit existing generators by creating a price floor for their capacity.

The concept of a minimum offer price rule, it bears emphasis, is facially and substantively antithetical to competition - it imposes on certain sellers a price bid floor that, by its very nature is intended to prop up capacity prices. While the MOPR in its various forms is aimed at curbing "artificial" price suppression," FERC has incongruously subjected bidders to prior pricing constraints without any showing that they have the intent, much less the ability, to suppress prices profitably. If preserving a competitive outcome is FERC's goal, however, that's a serious flaw in its approach.

As the Supreme Court explained in *Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co.*, 549 U.S. 312 (2007), the party claiming predatory conduct must prove that the monopsonist or monopolist "has a dangerous probability of recouping the losses incurred" in its bidding strategy. *Id.* at 325. "Absent proof of likely recoupment," it explained, "a strategy of predatory bidding makes no economic sense because it would involve short-term losses with no likelihood of offsetting long-term gains." *Id.* And intent is critical to the analysis. Both predation by monopsonists and by monopolists "involve the deliberate use of unilateral pricing measures for anticompetitive purposes." (emphasis added). *Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co.*, 549 U.S. 312, 313 (2007). Finding "artificial price suppression" where it doesn't actually exist is a far worse problem than letting artificial price suppression - which is very rare - escape detection:

[T]he costs of erroneous findings of predatory-pricing liability [are] quite high because '[t]he mechanism by which a firm engages in predatory pricing - lowering prices - is the same mechanism by which a firm stimulates competition,' and, therefore, mistaken findings of liability would 'chill the very conduct the antitrust laws are designed to protect.'

*Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co.*, *supra*, at 312 (quoting *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 226 (1993)).

### Performance Criteria: Getting Consumers the Capacity They Paid For

Another problem with existing mandatory capacity markets, FERC acknowledged during its workshop, now two years ago, was that they required large payments to generators, but provided consumers no assurance that generators would actually deliver capacity when called upon.<sup>44</sup> All of FERC's commissioners agree that there is a capacity performance issue- that consumers may be paying- and paying a lot - for capacity that isn't actually there when needed. But while there is Commissioner consensus about the problem, FERC's commissioners are in strong disagreement whether the cure - yet another whack-a-mole effort - is worse than the disease.

FERC's recent actions in PJM point up this dispute. Early in 2015, in what it termed the *Capacity Performance Order*, FERC accepted PJM's transition from its current capacity product to a new capacity product, a Capacity Performance Resource. The latter, FERC concluded, would receive "enhanced incentives" - more money in layman's terms. In return, or so the goal was described, they would improve their performance to better meet PJM's reliability requirements.<sup>45</sup>

The filing, though, elicited a stinging dissent from FERC's Chairman Bay. The majority, he argued, did not do a cost-benefit analysis of the proposal. "Given the potential multi-billion dollar cost of the CPP and the burden consumers will be asked to bear, any analysis, no

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matter how rudimentary, would have been helpful before concluding this proposal is just and reasonable." The discrepancies between rewards and penalties in the PJM proposal, he explained, could lead to an outcome where a "rational profit-maximizing resource could simply seek a capacity award in the auction, fail to perform during each performance assessment hour, and likely pay a penalty less than the carrot it has received." "One way of viewing the CPP," he bluntly concluded, "is that it fixes a several hundred million dollar uplift problem in the energy market with a multi-billion dollar redesign of the capacity market."

A few months after it had approved the new capacity resource product, FERC was asked to review the first "transitional" capacity auctions in which the new product was being sold. This too, proved to be another source of controversy. Under the rules approved by FERC, sellers who had committed to supply capacity under the prior rules would remain subject to those rules and would continue to be compensated. But they also had the right to make the capacity available under the new, presumably stricter availability and performance rules, in the transitional auctions.<sup>46</sup> The kicker - and this proved to be the basis for Chairman Bay's second dissent - was that sellers taking this option would receive higher capacity revenues and bonus performance payments without having to make incremental investments.

A number of parties, including states and public power utilities, pointed out that PJM would lower the cost of the auction by accepting bids in order of the incremental cost of using capacity compared to the former auction. Looking at incremental cost, it concluded, would disadvantage new bidders. FERC rejected this argument. Looking at incremental cost, it concluded, would disadvantage new bidders.<sup>47</sup>

Chairman Bay took strong exception to the majority's conclusion. "I would not have agreed to transitional auctions at all," he said. But having gone that route, he explained, the FERC majority had also ignored that their approach would violate PJM's duty to acquire capacity at the lowest reasonable cost and impose millions of dollars in added expense to consumers with no attendant reliability benefit:

Resources that had previously sold capacity for those years can, if they choose, reoffer their capacity in the new auction. If the offer is accepted, they take on the additional obligations and receive the new, higher price. If the offer is refused (or they do not offer their capacity), the resources are still paid, and they retain their preexisting obligations at the preexisting price. In other words, if PJM buys capacity from a resource that is already entitled to a payment, it can eliminate that payment and save consumers money. If PJM buys capacity from someone else, it cannot avoid that preexisting cost.

The transitional auction, then, provides PJM the valuable opportunity of avoiding payments that it is otherwise required to make.

PJM's methodology ignores the value of this opportunity. PJM's approach does not ensure greater system reliability. It simply permits consumers to be charged more in exchange for no additional benefit.<sup>48</sup>

### If Capacity Markets Were Intended to Solve the "Missing Money" Problem Created by Price Caps, Why is FERC Still Looking at Raising Price Caps?

Price caps in RTO/ISO markets date back to the late 1990s, when PJM first put a \$1000 per MWh cap into place. Now all six RTOs/ISOs have them.<sup>49</sup>

In early February this year, FERC issued notice of a proposed rule that would raise the cap on energy bids in RTO markets to the higher of \$1,000/MWh or the "verified" actual incremental energy cost of the resource being bid.<sup>50</sup> This rationale seems at odds with the reason for a capacity market. The existing price caps, FERC says, "may unjustly prevent a resource from recouping its costs by not permitting that resource to include all of its short-run marginal costs within its energy supply offer."<sup>51</sup> This, it worries, "can suppress LMPs to a level below the marginal cost of production."<sup>52</sup> But, presumably, the capacity markets were the fix for these revenue shortfalls. Indeed, a number of economists have argued that if price caps were lifted there would be no reason for a capacity market at all.<sup>53</sup>

So, it is fair to ask, if FERC views it necessary to ensure sellers participating in energy markets a reasonable opportunity to remain revenue adequate through energy pricing, why are mandatory capacity markets necessary?

### Where Do We Go From Here?

There are six regional RTOs/ISOs, but only three deploy mandatory capacity markets. That FERC has not directed the remaining RTOs/ISOs to follow suit is seemingly its tacit acknowledgment that they aren't necessary. The more important question, though, is not whether there is reason to expand the use of mandatory capacity markets. Rather, it is whether the existing mandatory capacity markets do more harm than good.

Nearly eight years ago, FERC approved plans by the Midcontinent<sup>54</sup> System Operator (MISO) to require its load-serving entities to maintain specified reserve margins, but left as voluntary a capacity auction which it describes as "an additional mechanism to procure

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needed capacity and increase transparency in the procurement of capacity.<sup>55</sup> In July 2011, MISO filed revisions to its resource adequacy construct, which proposed a mandatory auction requirement. In June 2012, the Commission rejected MISO's request to make the auction market mandatory.<sup>56</sup>

Several parties sought rehearing of that order, and though it took FERC another three years to rule, FERC affirmed its earlier conclusion that MISO didn't need a mandatory capacity market:

The need for new capacity in MISO is driven by a variety of considerations, including, but not limited to, state resource planning and the opportunity to recover costs from the energy, ancillary services, and capacity markets. Accordingly, ensuring resource adequacy in the MISO region will be a product of a wide range of factors in addition to the auction clearing prices, such as market prices for other energy and reserve products, the terms of bilateral arrangements, and state regulatory resource planning.<sup>57</sup>

To be sure, the vertically-integrated nature of most of the load-serving entities operating in MISO weighted heavily in FERC's analysis. But as many others have written,<sup>58</sup> the same factors driving decision-making by load-serving entities in MISO affect those in PJM, ISO New England and NYISO. The continued use of mandatory capacity markets is hobbling the development of long-term contracts for needed capacity - hurting both generators and consumers in the process. With no end in sight to the Commission's well-intentioned efforts to get mandatory capacity markets "right," it's time to abandon the effort.

There are plenty of alternatives to ensure resource adequacy that have been suggested and it is not the authors' goal, therefore, to find "the" right fix. But we do describe a few that various experts have offered for consideration. These proposals share one thing in common: they do not mandate participation in mandatory auction markets, much less try to set artificial floors on seller bids.

Cliff Hamal, an economic consultant at Navigant, has offered an alternative to mandatory capacity markets that he calls the bilateral capacity (BiCap) approach.<sup>59</sup> Under this approach, the existing mandatory capacity markets would be eliminated. The capacity obligations would then become the responsibility of distribution service providers, i.e., the regulated monopoly providers of the interconnection to retail customers. Because their customers are "captive," these companies would be in a position to enter into long-term contracts for capacity.

Hamal sees several benefits in this approach. From the regulators' perspective, it would leave regulated entities over which they have oversight, responsibility to contract for capacity where and when it is needed. And they'd have the flexibility to do so in ways that would best meet their goals for supply diversity, carbon reduction and the like. He sees generators, distribution companies and investors benefitting too, as the assurance of long-term arrangements should reduce investment risk and the cost of capital. From the consumer's perspective, he reasons, these lower capital costs will ultimately lower their rates with greater assurance of reliability. Hamal does not see this approach as diminishing competition. Energy markets would operate as they do now and, although capacity markets would operate bilaterally, sellers would still compete vigorously to be the distribution companies' suppliers of choice.

A June 2014 report commissioned by the Electric Markets Research Foundation (EMRF) reaches conclusions similar to Hamal's - and offers a partial endorsement of the "bi-cap" concept.<sup>60</sup> "Being short-term markets," it finds, RTO mandatory capacity markets "do not and cannot address long-term capacity needs."<sup>61</sup> The "problems of restructured markets with securing adequate resources," it says, "stem from their seeking a market solution to a problem for which there is not a market solution within existing political and institutional frameworks." Similar to Hamal, the report's authors conclude that "non-market (i.e., regulatory) mechanisms must be part of the overall approach to ensuring long-term resource adequacy."<sup>62</sup> What this means, they say, is that "long-term contracts and self-build options for load-serving entities (LSEs) must be encouraged to ensure an adequate resource mix."<sup>63</sup> Their main conclusion is this: Tweaking existing mandatory capacity markets in an effort to fix them won't work. Instead, the report recommends that restructured markets could be designed so that capacity is procured in ways similar to those used in traditional regulated markets: set capacity requirements according to engineering criteria; impose high penalties on those LSEs who fail to meet their requirements; and offer a centralized market for those parties who find the centralized market's terms attractive. Generation could be procured through competitive solicitation as it is done successfully in some traditionally regulated markets as well as in some restructured markets. And RTOs could continue to operate energy markets in the same way as they do today.<sup>64</sup>

Writing for the Texas Public Policy Foundation about ERCOT, economists Andrew Kleit and Robert Michaels offer a different approach. They argue that capacity markets, mandatory or otherwise, are not needed at all. An "energy-only" market relying on market forces, including viable demand response, they maintain, is sufficient to meet the long-term electricity needs of consumers.<sup>65</sup> Mincing no words, they assert that regions with mandatory capacity markets have grossly overpaid for electricity. Had the money consumers paid in PJM capacity charges from 2007 through 2011 "been spent directly on new capacity," they point out, "the funds could have purchased 129 combined-cycle gas-fired generators, each with 400 megawatts (MW)."<sup>66</sup>

Finally, many load-serving entities in restructured markets, particularly, but not exclusively limited to, municipal utilities and rural electric cooperatives, continue to retain traditional public utility obligations to supply their customers' electricity demands. Like the authors of the

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EMRF report, they have recommended that self-supplying LSEs be exempt from mandatory capacity markets. In the spring of 2015, the American Public Power Association (APPA) proposed legislation along those lines.<sup>67</sup> Specifically, APPA proposed that: 1) RTOs that have not yet implemented a mandatory capacity market should not move to do so without unanimous support by the states in the region; and 2) RTOs that have already adopted a mandatory capacity market should not impair (through rates, or rules, regulations, or practices affecting rates) the ability of a load-serving entity to meet its capacity obligations through a resource it owns, builds, controls, or for which it has a contract for capacity.<sup>68</sup>

Despite its best intentions, FERC has little to show for more than a decade of tinkering with mandatory capacity markets. In a case of the worst of all possible worlds, the lion's share of capacity payments have gone to existing generators, not toward the construction of new generating capacity. Capacity prices in the RTO-run auction markets have climbed steeply in the last few years to entice better performance. Yet the power suppliers complain, with some force, that undercompensation remains a problem, stifling needed investment. And for all of its efforts, FERC has failed to satisfy state regulators,<sup>69</sup> or even itself, that mandatory capacity markets have improved reliability, performance or supply diversity.

The typical whack-a-mole player, having given the game his best shot, will know when to quit. Let's hope FERC will learn the same lesson.

### Endnotes

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<sup>1</sup> John Kwoka, *Barriers to New Competition in Electric Generation*, Report to the American Public Power Association (June 2008). See also 2006 Report to Congress on Competition in Wholesale and Retail Markets for Electric Energy, p. 6: Wholesale Competition in Regions with Organized Electric Markets, 119 FERC ¶ 61,306 (2007) at P 21 ("According to data from the Energy Information Administration (EIA), the percentage of generating capacity in the United States owned by independent power producers has grown from less than 2 percent in 1990 to more than 35 percent by 2005. A result has been to shift the risk of investment from customers to shareholders.")

<sup>2</sup> *Pennsylvania-New Jersey-Maryland Interconnection, L.L.C.*, 81 FERC ¶ 61,257, 62,253 (1997).

<sup>3</sup> Offer Caps in Markets Operated by Regional Transmission Organizations and Independent System Operators, Docket No. RM16-5-000, 81 F.R. 5951, 5954, P 12 (Feb. 4, 2016) ("The \$1,000/MWh offer cap dates back to 1999 when PJM first launched its market.")

<sup>4</sup> See Susan Kelly and Elise Caplan, *Time for a Day 1.5 Market: A Proposal to Reform RTO-Run Centralized Wholesale Electricity Markets*, 29 Energy L.J. 491, 539 (2008). See also, Peter Crampton, Axel Ockenfels, and Steven Stoft, *Capacity Market Fundamentals* (May 2013), pp. 4-5 ("two basic ways to restore the missing money" - raise scarcity prices or make capacity payments through a capacity market); Andrew N. Kleit and Robert J. Michaels, *Does Competitive Electricity Require Capacity Markets? The Texas Experience*, p. 8 (Feb. 2013), <http://www.texaspolicy.com/library/doclib/2013-01-RR02-ResourceAdequacyE...> (link is external).

<sup>5</sup> *PJM Interconnection, L.L.C.*, 128 FERC ¶ 61,157, at P 90-91 (2009); NYISO, 124 FERC ¶ 61,301 (2008).

<sup>6</sup> See, e.g., *PJM Interconnection, L.L.C.*, 137 FERC ¶ 61,145 (2011) at P 2; *PJM Interconnection, L.L.C.*, 135 FERC

<sup>7</sup> ¶ 61,022 at P16 (2011).

<sup>8</sup> The MOPR provisions were directed only at "net buyers," because those were the sellers who "might have an incentive to depress market clearing prices by offering some self-supply at less than a competitive level." *PJM Interconnection, L.L.C.*, 117 FERC ¶ 61,331 at P 103 (2006). The stated purpose of the MOPR it approved in 2006 was to "assur[e] that net buyers do not exercise monopsony power by seeking to lower prices through self-supply." *Id.* at P 104 (emphasis added).

<sup>9</sup> *PJM Interconnection, L.L.C.*, 117 FERC ¶ 61,331 at P 104 (2006).

<sup>10</sup> *PJM Interconnection, L.L.C.*, 135 FERC ¶ 61,022 at P16 (2011).

<sup>11</sup> *ISO New England, Inc.*, 135 FERC ¶ 61,029 (2011) at P 170.

<sup>12</sup> December PJM 2011 Order at P 24.

<sup>13</sup> See, e.g., *PJM Interconnection, L.L.C.*, 135 FERC ¶ 61,022 (2011) at P 6 n. 16.

<sup>14</sup> *PJM Interconnection, L.L.C.*, 135 FERC ¶ 61,022 (2011) at P 153.

<sup>15</sup> *New York Public Service Comm'n v. New York Independent System Operator, Inc.*, 153 FERC ¶ 61,022 at P 10 (2015).

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<sup>16</sup> *PJM Interconnection, L.L.C.*, 135 FERC ¶61,022 (2013).

<sup>17</sup> *New York Public Service Comm'n, supra*, 153 FERC ¶ 61,022 at P 61.

<sup>18</sup> *Id.* ("a self-supply exemption would serve to enable load serving entities to make decisions on the purchase of capacity that best meets their needs").

<sup>19</sup> See *ISO New England, Inc.*, 155 FERC¶ 61,023 (2016). The Commission had denied a general renewables exemption sought by state regulators twice before, but allowed a limited 200 MW renewables exemption when it was proposed by the ISO

<sup>20</sup> *PJM Interconnection, L.L.C.*, 143 FERC ¶ 61,090, at P 57 (2013).

<sup>21</sup> *Consolidated Edison Co. of New York, Inc. v. New York Independent System Operator, Inc.*, 150 FERC ¶ 61,139 (2015). There, the complainants argued, *successfully*, that NYISO's buyer side mitigation rules should be modified "to add a competitive entry exemption" because independent generators had no "intent" to suppress auction prices and "because the purpose of [buyer-side mitigation] is to prevent investment only where the *intent* and purpose of the investment is to depress capacity market prices" *Id.* at P 18. The "competitive entry" contracts, FERC agreed, should be exempt because they "are related more to economic development than to an *attempt* to subsidize a resource's entry into the market." *Id.* at P 101. An "*attempt* to subsidize," by definition, is an intentional act.

<sup>22</sup> *PJM Interconnection, supra*, 135 FERC ¶ 61,022 at P 153 (2011).

<sup>23</sup> In rejecting the categorical renewables MOPR exemption in New England (called the Alternate Price Rule or APR in New England) that it permitted in PJM, FERC maintained that because of the vertical demand curve in New England, "an exemption for renewables is likely to have a greater price depressing effect on capacity prices in New England than in PJM." *New England States Committee on Electricity v. ISO New England, Inc.*, 142 FERC ¶ 61,108 at P 35 (2013). But FERC's rationale for accepting the renewables exemption in PJM was not that renewables would have no effect on auction prices in that market, but that renewables would have no *incentive* to bid below cost, so there was no reason to worry about their participation. *PJM Interconnection, supra*, 135 FERC ¶ 61,022 at P 153 ("wind and solar resources are a poor choice if a developer's *primary purpose* is to suppress capacity market prices"). These inconsistent explanations for the approval and rejection of the renewables exemption send confusing and conflicting messages including the message that intent is both relevant and irrelevant.

<sup>24</sup> Even that limited exemption is subject to a pending rehearing.

<sup>25</sup> *New York Public Service Comm'n, supra*, 153 FERC ¶ 61,022 at P 47.

<sup>26</sup> *Id.*

<sup>27</sup> *NYISO*, 124 FERC ¶ 61,301 at P38 (2008).

<sup>28</sup> *New England States Committee on Electricity v. ISO New England, Inc.*, 142 FERC ¶ 61,108 (2013).

<sup>29</sup> See *PJM Interconnection, L.L.C.*, 115, FERC ¶ 61,079 at P 91 (2006).

<sup>30</sup> *Calpine Corporation, et al., v. PJM Interconnection, L.L.C.*, Docket No. EL16-49-000 (March 21, 2016), p. 2.

<sup>31</sup> *Id.* See also, *Southern California Edison Company San Diego Gas & Electric Co.*, 71 FERC ¶61,269 at 62,079 (1995); *Midwest Power Systems, Inc.*, 78 FERC ¶ 61,067 at 61,248 (1997).

<sup>32</sup> See *Electric Power Supply Ass'n v. AEP Generation Res., Inc.*, 155 FERC ¶ 61,102 (2016);

<sup>33</sup> *Electric Power Supply Ass'n v. FirstEnergy Sol. Corp.*, 155 FERC ¶ 61,101 (2016).

<sup>34</sup> 140 FERC ¶ 61,189 (2012).

<sup>35</sup> *Id.* at P 314 (emphasis added).

<sup>36</sup> 137 FERC ¶ 61,145(2011).

<sup>37</sup> *Id.* (emphasis added).

<sup>38</sup> *Id.*

<sup>39</sup> *Astoria* at P 135 (Astoria II's power purchase agreement with NYPA "will lower the project's risk, enabling it to attract debt and equity capital investors on more favorable terms").

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- <sup>40</sup> *Id.*
- <sup>41</sup> *Id.* At P 135.
- <sup>42</sup> *Id.* At P 137
- <sup>43</sup> *Id.* At P 135
- <sup>44</sup> *Astoria Generating Co. LP et al. v. New York Independent System Operator, Inc.*, 151 FERC ¶ 61,044 P. 88 (2015).
- <sup>45</sup> *Id.*
- <sup>46</sup> Docket No. AD14-14-000, *Price Formation in Energy and Ancillary Services Markets Operated by Regional Transmission Organizations and Independent System Operators.*
- <sup>47</sup> *PJM Interconnection, L.L.C.*, 151 FERC ¶ 61,208 (2015) P 48 (finding that PJM's "existing payment features not only inadequately incent resource performance, but may perversely select less reliable resources over more reliable resources because a capacity seller's decision to forego investments that would improve resource performance allows it to offer in PJM's capacity market at a lower price and be paid the clearing price while providing less reliable service.")
- <sup>48</sup> *Indicated Market Participants v. PJM Interconnection*, 152 FERC ¶ 61,152 (Aug. 25, 2015).
- <sup>49</sup> *Id.* at P 34.
- <sup>50</sup> *Id.*, dissent at 2.
- <sup>51</sup> Offer Caps in Markets Operated by Regional Transmission Organizations and Independent System Operators, FERC Docket No. RM16-5-000 (Feb. 4, 2016), PP. 10, 12,
- <sup>52</sup> *Id.* At P 1.
- <sup>53</sup> *Id.* At P 2.
- <sup>54</sup> *Id.*
- <sup>55</sup> See, e.g., Peter Crampton, Axel Ockenfels, and Steven Stoft, *Capacity Market Fundamentals* (May 2013), *supra*, pp. 4-5); Andrew N. Kleit and Robert J. Michaels, *Does Competitive Electricity Require Capacity Markets? The Texas Experience*, p. 8 (Feb. 2013), *supra*.
- <sup>56</sup> Several years ago the Midwest Independent System Operator became the Midcontinent Independent System Operator.
- <sup>57</sup> *Midwest Independent System Operator Inc.*, 139 FERC ¶ 61,199 (2012); *order on reh'g*, 153 FERC 61,229 at P3 (2015). Earlier this year, certain of the generators and a group of load serving entities have separately appealed FERC's orders in the U.S. Court of Appeals for the District of Columbia Circuit, and the court has consolidated those appeals.
- <sup>58</sup> 139 FERC ¶ 61,199.
- <sup>59</sup> 153 FERC 61,229, at P 46.
- <sup>60</sup> See, e.g., Sue Kelly and Elise Caplan, *The Procrustean bed of mandatory capacity markets*, EnergyBiz,
- <sup>61</sup> <http://www.energybiz.com/article/15/08/procrustean-bed-mandatory-capacit...>(link is external) (Aug 28, 2015). The authors also recommend Jay Morrison's comprehensive examination of capacity market issues, Jay Morrison, *Capacity Markets: A Path Back to Resource Adequacy*, 37 Energy Law Journal 1(2016); Kenneth Rose, "An Examination of RTO Capacity Markets," IPU Working Paper No. 2011-4, Institute of Public Utilities, Michigan State University, September 1, 2011. Kenneth Rose, PhD, an independent economic consultant and senior fellow at the Institute for Public Utilities, Michigan State University argues in his 2011 paper that capacity markets have failed to produce the expected investment in new generating capacity. Like the authors of this article, Rose believes the complexity of the mandatory capacity markets, which have been "redesigned and readjusted to fit changing conditions," is unworkable and not self-sustaining. *Id.* at 15. These markets, he concludes, need to be rethought completely because they are not meeting their basic objective - "to ensure the operation of a reliable transmission and supply system that is responsive to changing market conditions and public policies." *Id.* at 19.
- <sup>62</sup> Cliff Hamal, "The BiCap Approach: Chronicling the effort to fix electricity capacity markets," *available at* <http://www.bicapapproach.com/p/about-bicap-approach.html>(link is external).

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<sup>63</sup> Mathew Morey, Laurence Kirsch, B.Kelly Eakin, Robert Camfield, "Ensuring Adequate Power Supplies for Tomorrow's Electricity Needs," Electric Markets Research Foundation (June 16, 2014) at p. 75.

<sup>64</sup> *Id.* at p.ix.

<sup>65</sup> *Id.* at p. v.

<sup>66</sup> *Id.*

<sup>67</sup> *Id.* at p. 82.

<sup>68</sup> Andrew N. Kleit and Robert J. Michaels, "Does Competitive Electricity Require Capacity Markets? The Texas Experience," Texas Public Policy Foundation (February 2013) pp. 1, 19-20.

<sup>69</sup> *Id.*