CAPACITY MARKETS: A PATH BACK TO RESOURCE ADEQUACY

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Synopsis: Centralized capacity market constructs can be a useful tool for enabling efficient short-term capacity transactions. On their own, however, they have proven themselves incapable of: meeting load-serving entities' needs for diverse resource portfolios; enabling states' efforts to pursue policy goals; satisfying generators' need for stable revenues; or ensuring resource adequacy. Over the past five years, the FERC and eastern RTOs have sought to address these last two shortcomings in part by adopting and repeatedly amending buyer-side market power mitigation mechanisms. Those efforts have undermined efforts by some LSEs and states to manage their resource portfolios without adequately providing for resource adequacy or generators' revenue requirements. Unfortunately, no matter how much they may be adjusted through further litigation, buyer-side market power mitigation mechanisms cannot serve the FERC's goals because the centralized capacity constructs to which they have been appended are inherently incapable of doing all that the FERC asks of them. Moreover, buyer-side market power mitigation mechanisms are at best poorly rooted in either law or economic theory. If the FERC wishes to meet all of its goals, it must look beyond the centralized capacity constructs and include bilateral capacity markets and LSEs' self-build options in the solution and it must adjust its approach to the eastern RTOs' centralized capacity constructs so that all three resource options can work effectively side-by-side. To make that happen, the FERC should abandon buyer-side market power mitigation and instead give states and LSEs within centralized market regions both the obligation and the freedom to manage their own resource decisions.

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I. BACKGROUND

The United States electric grid has often been called the most complicated machine ever built.[1] More than 5,800 U.S. investor-owned utilities, municipally-owned utilities, consumer-owned utilities, independent power producers (IPPs),[2] federally-owned utilities, and other companies own and operate more than one million MW of generation capacity, and that does not include the thousands of individual consumers that own their own generation at their homes or businesses. That power is delivered by more than 4,000 utilities to more than 146 million consumers over nearly seven million miles of transmission and distribution lines. The connected and interdependent nature of the electric grid means that, within each of the three electrical interconnections in the United States, every load and every generation, transmission, distribution, and demand-side resource[3] on the grid has an impact on all the others.

Every Load-Serving Entity (LSE)[4] on the grid, or its Balancing Authority, must keep resources in balance with load at all times, lest the imbalance destabilize the grid and cause an outage not only for the LSE's customers, but also for all other customers within the region. Yet, the grid is subject to contingencies that can cause demand to spike well above historical levels or that can cause the loss of major transmission or generation resources with limited or no notice. The grid

1. *See, e.g.*, *America Revealed: Electric Nation* (PBS television broadcast Apr. 25, 2012) ("Our modern electric power grid has been called the biggest and most complex machine in the world—delivering electricity over 200,000 miles of high tension transmission lines.") *available at* http://www.pbs.org/america-revealed/episode/3/.

2. This article refers to proponents of buyer-side mitigation rules including minimum offer requirements as "IPPs" or generators." This is a matter of convenience because it would be burdensome to list the different companies advocating for buyer-side mitigation in the litigation in each RTO. There was a different group of IPPs taking that position in each RTO, but there were also some IPPs in some of the dockets who opposed elements of the buyer-side mitigation. There were also some parties supporting buyer-side mitigation in each docket that were not IPPs, including in some instances the RTOs and the market monitors.

3. In this context, demand-side resources include distributed generation, demand-response, energy efficiency, and distributed storage located on the customer or member-side of the meter. It may be owned by the consumer, the load-serving entity, or a third party.

4. Federal Power Act section 217 defines a load serving entity as distribution utility or an electric utility that has a "service obligation," that is a long-term obligation to provide electric service to end-users or a distribution utility. 16 U.S.C. §§ 824q(a)(2)-(3) (2015). An entity can be a load-serving entity whether it serves load in a traditional or competitive environment, though as discussed in section VI below, those in a traditional environment are much more likely to engage in the direct or long-term contractual investment in capacity resources that are the subject of much of this article.

must, therefore, have access to 9-20% more capacity[5] than anticipated peak demand to meet those contingencies.[6] The system may not need these reserve resources very often, and the reserves may not be a source of significant independent revenue, but they are critical for LSEs and grid operators to be able to meet customer and regulator expectations.

LSEs have numerous options for acquiring these capacity resources. Many LSEs own some of their capacity. They may own all or part of a generating unit or they may develop demand-side capacity resources such as energy efficiency or demand response. Many LSEs also contract in the bilateral market for some of their capacity. Those contracts may give LSEs a right to capacity from all or a share of a single plant, a share of a group of plants, or even a "slice" of another LSE's entire resource portfolio. Capacity contracts will also define the conditions under which LSEs may have a right to delivery of energy from the capacity resource and the price that the LSE will be required to pay for that energy. Many LSEs will also choose to participate in a reserve sharing agreement with one or more other LSEs so they can share the cost and reduce the total level of reserves required to operate to maintain grid reliability. These options have been adequate to meet the needs of LSEs in the Western Interconnection, ERCOT, the southeast and the region served by the Southwest Power Pool (SPP). LSEs in these regions use the resources they build or obtain through bilateral and multi-lateral contracts to meet their resource adequacy obligations without the need for centralized capacity constructs.

In the region served by the Midcontinent ISO (MISO), LSEs also have the option to participate in a voluntary centralized capacity auction designed "to allow LSEs with insufficient capacity to satisfy their resource adequacy requirements with planning resources from market participants that have excess planning resources."[7] The auction is conducted two months before MISO's Planning Year and held for resources for a single year.[8] No LSE is required to bid their resources into the MISO capacity auction or to have their resources clear that auction to be permitted to use those resources to meet their resource adequacy obligations.

5. Capacity is the capability of generation or other resources to meet demand; the ability to produce energy, not the energy itself. Connecticut Dep't of Pub. Util. Control v. FERC, 669 F.3d 477, 479 (D.C. Cir. 2009). It is not a fungible, stand-alone product in which one can generally invest like wheat. Instead, it is but one value stream that can come from a generator or other resource. An LSE does not generally build a resource solely for capacity, but rather selects its investment in light of its need for capacity, energy, grid support, risk management/market hedges, fit to its load, fit with its other resources, and environmental or other regulatory obligations.

6. For example, the Florida Reliability Coordinating Council and Florida PSC require IOUs to maintain a 20% reserve margin and non-ISOs to maintain a 15% reserve margin; MAPP requires utilities to maintain a 15% reserve margin; WECC requires utilities to maintain reserve margins of 11% and 17.9% depending on the zone and the season; CalISO requires LSEs to have generation capacity equal to at least 115% of each month's forecasted peak demand; and, SPP requires most LSEs to have 12% reserves unless they are at least 75% hydro in which case they must hold 9% reserves. Only in ERCOT do LSEs not have any reserve obligations. MATHEW J. MOREY ET AL., ENSURING ADEQUATE POWER SUPPLIES FOR TOMORROW'S ELECTRICITY NEEDS 17-20 (2014), *available at* http://www.hks.harvard.edu/hepg/Papers/2014/Ensuring%20Adequate%20Power%20Supplies%20for%20EMRF%20Final.pdf.

7. *Midwest Indep. Transmission Sys. Operator, Inc*., 153 F.E.R.C. ¶ 61,229 at P 3 (2015).

8. *Id.* at P 130.

In the regions served by the eastern RTOs[9]—New England ISO (ISO-NE), New York ISO (NYISO), and PJM—there are also mandatory centralized capacity constructs. Though each of the three has unique design features, all three operate mandatory capacity auctions and all three require all capacity to be bid into and purchased out of the auctions for that capacity to count towards meeting an LSE's resource adequacy obligations within their respective RTOs.

When they were first developed, the capacity constructs in the eastern RTOs were designed to supplement the same bilateral market and self-build options available to LSEs elsewhere in the country. For example, PJM explained to the FERC that its original auction for capacity, called the Base Residual Auction (BRA), served to "enable commitment of capacity resources needed to satisfy remaining capacity needs of LSEs after taking account of their owned and contracted resources."[10] The FERC accepted the BRA, concluding that:

> RPM will not make PJM a centralized planner and procurer of capacity under a cost of service ratemaking regime. Rather, RPM has the potential to provide price signals and price stability that will enable LSEs to purchase capacity, and generators to offer to provide capacity, in a more informed and efficient fashion. Armed with this superior quality of information, however, LSEs will still make their own business decisions about how much capacity to build or procure in long-term contracts and at what cost, and how much to obtain through PJM's auction.[11]

Without capacity constructs, the FERC was concerned that PJM and the other eastern RTOs would be unable to "set prices adequate to ensure energy resources to meet its reliability responsibilities."[12]

Unfortunately, in an effort to accomplish the latter goals, the RTOs and the FERC have radically altered the role of the centralized capacity constructs vis-à-vis other capacity options. Rather than designing those constructs to work in parallel with the bilateral markets and self-build options, as was originally intended, the RTOs and the FERC have begun treating the centralized capacity constructs as their primary tool for encouraging investment and ensuring reliability. And, in order to ensure that those centralized capacity constructs can clear at what they consider to be the "right" price to accomplish those goals, all three of the eastern RTOs have adopted and repeatedly amended buyer-side market power mitigation mechanisms aimed at preventing LSEs from acquiring "uneconomic" capacity resources that will "artificially" suppress clearing prices in the centralized capacity constructs.

Unfortunately, as discussed in greater detail below, those buyer-side market power mitigation mechanisms are incapable of accomplishing the goals for which they were adopted, penalize pro-competitive economic behavior, and actually undermine reliability. If the FERC wishes to ensure reliability, provide for efficient markets, and enable states to promote important policy goals, it should recognize the value of all capacity investment options, eliminate the buyer-side market power mitigation mechanisms in the eastern RTOs, and return the

9. Although New England and New York call their structures "ISOs" rather than RTOs, the difference has more historical than practical significance. For convenience, therefore, this article refers to ISO-NE, NYISO and PJM collectively as the eastern RTOs.

10. *PJM Interconnection, L.L.C.*, 115 F.E.R.C. ¶ 61,079 at P 55 (2006).

11. *Id.* at P 169.

12. *Id.* at P 5.

obligation and freedom to acquire adequate capacity resources to LSEs and the states.

II. THE EASTERN RTOS' CENTRALIZED CAPACITY CONSTRUCTS HAVE BEEN SUBJECT TO NEAR CONSTANT LITIGATION OVER BUYER-SIDE MARKET POWER MITIGATION

Before forming RTOs in the late 90s, the LSEs in the regions served by the eastern RTOs operated within power pools that permitted the LSEs to meet their capacity obligations at minimum cost by pooling their resources through multi-lateral reserve sharing agreements.

When the RTOs were formed, they adopted capacity constructs that sought to permit LSEs in the region to continue to share capacity much as they had under the power pools. In PJM for example, the capacity construct permitted LSEs to procure capacity on a daily and monthly basis from anywhere within the PJM footprint. Failure to meet the capacity obligation led to a deficiency charge based on the cost of entry for a combustion turbine.[13]

These constructs expressly permitted LSEs to meet their capacity obligations with resources that they invested in themselves, that they acquired in the bilateral markets, and/or that they acquired in response to state requirements, such as renewable portfolio standards.[14]

The constructs, therefore, permitted LSEs to acquire balanced portfolios of resources that satisfied the energy needs of their consumers and met their reserve obligations, while optimizing[15] across a range of business and regulatory goals, including safety, affordability, matching resources to load profile,[16] fuel

13. *Id.* at P 9.

14. *See, e.g.*, *ISO New England, Inc.*, 138 F.E.R.C. ¶ 61,027 at PP 73-74 (2012).

15. LSEs provide much more than energy, capacity, and the infrastructure required to deliver power to consumers. LSEs are expected to provide safe, reliable, and affordable power today, tomorrow and into the future, consistent with a wide range of regulatory requirements, including risk management, environmental protection, support for new technologies, economic development, and job promotion. Efforts to meet consumers' and regulators' expectations requires careful balancing and careful strategic planning as investments of limited funds in one area can reduce funds available for another and the goals can conflict with each other. For example, investments aimed at increasing safety, enhancing reliability, and protecting the environment can make power less affordable. Mitigation of long-term price volatility can increase power costs today. Additionally, efforts to get the lights on more quickly following an outage could undermine safety. The greatest challenge of all, of course, is that the LSE cannot look at different generation, transmission, distribution, and demand-side resources effectively in isolation. Rather it must look at all of its resource options in light of how they fit with each other, with the legacy grid, and with the other decisions that may be made by the other 4000+ industry participants. Each LSE must carefully choose among its resource options and manage them in an integrated manner that permits it to meet all of its obligations, including safety, reliability, low cost, environmental compliance, etc. in the most efficient manner possible.

16. Resources are often divided into three primary categories: base load, intermediate, and peaking. Base load generation, such as coal, nuclear, and large-scale hydro resources, are generally high capital cost, low variable cost resources capable of operating at a constant level to meet the minimum demand on the system. Peaking resources, such as simple-cycle gas turbines, diesel or gas internal combustion engines, and demand response resources, typically have lower capital costs but are either more expensive to operate or can only be called on for a limited number of hours in a year. These resources help to meet high levels of demands during only certain seasons and hours of the year. Intermediate generation, such as natural gas combined cycle generation falls between base load and peaking resources with respect to both its costs and its operating characteristics. LSEs will generally seek to match their portfolio of base load, intermediate, and peaking resources to the load profile of their consumers. Thus, an LSE with a high, flat load that varies little over the

diversity,[17] fuel efficiency,[18] temporal diversity (long, medium, and short-term resources),[19] regulatory compliance,[20] environmental sustainability,[21] reliable operations,[22] power quality, locational value,[23] utilization of non-generation

year is likely to have much more base load generation and much less peaking and intermediate generation than an LSE with a highly variable load whose peak demand is significantly greater than its minimum load.

17. In order to manage the risks of fuel availability and fuel price volatility, many LSEs will want to have access to a diverse generation portfolio to limit their dependence on any one fuel.

18. More efficient plants are likely to operate at a lower cost, dispatch more often, and have lower emissions than less efficient plants. Though not always true, newer plants are likely to be far more efficient than older plants that use the same fuel.

19. In order to manage the risk of volatility in power prices, many LSEs will also want to invest in a diverse resource portfolio that includes long-term resources that offer long-term price certainty, as well as short-term and mid-term resources that help to hedge against the risk that changes in regulation, technology, or fuel prices could drive near-term prices down below the cost of long-term resources.

20. Utilities are required to comply with a wide range of regulatory obligations that affect their power supply choices. Many states have renewable portfolio standards that not only require LSEs to invest in specified levels of renewable generation, but also require the LSEs to acquire those fast ramping resources and reserves required to balance the intermittent output of most large-scale renewable generation. Generators are also subject to Clean Air Act, Clean Water Act, and other environmental obligations that obligate utilities to invest in environmental upgrades for existing generation and/or in newer and cleaner generation resources.

21. Because of burgeoning interest in the environment and new technologies amongst consumers and policy makers, many LSEs will choose to, or be required to, invest in non-traditional resources. Depending on the particular focus that an individual LSE's stakeholders may have, the LSE may invest in wind, large-scale solar, community solar, rooftop solar, biomass, energy efficiency, storage, stranded oil-field gas, coal-bed methane, and/or other renewable, low-carbon, or other environmentally favorable resources. As states and owners of affected Electric Generating Units implement the Environmental Protection Agency's (EPA) Clean Power Plan (CPP), environmental compliance will become an even larger consideration both in the development of new generation resources and in the ongoing operation of the grid. Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64,661 (Oct. 23, 2015) (to be codified at 40 C.F.R. pt. 60), *review pending sub nom.* Utility Air Regulatory Grp. v. EPA, No. 15-1370 (D.C. Cir. Oct. 23, 2015). Many plants on which the system has relied for capacity, base load energy, reserves, and grid support will be forced to close to permit states to meet their carbon targets. New gas generation, renewable resources, and energy efficiency will be needed to make up the difference. And, new ways of dispatching the system will be required to ensure that carbon targets can be met consistent with all of the other demands on the grid.

22. LSEs must also look at investing in or obtaining rights to resources that meet specific grid needs. For example, as the level of variable generation such as wind and solar increase, LSEs will need access to more generation that can start up quickly and/or "ramp" up and down quickly in response to changes in wind and sun without sustaining damage from rapid heating and cooling. LSEs also look at the ability of generation resources to provide black-start capability, voltage support, inertia to help support grid stability, and other important grid services. Each of these may also become more important in a world with more remote wind resources, more inverter-based resources, and more variable generation. Further, generators and other power resources are much like automobiles in that different makes and models are stronger than others in different areas. One simple-cycle gas generator may cycle better than another, while a third is able to operate more efficiently at a lower minimum loading than the other two but may be less efficient than they at full loading. Depending on the system's needs, any of the three could be a better fit in the LSE's portfolio.

23. As with real estate, the value of a resource often depends upon its location. Because congestion on the transmission system, on a gas pipeline, or on a rail line (for coal deliveries) may change from day-to-day and year-to-year, LSEs must carefully site their resources in those places where they can best ensure access to dependable and affordable fuel supplies and where power is most easily deliverable to load at a reasonable and predictable price. In order to minimize their risks, should resources at any particular location fall on the wrong side of a future congestion point, LSEs must also look at locational diversity. Even if transmission from west to east or north to south is adequate today, it may not be in the future. It is unwise for all of an LSE's resources to be in one geographic basket. Location is also important for stability purposes. The grid operates poorly if power

alternatives,[24] and counter-party risk.[25] Those constructs also permitted states to promote environmentally favorable generation, encourage the development of new technology, and ensure the adequacy of resources within their states. Those constructs recognized that generation capacity is not a fungible commodity, and that LSEs may have good business reasons to prefer certain resources over others.

About five years ago, the FERC and the RTOs began to significantly alter the eastern RTOs' centralized capacity constructs. As shown by the history of litigation discussed below, the FERC and the RTOs began to put a higher emphasis on the ability of the centralized capacity constructs to attract investment by IPPs who relied on centralized market revenues for a return on their investments. In so doing, the FERC and the RTOs suddenly treated capacity as if one kW were identical to any other kW—differentiable only by price and capacity zone, and de-legitimized the role of retail load and bilateral markets in supporting diversified resource investments. That seriously undermined both LSEs' ability to acquire the resources they need to meet their business and regulatory obligations and states' ability to promote important state policy goals.

That sharp turn was then followed a few years later in the NYISO and PJM with a series of compromises that have provided some additional flexibility for states and LSEs but that have satisfied no one.

The following summary of the litigation and the changes that the RTOs and the FERC have made to the centralized capacity constructs is focused on those constructs' buyer-side mitigation provisions because they are at the heart of the dispute between IPPs, states, LSEs, and the RTOs. Even then, the summary is deeply simplified as there simply is no time to get into every aspect of the litigation, such as debates over important but painful details of the centralized capacity constructs including determination of capacity zones, treatment of imports, calculation of net CONE, demand curves, impact screens, duration of mitigation, the estimation of offsets, and new entry price adjustments. Rather, the summary should give a reader unfamiliar with the litigation a sense of the varying degrees to which the FERC has supported IPPs' efforts to obtain what they consider to be adequate revenues in the centralized capacity construct versus some LSEs' and states' efforts to obtain the flexibility they believe they need to meet their respective business, operational, and policy goals, including resource adequacy.

A. PJM

In April of 2006, the FERC found PJM's original pool-based construct to be unjust and unreasonable because it failed "to set prices adequate to ensure energy resources to meet its reliability responsibilities."[26] In other words, the FERC was

must cross long distances without voltage support. LSEs must focus not only on the deliverability of fuel and power, but also on the impact that the location of resources has on the operation of the grid.

24. A new generator is not always the best means of meeting system needs. Just as a Washington, D.C. commuter might find the Metro or a bus easier and more efficient than fighting Beltway traffic in a car, LSEs might find that energy efficiency, demand response, transmission improvements, or distribution improvements may better serve their needs than a new generator.

25. Finally, not all resource developers, plant operators and trading partners are created equal. It will always be easier and less risky to work with some companies than others.

26. 115 F.E.R.C. ¶ 61,079 at P 5.

concerned that the prices in the market were inadequate to attract new investment or retain existing investments needed to keep the lights on.

In an effort to satisfy the FERC's concern, the pool-based construct was replaced with a new Reliability Pricing Model (RPM) that created a locational resource adequacy requirement for LSEs. That model permitted LSEs to supply their needs "through a combination of generation, transmission, and demand response, including energy efficiency,"[27] while relying on "[s]pecific mitigation rules and increased competition from new entry" to discourage market power and market manipulation.[28]

On the buyer-side, the RPM included a minimum offer price rule (MOPR) that established offer floors for new resources at the net levelized cost of new entry (CONE), but it exempted resources constructed in response to a state requirement, generation resources requiring more than three years to develop, hydroelectric facilities, and upgrades or additions to existing resources. New self-supplied resources—resources built by LSEs or built under contract for LSEs—not falling into these exceptions were subject to the offer floor but were still guaranteed to clear the market. The tariff thus ensured both that LSEs could use their own resources to meet their resource adequacy obligations and that auction prices would not fall precipitously when LSEs built or contracted for new resources.[29]

That changed in 2011, when the FERC accepted amendments to the construct submitted by PJM in response to a complaint filed by independent generators. Concerned about initiatives undertaken by New Jersey and Maryland to encourage the construction of new capacity in their respective states,[30] PJM eliminated the exemption for state-required resources and subjected new resources built or acquired by LSEs ("self-supply") to the risk that they might not clear the market and thus that the LSEs might not be able to use their new resources to meet their resource adequacy obligations. The FERC's reasoning for accepting the changes was that:

> [A] capacity market will not be able to produce the needed investment to serve load and reliability if a subset of suppliers is allowed to bid noncompetitively to suppress market clearing prices . . . . The lower prices that would result under . . . [the] proposal [to eliminate the MOPR] would undermine the market's ability to attract needed investment over time. Although capacity prices might be lower in the short run, in the long run, such a strategy will not attract sufficient private investment to maintain reliability . . . The MOPR does not punish load, but maintains a role for private investment so that investment risk will not be shifted to captive customers over time.[31]

As to the state requirement exemption in particular, the FERC expressed concern that "the actions of a single state could have the effect of preventing other states from participating in wholesale markets."[32] Thus, while the FERC

27. Order Denying Rehearing and Approving Settlement Subject to Conditions, *PJM Interconnection, L.L.C.*, 117 F.E.R.C. ¶ 61,331 at P 6 (2006).

28. *Id.*

29. *See, e.g.*, New Jersey Bd. of Pub. Utils. v. FERC, No. 11-4245, slip op. at 65-72 (3d Cir. Feb. 20, 2014).

30. *PJM Interconnection L.L.C.*, 135 F.E.R.C. ¶ 61,022 at P 7 (2011). PJM also sought to change a number of specific elements of the tariff to make the MOPR more stringent. *Id.* at P 3.

31. *Id.* at P 16.

32. *Id.* at P 143.

concluded that states should feel free to mandate or to subsidize resources for policy reasons, the MOPR exemption for those resources was inappropriate because "there is no valid state interest in ensuring that uneconomic offers can submit below-cost offers into the RPM auction."[33]

In response to LSEs' concerns, the FERC asserted that applying the MOPR to self-supply "does not prevent rate-based investments that are economic by market-based RPM standards from being designated as capacity resources."[34] Not applying MOPR to those resources, the FERC feared, "shifts the investment costs of self-supply to competitive supply by suppressing market clearing prices, and will create an environment in which only such self supply investment will occur."[35] As to LSEs' and states' concerns about their ability to consider factors other than centralized market prices in making investments, the FERC responded that "RPM . . . has no feature to explicitly recognize, for example, environmental or technological goals, nor does it contemplate reliability concerns beyond a three-year forecast."[36]

In other words, the FERC and PJM contended that the market was designed to acquire absolutely the lowest cost capacity resources, not the lowest cost generation resources that met the various business and policy needs of LSEs and the states. Any resource that cost more than the market clearing price—regardless of the environmental, technical, or long-term reliability value it may provide—was considered "uneconomic," any contractual payments for that higher value were considered "subsidies," and any price impacts that the added supply might have on the market were considered "artificial."

Just one year later, in 2012, PJM filed a new settlement further altering the terms of the MOPR.[37] After an intermediate ruling in 2013,[38] the FERC approved

33. *Id.* On appeal, the Third Circuit upheld the FERC's approval of the elimination of the MOPR exemption for state required resources, finding that the FERC has jurisdiction to regulate the terms and conditions of the RPM. In response to state concerns that the FERC was intruding on their statutorily protected authority over resource decisions in each state, the court explained that: "[W]hat FERC has actually done here is permit states to develop whatever capacity resources they wish, and to use those resources to any extent they wish, while approving rules that prevent the state's choices from adversely affecting wholesale capacity rates. Such action falls squarely within FERC's jurisdiction." New Jersey Bd. of Pub. Utils. v. FERC, No. 11-4245, slip op. at 55 (3d Cir. Feb. 20, 2014). The court further explained that "[t]he states' intent is not relevant for purposes of FERC's jurisdiction or the reasonableness of the agencies actions." *Id.* at 55 n.24.

34. 135 F.E.R.C. ¶ 61,022 at P 194.

35. *Id.* at 195.

36. *PJM Interconnection, L.L.C.*, 137 F.E.R.C. ¶ 61,145 at P 90 (2011). On appeal from this decision, the Third Circuit dismissed the petitioners' concerns about self-supply as moot. After parties filed petitions for review and before oral argument at the court, parties had filed another settlement in the case that guaranteed clearing for self-supply if the LSE seeking to use it was not excessively net-short or net-long on capacity, such that the LSE would have significant incentive or ability to suppress RPM prices. New Jersey Bd. of Pub. Utils. v. FERC, No. 11-4245, slip op. at 71 (3rd Cir. Feb. 20, 2014).

37. *PJM Interconnection, L.L.C.*, 153 F.E.R.C. ¶ 61,066 (2015). PJM also proposed, for example, to eliminate a unit-specific review of units that failed the MOPR screen and to extend the period over which MOPR mitigation could apply to resources. Those changes were not approved and are not relevant to this discussion except as they demonstrate the extraordinary complexity and endless litigation that comes from efforts to administer a mandatory non-residual capacity market.

38. *PJM Interconnection, L.L.C.*, 143 F.E.R.C. ¶ 61,090 (2013).

the settlement in October of 2015.[39] In that ruling, the FERC approved PJM's adoption of a competitive entry exemption that applies if:

> (i) The costs of the project will not be recovered from customers either directly, or indirectly, through a non-bypassable charge linked to the construction or clearing of the project in PJM's auction; and (ii) the project will not receive certain types of payments from any governmental entity connected to the project.[40]

The FERC also approved a categorical exemption for self-supply where the LSEs seeking to use the exemption do not buy or sell substantially more capacity in the RPM than they need to meet their resource adequacy requirement, that is, the LSEs are not significantly net-short or net-long. The FERC concluded that "PJM's proposed net-short and net-long thresholds, in principle, adequately protect the market from the price effects attributable to uneconomic new self-supply."[41]

Note, however, that even under the settlement, resources cannot have any "cost or revenue advantages 'that are irregular anomalous, that do not reflect arms-length transactions, or that are not in the ordinary course of the self-supply LSE's business,'" and the exemption does not apply to the extent the self-supply LSE has an arrangement for any payments or subsidies that are specifically tied to the LSE clearing its project in the RPM auction or to the construction of the project.[42] That is a significant restriction. In its Astoria decision, the FERC concluded that an RFP limited to new resources is so irregular or anomalous that bids from the winning resource should not only be subject to the minimum offer rule but also that the bids should be adjusted using an IPP's proxy cost of capital and not the actual—and much lower—cost of capital for the project. Thus, even under the settlement, an LSE could not, without inviting mitigation, issue an RFP for new resources, even if the LSE concluded no existing resources met its business needs. Nor could the LSE condition payment for a resource on that resource clearing the auction, even though failure to clear the auction would mean that the LSE would have to pay twice for capacity: once for the resource they acquired because it met its business needs and again for capacity purchased from the auction solely for the purpose of meeting the LSE's resource adequacy obligation under the PJM tariff. This restriction on the settlement, therefore, significantly affects the economics of LSEs' efforts to exercise their own judgment in making new investments.

At the time this article was finalized for publication, several new complaints had been filed at FERC concerning PJM's MOPR.[43] Submitted in response to proposals filed by two IOUs before Ohio's Public Utility Commission to effectively ratebase some of their formerly competitive generation resources, the complaints seek in part to expand the MOPR to include certain existing resources that had previously cleared the PJM capacity auction and to initiate a proceeding to consider further expanding the MOPR.[44]

39. 153 F.E.R.C. ¶ 61,066 at P 1.

40. *Id.* at P 24.

41. *Id.* at P 55.

42. 143 F.E.R.C. ¶ 61,090 at PP 63-67.

43. *See generally* Complaint Requesting Fast Track Processing, Docket No. EL16-33-000 (filed Jan. 27, 2016) (the "EL16-33 Complaint"); Complaint Requesting Fast Track Processing, Docket No. EL16-34-000 (filed Jan. 27, 2016); Complaint Requesting Fast Track Processing, Docket No. EL16-000 (filed by Calpine et al.).

44. *See, e.g.*, *id.* at 3-5.

B. ISO-NE

Similar changes also took place over time in New England. In 2003, the FERC ordered ISO-NE to include a locational component in its pool-based capacity construct.[45] ISO-NE responded by filing the "LICAP" proposal.[46] In 2005, after two years of continual litigation and Congressional intervention over the LICAP, the LICAP was replaced with the Forward Capacity market (FCM).[47] The FCM includes a Forward Capacity Auction (FCA) that uses an annual descending clock auction to procure ISO-NE's Installed Capacity Requirement (ICR).

The FCM originally included an Alternative Capacity Price Rule (APR) intended to limit artificial suppression of capacity market prices while still permitting LSEs to use state-required resources and self-supply to meet their resource adequacy obligations.[48] It functioned much like the PJM market did prior to 2011 in that it guaranteed LSEs that their resources would clear the market while adjusting the clearing price if necessary to protect IPPs' market revenues. In 2011, the FERC ordered ISO-NE to amend the FCM to replace the APR with an offer floor functionally similar to the PJM MOPR, that would subject LSEs seeking to use self-supply and state-mandated resources to the risk that their resources would not clear the market and could not, therefore, be used to meet the LSEs' resource adequacy obligations.[49] In so doing, the FERC acknowledged that:

> [S]tates and state agencies may conclude that the procurement of new capacity, even at times when the market-clearing price indicates entry of new capacity is not needed, will further specific legitimate policy goals and, therefore, argue that certain resources that receive payments pursuant to state programs, which would otherwise trigger mitigation, should nonetheless be exempt from offering above a price floor.[50]

Among other things, the parties in the litigation argued over whether application of the mitigation mechanism should turn on whether the states supporting resources or LSEs engaged in self-supply intended to suppress prices or whether they were pursuing other goals. The New England generators explained their support for broad mitigation regardless of intent by noting, inter alia: (1) "states are not neutral arbiters but instead represent interests on the buyer side of the capacity market;"[51] (2) "intent issue is irrelevant since prices are suppressed regardless of the intent behind the offer;"[52] and (3) while out-of-market (OOM) bids for state mandated and self-supply resources might offer short term

45. *Devon Power LLC*, 103 F.E.R.C. ¶ 61,082 at P 37 (2003), *order on reh'g*, 104 F.E.R.C. ¶ 61,123 (2003).

46. *ISO New England, Inc*., 135 F.E.R.C. ¶ 61,029 at P 2 (2011) (discussing the history of the ISO-NE capacity construct litigation).

47. *Id.* at P 3 (citing Energy Policy Act of 2005, Pub. L. No. 109-58, § 1236, 119 Stat. 961 (2005)).

48. 135 F.E.R.C. ¶ 61,029 at P 4.

49. *Id.* at P 19.

50. *Id.* at P 20 (Commissioner LeFleur and Chairman Wellinghoff wrote a concurring opinion the highlight the importance of this 206 option in their decision to support the order. They also encouraged ISO-NE and its stakeholders to consider whether to include exemptions for certain types of generation from the mitigation.).

51. *Id.* at P 114.

52. *Id.* at P 115.

gains, they "pose the greatest threats to competitive markets since in the long run, investors will be discouraged from investing."[53]

The generators further complained that the absence of mitigation would lead to "a large fraction of capacity in ISO-NE being allocated on the basis of bilateral contracts and other self-supply arrangements, rather than through the auction process."[54] The generators' witness, Dr. Roy J. Shanker, stated that mitigation is required to prevent artificial depression of market prices caused by the LSEs' decision "to procure *new* uneconomic supplies bilaterally when cheaper existing resources were available."[55] The generators even tried to argue that the lack of mitigation constituted an unconstitutional taking of their property under the 5th Amendment of the Constitution.[56]

On the other side, supporters of self-supply argued that mitigation would:

> [H]ave three undesirable effects on self-supplied resources: (1) the ability of load-serving entities to hedge their ICR obligations through self-supply (either owned generation or purchased power) would be impaired or eliminated; (2) prices resulting from the FCA would be artificially increased over prices that would prevail if self-supply were allowed to operate as intended with no gain in efficiency or consumer welfare; and (3) increased reliance on administered pricing would promote inefficient entry at high prices, resulting in excessive costs to load.[57]

The Maine Public Utility Commission also made the point that aggressive mitigation would have the ironic effect of ensuring high revenues "to the resources that these state programs seek to displace."[58]

The FERC's order requiring the use of bidding floors for what had been self-supply and state supported OOM resources relied on the generators' argument that the OOM bids artificially depressed market prices and that intent was not relevant.[59] The FERC easily rejected generators' 5th Amendment claim, however, noting not only that the FERC had no obligation to guarantee generators a return under a competitive regime, but also that generators had the choice whether to participate in the FCM.[60]

On appeal, the D.C. Circuit upheld the FERC's

> [D]etermination that because self-supply serves to depress capacity prices, a categorical exemption from mitigation is unwarranted. To categorically exempt new self-supplied resources 'would . . . result in unjust and unreasonable rates'. The FERC is within its jurisdiction to consider the economic, as well as the technical, attributes of a capacity resource.[61]

The court offered LSEs the sop that "LSEs are free to shape their portfolios as they choose, including with new self-supplied resources, 'provided these new resources clear the auction.'"[62] Of course, that was cold comfort for the LSEs

53. *Id.* at P 114.
54. 135 F.E.R.C. ¶ 61,029 at P 226.
55. *Id.* at P 228.
56. *Id.* at P 248.
57. *Id.* at P 223.
58. *Id.* at P 121.
59. 135 F.E.R.C. ¶ 61,029 at P 170.
60. *Id.* at P 255.
61. New England Power Generators Ass'n, Inc. v. FERC, 757 F.3d 283, 295 (D.C. Cir. 2014).
62. *Id.*

given the significant restrictions the court's caveat placed on their resource choices.

C. NYISO

Like PJM and ISO-NE, NYISO operates a mandatory capacity construct to acquire the capacity resources required to meet its resource adequacy requirement. That construct includes buyer-side mitigation rules providing that "unless exempt from mitigation, new capacity resources must enter the New York City or G-J Locality Installed Capacity (ICAP) markets (mitigated capacity zones) at a price at or above the applicable offer floor and continue to meet the offer floor until their capacity clears twelve monthly auctions."[63] The market is much shorter term than the other eastern RTOs, with auctions for spot, monthly, and three-month strips of capacity.

In February of 2015, the FERC granted in part a complaint by ConEd and directed NYISO to add a competitive entry exemption to the buyer-side market power mitigation rules.[64] In October of the same year, the FERC granted in part a complaint by the NY PSC, NYPA, and NYSERDA, directing NYISO to develop an exemption from buyer-side mitigation for "certain narrowly defined renewable and self-supply resources that have limited or no incentive and ability to exercise buyer-side market power to artificially suppress ICAP market prices."[65]

The latter case clearly delineates the varying positions of the parties with respect to buyer-side market power mitigation. The market monitoring unit (MMU) set up the FERC's role as balancing between two goals: "maximize[ing] [mitigation rules'] effectiveness in deterring uneconomic investment while minimizing the potential for them to deter economic investment."[66] The generators argued that entrants should be exempt only if they can show the entry "is not subsidized, and is basing its investment success on market pricing and revenues."[67] In response to the complainants' argument that the mitigation rules interfere with state pro-environment laws, the generators insist that "the ICAP market is supposed to be agnostic with respect to such considerations" and that the FERC has rejected the idea that "certain resources are more 'worthy' (and should therefore be paid more) than other resources . . . ."[68] As they had in New England, the generators argued that mitigation of even renewable resources is required by the 5th Amendment, as the 5th Amendment and the Federal Power Act (FPA) require that "rates must be set at levels that provide 'enough revenue not only for operating expenses but also for the capital costs of the business' and must be sufficient for the public utility to 'maintain its credit and to attract capital.'"[69] Permitting renewable resources to participate in the auction without

63. *New York Pub. Serv. Comm'n v. N.Y. Indep. Sys. Operator, Inc.*, 153 F.E.R.C. ¶ 61,022 at P 3 (2015). Although mind-numbingly complicated, the exemption essentially only applies if it is not needed, that is if the prices in the market are anticipated to be higher than the mitigated price would have been.

64. *Consolidated Edison Co. of N.Y., Inc. v. N.Y. Indep. Sys. Operator, Inc.*, 150 F.E.R.C. ¶ 61,139 at PP 1, 14 (2015), *order on reh'g., clarification, and compliance*, 152 F.E.R.C. ¶ 61,110 (2015).

65. 153 F.E.R.C. ¶ 61,022 at P 2.

66. *Id.* at P 24.

67. *Id.* at P 20 (internal quotes and footnote omitted).

68. *Id.* at P 25.

69. *Id.* at P 28.

bid-mitigation, the generators insisted "has the potential to artificially shift hundreds of millions of dollars a year from suppliers to customers, adversely affecting the competitive market."[70] Complainants on the other hand, argue that the purpose of mitigation is not to prop up prices, but to prevent market manipulation: "if a market participant is willing to pay more for a resource with benefits such as low emission, beyond a contribution to the ICAP resource adequacy metric, those resources should not be mitigated because they have been pursued without manipulative intent."[71]

In its ruling, the FERC both implicitly acknowledged the relevance of intent and declined to determine whether there had been intentional market manipulation by focusing instead on incentive and ability to exercise market power. Thus, it directed NYISO to develop an exemption from mitigation only for that narrow class of resources that have limited or no incentive and ability to exercise buyer-side market power. The FERC further concluded that it was necessary to put a megawatt cap on the total amount of renewable resources "to further limit any risk of artificial price suppression."[72] In deciding which renewable resources to permit to escape mitigation, the FERC ruled that NYISO "may" consider those resources that qualify under NY's renewable portfolio standard, but that NY's renewable policies should not be determinative.[73]

With respect to self-supply, the FERC sought to balance between certain LSEs' need "to make decisions on the purchase of capacity that best meets their needs and to hedge their exposure to future ICAP obligations based on their reasonable expectations for the future" and the LSE's need to plan on a long-term basis[74] against the risk of price suppression. It chose to direct NYISO to develop an exemption for self-supply acquired by LSEs like that adopted by PJM, with net-long and net-short thresholds that remove the ability and incentive to exercise buyer-side market power.[75] As a whole, that decision failed to satisfy IPPs because it exempted from mitigation some investments that would have the effect of driving down market prices and supplanting some existing resources. And it also failed to satisfy LSEs and states because it left subject to mitigation innocent investments that failed the "incentive and ability" screen.

D. MISO Litigation

In 2008, the FERC approved MISO's proposal to create a mandatory Planning Reserve Margin for each LSE and to require LSEs to obtain the necessary capacity in the bilateral market. At the same time, the FERC approved a voluntary capacity auction for MISO to permit those who were short to buy capacity from those who were long. At that time, the FERC concluded that "[t]he voluntary auction will afford LSEs with an additional mechanism to procure needed capacity

70. 153 F.E.R.C. ¶ 61,022 at P 45.

71. *Id.* at P 35.

72. *Id.* at P 47.

73. *Id.* at P 51.

74. *Id.* at P 61.

75. 153 F.E.R.C. ¶ 61,022 at PP 61-65 (in her concurring opinion, Commissioner Honorable emphasized the FERC's role striking the proper balance with mitigation rules and recognizing competing interests among diverse stakeholders).

and increase transparency in the procurement of capacity."[76] The FERC rejected arguments that it should require a mandatory auction or a mandatory centralized capacity market.[77]

In 2012, the FERC reviewed MISO proposals to amend its capacity construct, accepting some and rejecting others. In particular, the FERC rejected MISO's request to form a mandatory forward capacity auction because resource planning in the region is founded upon bilateral transactions. Instead, the FERC proposed MISO consider instituting an aggressive deficiency charge.[78]

A number of entities, including the independent market monitor (IMM) and IPPs objected and sought rehearing. They urged the FERC to approve a mandatory centralized capacity market that included the following features:

> (1) all new entry should be screened for offer prices below 100 percent of levelized net CONE; (2) mitigation should apply to all resource types; (3) any resources that fail the appropriate screens and are not otherwise exempt should be mitigated to 100 percent of the lesser of net CONE or unit-specific net CONE; (4) mitigation should apply to self-supply if it fails the above screens and the effective waiver for self-supply under the fixed resource adequacy plan should be eliminated; and (5) there should be a general exemption for all supply that either relies only on market revenues or that has received outside revenues only through a non-discriminatory procurement process.[79]

The IPPs argued that "the primary purpose of a capacity market is to produce long-term economic signals that lead to the development of generating capacity sufficient to maintain system reliability. In order to achieve this end . . . clearing prices must average out over time to the CONE."[80]

The IMM asked a very interesting question that goes to the very heart of the discussion in this paper:

> Is it the purpose of the capacity market to provide price signals . . . to facilitate the efficient investment, retirement, and maintenance decisions that will satisfy MISO's resource adequacy needs? The Market Monitor asserts that if the answer is "no," the Commission has no reason to consider a MOPR in MISO. The Market Monitor argues that, if the answer is "yes," the MOPR alone will not achieve this objective.[81]

On the other side of the debate, the states in MISO, LSEs, and organizations representing LSEs argued against a mandatory centralized capacity construct and in particular against a MOPR. Among other arguments, they argued that the mandatory capacity market is unnecessary because the vast majority of capacity in the MISO region is acquired through self-supply or bilateral markets.[82] They also asserted that a MOPR would: improperly define "capacity as a fungible commodity, diminish benefits that might drive an investment in a new generating facility including its ability to satisfy an RPS,"[83] undermine long-term

76. *Midwest Indep. Transmission Sys. Operator, Inc*., 153 F.E.R.C. ¶ 61,229 at P 3 (2015).
77. *Id.*
78. *Id.* at P 26.
79. *Id.* at P 59.
80. *Id.* at P 29.
81. 153 F.E.R.C. ¶ 61,229 at P 3.
82. *Id.* at P 76.
83. *Id.* at P 75.

procurement decisions made by LSEs subject to state oversight,[84] undermine competition, and harm consumers by establishing an administrative price floor.[85]

The FERC ruled on the 2012 request for rehearing in 2015, affirming its earlier order on the same basis.[86] The FERC explained:

> 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.[87]

In response to the IPPs' complaint that the voluntary capacity market failed to give merchant generators adequate incentives to remain viable, the FERC insisted that:

> Such resources could sell capacity as part of long-term bilateral contracts, locking in a level of capacity revenues based on their expected value over the life of the agreements or could sell their capacity in the auction year. In neither case must rates, in order to be just and reasonable, assure viability of such resources, so long as the prices in the market reflect supply and demand conditions.[88]

E. 3rd and 4th Circuit Preemption Litigation

As briefly noted above, both MD and NJ concluded that the PJM market was leading to the construction of insufficient resources in their states to ensure reliability. Accordingly, in 2010 and 2011 respectively,[89] each established RFPs for new resources to be constructed in their respective states and directed state-regulated LSEs in their states to enter into long-term bilateral contracts for differences with the winning bidders. They also directed that winning bidders should only be paid the contract price if the resources cleared the capacity auction. New Jersey provided for a 15-year contract while Maryland provided for 20 years.

The IPPs in PJM objected that the state programs unfairly subsidized certain generators, thereby artificially driving down the market clearing price they were paid for their resources in the PJM capacity market. The IPPs also objected that the subsidy could unfairly lead some of their generation not to clear the market.

Both courts found that the state programs were preempted by the Federal Power Act because only the FERC has the authority to set wholesale prices. The Third Circuit explained "[w]e determine that LCAPP [the state solicitation] effectively sets capacity prices and therefore regulates the same field occupied by the FERC."[90] In a nearly identical ruling, the Fourth Circuit stated "we conclude

84. *Id.* at P 80.

85. *Id.* at P 82.

86. 153 F.E.R.C. ¶ 61,229 at P 1.

87. *Id.* at P 46.

88. *Id.* at P 110.

89. *PJM Interconnection, L.L.C.*, 143 F.E.R.C ¶ 61,090 at P 5 & n.8 (2013); S. 2381, 214th Leg. (N.J. 2011); *In re* Whether New Generating Facilities Are Needed to Meet Long-Term Demand for Standard Offer Service, Case No. 9214, Request for Proposals for Generation Capacity Resources Under Long-Term Contract (M.P.S.C. Dec. 29, 2010).

90. PPL EnergyPlus, LLC v. Solomon, 766 F.3d 241, 250 (3d Cir. 2014).

that the Generation Order [the state solicitation] is field preempted because it functionally sets the rate that CPV receives for its sales in the PJM auction."[91]

The Third Circuit decision is significantly narrower than the Fourth. It finds field pre-emption because the New Jersey contract for differences substitutes the contract price for the price that the winning generators would otherwise have earned in the centralized market.[92] The court expressly declines, however, to accept the argument that the NJ program was conflict preempted:

> [B]ecause it affects the market clearing price by increasing the supply of electric capacity . . . . Holding all else constant, an increase in capacity resources will cause supply to satisfy demand at a lower price. So LCAPP has the theoretical ability to influence the wholesale price of energy and capacity in PJM by enlarging the supply of capacity. If any effect on interstate markets could trigger preemption, LCAPP would be irredeemably flawed.
>
> * * *
>
> But the law of supply and demand is not the law of preemption. When a state regulates within its sphere of authority, the regulation's incidental effect in interstate commerce does not render the regulation invalid . . . . The states may select the type of generation to be built—wind or solar, gas or coal—and where to build the facility . . . . FERC's authority over interstate rates does not carry with it exclusive control over any and every force that influences interstate rates.[93]

The Fourth Circuit, however, not only found field preemption, but also conflict preemption. It relied on concerns raised by plaintiffs that Maryland's actions had the potential to "seriously distort the PJM auction's price signal," on which "[m]arket participants necessarily rely" in making investment decisions; that the 20-year duration of the "subsidy" is "substantial;" and that the 20-year term of the contract conflicts with a 3 year fixed price offered by the RPM to new resources.[94]

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91. PPL EnergyPlus, LLC v. Nazarian, 753 F.3d 467, 476 (4th Cir. 2015).

92. *Solomon*, 766 F.3d at 254.

93. *Id.* at 255.

94. *Nazarian*, 753 F.3d at 479. Unfortunately, both orders suffer from a few common errors. First, neither court understood that the centralized capacity construct in PJM is not the sole market for the sale of capacity in the PJM region. While prices in the centralized capacity construct are set by the auction pursuant to the FERC approved PJM tariff, prices in the bilateral markets are set by agreement between the parties and are regulated by the FERC through the FERC's FPA section 205 and 206 authority over the seller's rates, terms, and conditions. Both states did precisely what the FERC contemplated in its original order approving the PJM centralized capacity auction: they sought to "use this information [from the PJM auction] to manage their risk more effectively . . . through bilateral contracting . . . ." *PJM Interconnection, L.L.C.*, 115 F.E.R.C. ¶ 61,079 at P 70 (2006). Second, neither Maryland nor New Jersey purported to or effectively set wholesale market prices. Both states acted as customers in the market, expressing the terms and conditions under which they were willing for their regulated utilities to purchase new capacity. They lacked the authority to set rates and did not. It was the winning generators, by drafting their responses to the RFPs, that set the rates. And, it was the FERC who regulated those rates, terms, and conditions, either through the bidders' market-based rate tariffs or their obligation to file the contracts with the FERC. If the FERC had thought the contracts were unjust, unreasonable, or unduly discriminatory, it had the power to reject them. It was also the FERC that regulated the rates in the RPM. The rates in the auction were set by operation of PJM's FERC-filed tariff, not by the states. In Maryland at least, the plaintiffs should have no complaint even about any indirect impacts on the RPM price; CPV cleared the RPM at the adjusted price set by PJM without consideration for any revenues from the contract for differences. The courts' confusion arose at least in part because the RFPs conditioned compensation under the contracts on the capacity clearing the PJM market and thus being available to the meet the purchasers' resource adequacy obligations. The two markets were intertwined in the courts' mind. Yet, it was not unreasonable for

The Supreme Court affirmed the Fourth Circuit in April, 2016.[95] It concluded that Maryland's program unlawfully "disregards an interstate wholesale rate required by FERC."[96] The Court described its holding as "limited" [97] and based on the fact that "[t]he contract for differences [provided for under the Maryland program] does not transfer ownership of capacity from one party to another outside the auction. Instead, the contract for differences operates within the auction; it mandates that LSEs and CPV exchange money based on the cost of CPV's capacity sales to PJM."[98]

III. THE LITIGATION ILLUSTRATES THAT THE CENTRALIZED CAPACITY CONSTRUCTS IN THE EASTERN RTOS ARE NOT MEETING THE NEEDS OF ANY STAKEHOLDERS

A. The Centralized Capacity Constructs Do Not Provide Independent Power Providers Adequate Revenue to Invest in New Resources

The IPPs have been the drivers behind the adoption of buyer-side mitigation in the eastern RTOs' centralized capacity constructs over the past five years. They have argued in each RTO that the capacity markets must "produce long-term economic signals that lead to the development of generating capacity sufficient to maintain system reliability."[99]

Despite the MOPR-proponents' litigation successes, however, the centralized capacity constructs have neither ensured the IPPs a consistent return on their investments[100] nor led to the development of significant new generation capacity

the states to condition payment on receipt of benefit. Confusion was also caused by the plaintiffs' descriptions of contracts for differences as "subsidies." But, that was misleading. A contract for difference is merely a tool for establishing a fixed-price contract in an RTO context. By requiring units to be bid into the market to be dispatched, and by requiring loads to purchase generation out of the market to receive delivery, RTOs turn all bilateral contracts into contracts for difference. And, as discussed in more detail below, a payment above the market clearing price is not a "subsidy" unless the payment is uneconomic—untethered to value. Here, the fixed price contracts instead reflected the range of values that the states were pursuing in their RFPs, including locational value and the long-term hedge value of the assets they sought to have built.

95. Hughes v. Talen Energy Marketing, LLC, 578 U.S. ___ (2016).

96. *Id.*, slip op. at 15.

97. *Id.*

98. *Id.*, slip op. at 14. While the Court purports to leave states significant room to encourage the construction of new capacity, its reasoning continues to ensure that consumers are at risk of paying twice for capacity if their states accept the Court's invitation: "So long as a State does not condition payment of funds on capacity clearing the auction, the State's program would not suffer from the fatal defect that renders Maryland's program unacceptable." Slip op. at 15.

99. 153 F.E.R.C. ¶ 61,229 at P 29. The argument that buyer-side mitigation is necessary to ensure reliability has always seemed backwards to LSEs. If the concern is truly resource adequacy, then LSEs' investment in new resources and state mandates requiring investment in new resources should be celebrated. Those resources, built in response to market incentives and other business and policy drivers, contribute towards reliability. Instead, the goal of buyer-side market mitigation has seemed more to be about who would build new generation, not about whether it would be built. Hence, the IPPs' complaint in New England that the absence of mitigation would lead to "a large fraction of capacity in ISO-NE being allocated on the basis of bilateral contracts and other self-supply arrangements, rather than through the auction process" and the IPPs' 5th Amendment arguments in several cases. *ISO New England, Inc*., 135 F.E.R.C. ¶ 61,029 at P 226 (2011) (discussing the history of the ISO-NE capacity construct litigation).

100. *See, e.g.*, MATHEW J. MOREY ET AL., ENSURING ADEQUATE POWER SUPPLIES FOR TOMORROW'S ELECTRICITY NEEDS 56 (2014), *available at*

in the eastern RTOs not tied at least in part to long-term power-purchase agreements. As noted above, the failure of the centralized capacity constructs to lead to new investment drove Maryland and New Jersey to institute their controversial RFPs for new resources. Also, as discussed in greater detail below, the centralized capacity constructs' inability to ensure adequate revenue for IPPs is imperiling significant amounts of fairly low-cost, zero-emission nuclear capacity within the eastern RTOs' footprints. And, as a recent American Public Power Association study has shown, most capacity in those regions is still built pursuant to bilateral contract and self-build efforts, and not by private investors relying solely on RTO market revenues.[101]

B. The Centralized Capacity Constructs Do Not Permit Load Serving Entities Efficiently to Manage Their Wholesale Power Supply Risks and Costs

As noted above, LSEs seek to manage portfolios of resources that permit them to meet a wide range of business and policy imperatives, including safety, reliability, affordability, risk management, environmental sustainability, and regulatory compliance. That means that they need to be able to take numerous factors into account in making investments in new resources, including matching resources to load profile, fuel diversity, fuel efficiency, temporal diversity, locational value, environmental performance, operational benefits, utilization of non-generation alternatives, and counter-party risk.

LSEs largely look to bilateral markets to meet these needs. In those markets, willing buyers and willing sellers can exchange energy, rights to generating capacity, or related products under mutually agreeable terms for specified periods of time. Bilateral contracts allow unlimited permutations that permit the parties to address their respective commercial needs.[102]

If LSEs cannot find an attractive product at a reasonable price in the bilateral markets, they can build a resource that meets their needs. In a speech promoting publicly-owned utilities, Franklin Delano Roosevelt described consumers' ability to provide power for themselves as a yardstick, or birch rod that would keep investor-owned utilities honest.

> It is perfectly clear to me, and to every thinking citizen, that no community which is sure that it is now being served well, and at reasonable rates by a private utility company, will seek to build or operate its own plant. But on the other hand the very fact that a community can, by vote of the electorate, create a yardstick of its own, will, in most cases, guarantee good service and low rates to its population. I might call the right of the people to own and operate their own utility something like this:

http://www.hks.harvard.edu/hepg/Papers/2014/Ensuring%20Adequate%20Power%20Supplies%20for%20EMRF%20Final.pdf.

101. *See generally* AM. PUB. POWER ASS'N, POWER PLANTS ARE NOT BUILT ON SPEC (2014) [hereinafter POWER PLANTS], *available at* http://www.publicpower.org/files/PDFs/Power_Plants_Not_Built_on_Spec_2014.pdf.

102. In order to attract a customer in the bilateral markets, a competitor must be able to offer buyers a better product, a better price, better service, a relationship that offers long-term certainty, or other attractive terms that not only makes its product stand out above its competitors in the market but also more attractive than the buyer's other options, including the potential buyer's self-build option, transmission and demand-side resources.

> a "birch rod" in the cupboard to be taken out and used only when the "child" gets beyond the point where a mere scolding does no good.[103]

Centralized capacity constructs can also be a valuable option for LSEs on the margins. As the FERC noted of MISO's voluntary auction, it can "afford LSEs with an additional mechanism to procure needed capacity and increase transparency in the procurement of capacity."[104] Unlike many products, capacity is "lumpy."[105] The centralized capacity constructs can permit utilities that have not yet grown into a new resource to sell excess capacity and can permit utilities that are short but cannot yet justify a new resource a place to find what they need.

The centralized capacity constructs, however, cannot meet all of an LSE's needs. Centralized markets are to bilateral markets as commodity markets, such as NYMEX, are to over-the-counter markets. Centralized markets manage standardized transactions for fungible products, such as wheat, pork bellies, or oil at a particular hub. Parties are not buying specialized products from identifiable providers. In the centralized capacity constructs, buyers can acquire limited additional capacity resources to meet their RTO resource adequacy obligation, but they are not able to engage in customized transactions or acquire an actual slice of a generator capable of meeting multiple needs as they can in the bilateral markets.[106] Moreover, as the Supreme Court has acknowledged, "[m]arkets are not perfect, and one of the reasons that parties enter into wholesale power contracts is precisely to hedge against the volatility that market imperfections produce."[107]

Unfortunately, the trend in the centralized capacity constructs has been to undermine LSEs' ability to transact in the bilateral markets and to build their own resources to obtain the resources they need to meet their various business and regulatory obligations. Rather, as discussed above, the markets aggressively

103. Franklin D. Roosevelt, The Portland Speech: A Campaign Address on Public Utilities and the Development of Hydroelectric Power (Sept. 21, 1932), *in* THE PUBLIC PAPERS AND ADDRESSES OF FRANKLIN D. ROOSEVELT 727 (Random House 1938).

104. 153 F.E.R.C. ¶ 61,229 at P 3.

105. Unless an LSE loses a major capacity resource, new capacity needs tend to grow on a slow and relatively predictable basis. LSE load growth tends to fall between zero and 3-4% per year, with average load growth nationwide anticipated to be under one percent per year in the next few decades. Generation capacity, however, is "chunky." How chunky depends on the next resource an LSE needs to meet its broader needs. If capacity were all that was needed, gas turbines and gensets can be added 100 MW at a time. If an LSE needs a base load generation resource, however, a minimum efficient size could be 500 MW or larger. A large LSE system with thousands of megawatts of load, may be able to match new capacity resource investments fairly closely to load growth on an annual basis as even slow growth can exceed 100 MW of new demand per year on the largest systems. A small LSE system, on the other hand, could take many years to grow into a new generation resource. Small LSEs therefore will need to either purchase capacity from others for a number of years until their needs justify a new resource or build a new resource before all of its capacity is required and sell the excess to others until the system needs it.

106. MOREY, *supra* note 96, at 57 (explaining that capacity within the centralized constructs "is not a real product."); *Remarks of Timothy G. Massad Before the Coalition for Derivatives End-Users*, U.S. COMMODITY FUTURES TRADING COMM'N (Feb. 26, 2015), http://www.cftc.gov/PressRoom/SpeechesTestimony/opamassad-12; *Remarks of Chairman Timothy Massad Before the Energy Risk Summit USA 2015*, U.S. COMMODITY FUTURES TRADING COMM'N (May 12, 2015), http://www.cftc.gov/PressRoom/SpeechesTestimony/opamassad-21 (highlighting the CFTC's efforts to ensure that energy end users, such as LSEs can engage in bilateral transactions to hedge their risks, including clarifying that contracts with embedded volumetric optionality (like most bilateral electric transactions) are not treated as "swaps" under the Dodd-Frank Act and the CFTC's regulations).

107. Morgan Stanley Capital Grp. Inc. v. Public Util. District No. 1, 554 U.S. 527, 547 (2008).

discourage such investments if those investments do not beat the costs of fungible capacity resources bid into the centralized constructs without consideration of those resources' environmental value, technological value, or reliability value more than three years out. Henry Ford once said, customers can have a car painted any color they want, so long as it is black. Similarly, the newer construct rules now say that LSEs can invest in any resource they want, so long as it is the low cost resource in the auction year as calculated by the RTO, regardless of the actual value of the resource to the consumer. If the LSEs want something other than what the incumbent suppliers are offering, they have to take the risk of paying twice for capacity: once for the resource that meets their business, operational, and regulatory needs and again for the resource the RTO thinks they should have purchased based on a myopic view of value. Those changes have threatened to block LSEs' efforts to manage their business and operational risks, and by creating barriers to entry, have both driven up market prices and undermined reliability.[108]

C. The Centralized Capacity Constructs Do Not Permit States Efficiently to Manage Their Retail Consumers' Wholesale Power Supply Risks or to Implement State Policy Priorities

As noted above and discussed in greater detail below, some of the states in the eastern RTOs believe it is necessary for them to direct the utilities they regulate to acquire generation resources outside the centralized capacity constructs in order to ensure reliability, to meet state environmental goals, or to meet other state policy goals. Yet, the changes in the market rules in the eastern RTOs have handicapped states' ability to pursue those goals. Though as discussed in greater detail below, several FERC commissioners have acknowledged the legitimacy of the state goals, and have expressed some angst at the impact that the capacity construct rules have had on state policies, the rules have consistently placed supposed market efficiency above state policy.[109]

The FERC's orders have held that if resources required to meet state mandates cannot clear in the market, then they are "not needed."[110] They have held that if LSEs must purchase duplicate capacity—both the renewable generation required by state mandates and the lower-cost capacity they must buy from the centralized capacity construct to demonstrate they have met their resource adequacy obligation—then it is the states and not the centralized capacity construct that have required the acquisition of excess capacity.[111] And, even where the orders have granted exemptions from offer floors for some renewable generation, the FERC has denied the states the right to determine which renewable

108. *See, e.g.*, *Fact Sheet: RTO Capacity Markets and Their Impacts on Consumers and Public Power*, AM. PUB. POWER ASS'N (May 2015), http://publicpower.org/files/PDFs/RTOCapacityMarketsandTheirImpactsonConsumersandPublicPowerFSMay2015.pdf; *Fact Sheet: Money for Nothing in the Power Supply Business*, AM. PUB. POWER ASS'N (Feb. 2015), http://publicpower.org/files/PDFs/23%20Money%20for%20Nothing.pdf.

109. *New England States Comm. on Elec. v. ISO New England, Inc.*, 142 F.E.R.C. ¶ 61,108 at P 35 (2013) ("[T]he Commission must balance two considerations . . . its responsibility to promote economically efficient markets and efficient prices, and . . . its interest in accommodating the ability of states to pursue other legitimate state policy objectives.").

110. *See, e.g.*, *ISO New England, Inc.*, 138 F.E.R.C. ¶ 61,027 at P 80 (2012).

111. 142 F.E.R.C. ¶ 61,108 at P 34.

resources or how much renewable capacity LSEs should be able to purchase without risk of mitigation. They have instead left it to the RTOs to make those decisions.[112]

The FERC has, in this way, undermined states' ability to pursue local policies for the benefit of their consumers. If the states value increased reliability out more than three years, if they value wind or solar generation, if they value the environmental benefits that come from replacing older resources with newer ones, or if they value the economic and hedging benefits of local generation construction, they must look not only at the cost to consumers of promoting those resources, but also at the potential cost to consumers of paying for both those resources and the existing less-costly but less-valuable resources from which consumers could be required to purchase capacity by the centralized capacity construct rules.

IV. THE FERC'S JUSTIFICATIONS FOR BUYER-SIDE MARKET POWER MITIGATION HAVE BEEN INCONSISTENT AND DO NOT PASS CLOSE INSPECTION

The FERC and IPPs have expressed concern since the eastern RTOs first adopted centralized capacity constructs that states and LSEs could exercise buyer-side or monopsony power that could undermine those markets. Unfortunately, the reasons for that concern, and the reasons for the resulting mitigation of buyers in the markets, have varied from order to order, and none of the justifications adequately support the imposition of buyer-side mitigation.

A. Mitigation Aimed at Impact Regardless of Intent Unjustly Favors One Set of Market Participants Over Others

One approach to justifying buyer-side mitigation, generally offered by IPPs, is quite simple and focused solely on the impact of new entry driven by state or LSE activities on prices in the centralized capacity constructs. The problem, as laid out in this approach, is simply that new supply supported by states and LSEs drives down prices in the market, making it harder for generators who rely on centralized markets for revenues to recover their costs and a reasonable rate of return. The concern is not so much with the intent, legality, or reasonableness of the states' or LSEs' behavior, but with the economic impact of entry on those relying on centralized markets for revenues[113] and the continued economic viability of that business model. The FERC has echoed those broad concerns at times.[114]

112. 153 F.E.R.C. ¶ 61,022 at P 51.

113. *Id.* at P 22 (quoting *New York Indep. Sys. Operator, Inc.*, 124 F.E.R.C. ¶ 61,301 at P 29). The IPPs argued that "a project's effect on the market causes harm, not its intent," and "all uneconomic entry has the effect of depressing prices below the competitive level and that this is the key element that mitigation of uneconomic entry should address."

114. *See, e.g.*, 135 F.E.R.C. ¶ 61,029 at P 170 ("We agree with arguments contending that OOM capacity suppresses prices regardless of intent"); 138 F.E.R.C. ¶ 61,027 at P 79 n.116 ("[T]hat the Commission has ample tools at its disposal to detect and remedy intentional market manipulation is beside the point—we note, as we have elsewhere in this order and in prior orders, that below-market entry can suppress the market clearing price regardless of intent" and "FCM is more than a vehicle 'to ensure that each [LSE] contributes its share of . . . capacity that is needed to operate the region's electric system reliably.' The broader purpose of FCM is to 'locate

If this is truly the issue and the FERC is focused merely on the price impact of entry by self-supply, regardless of whether the LSEs engaged in self-supply are acting unlawfully, that approach suffers from a number of flaws. If the FERC and RTOs are mitigating new LSE resources regardless of any unlawful intent to artificially drive down market prices, then the FERC and the RTOs are effectively imposing a barrier to exit by existing resources (that may not be meeting LSE's and states' broader resource needs) and a barrier to entry by new resources that LSEs and states may acquire because they offer the LSEs and states value not available from the existing resources being bid into the centralized capacity constructs. Such action looks like protectionism in the international context. It appears to reflect a preference for the resources offered by one set of market participants—competitive entrants relying solely on centralized market revenues—over entry by others—LSEs and others selling long-term to LSEs without manipulative intent. So long as the compensation LSEs pay for their new resources reflects the value those LSEs place on their new resources, it is not clear what the legal or economic justification could be for the FERC or the RTOs to disfavor those investments.

As discussed below, the law is concerned with competition, not competitors. If LSEs and those who engage in long-term transactions with them can without unlawful intent build the generation required to preserve resource adequacy and meet other customer needs more competitively than those relying solely on short-term centralized markets, then the FERC need not bend over backwards to preserve the latter group's revenues. After all, in disposing of the IPPs' 5th Amendment claims, even the FERC has conceded that it has no obligation to guarantee the IPPs a return of and on their investment. And in its most recent MISO order, the FERC made clear both that IPPs have the option of selling their capacity to LSEs under long-term bilateral contracts if the capacity auction is not providing them the revenue they want and that the FERC has no obligation to assure them their revenues so long as the market outcomes reflect supply and demand.

Second, even should the FERC have the authority to set market rules that protect market participants that have chosen to rely solely on short-term centralized markets for recovery of and on their investments, the tool the FERC has picked is inadequate for the job. For one, the FERC has decided to mitigate only LSEs' efforts to act as price takers in the market. It has approved "competitive entry" exemptions from minimum offer rules for private investors under the theory that "subjecting such resources to an offer floor serves no competitive objective or market efficiency regardless of whether they are judged uneconomic."[115] Yet, the entry of IPP-owned resources into the market at a zero bid will have the same effect on prices in the market as entry of LSE-owned

the *price* at which market incentives will be sufficient to meet [the system's] expected demand." (internal citations omitted)); 142 F.E.R.C. ¶ 61,108 at P 35 ("Exempting renewables whose costs exceed the market price [from MOPR] would result in the uneconomic entry of renewables and thereby reduce capacity prices"). *But see Consolidated Edison Co. of N.Y., Inc. v. N.Y. Indep. Sys. Operator, Inc.*, 150 F.E.R.C. ¶ 61,139 at P 50 (Feb. 26, 2015) (rejecting Entergy's complaint that permitting even IPPs without any incentive to suppress prices to escape MOPR violated the "'uneconomic entry' standard" in the tariff.). *See also infra* § V.A. (discussing the FERC's concern about the impact of LSE entry on the continued viability of private investment).

115. 150 F.E.R.C. ¶ 61,139 at P 46.

resources as price-takers.[116] Moreover, as the MISO market monitor conceded, if the goal is simply to prevent new entry from suppressing prices in the auction, then even a minimum offer rule probably does not go far enough.[117] The buyer-side mitigation harms LSEs and undermines state policy efforts without actually meeting the FERC's reliability goals. And, as discussed in detail in section VI below, that result is inevitable because no matter how the FERC tries to engineer the centralized capacity constructs, they are the wrong tool to ensure resource adequacy.

B. The Buyer-side Market Power Mitigation Mechanisms in the Eastern RTOs are Far Too Broad to Address Intentional Mitigation Without Causing Significant Collateral Harm

At other times, the FERC's concern has been much more closely focused on unlawful buyer behavior: intentional efforts by states and utilities to submit uneconomic, subsidized bids into the centralized markets for the purpose of artificially suppressing prices in the market to reduce their overall costs in that market. In ConEd v. NYISO, for example, the FERC explained that "[t]he original purpose of buyer-side mitigation rules—and minimum offer price rules (MOPR) generally—was to address buyer-side market power, i.e., the market power exhibited by entities seeking to lower capacity market prices for the capacity they buy."[118] The FERC also noted that "[b]y mitigating actual buyer-side market power, these tariff provisions can help to ensure markets reflect competitive prices."[119]

If the FERC actually seeks to address only truly manipulative and anti-competitive behavior that actually artificially suppresses price, then is using too big a hammer for the task.

First, the FERC has the clear authority to punish deliberate buyer-side manipulation post hoc under FPA Sec. 220-222. The use of enforcement authority rather than broad mitigation would be much more targeted at the bad behavior. And, though complicated, such cases would have to require fewer resources than the dozens of orders the FERC has had to issue and defend concerning minimum price rules and their design. It should be telling that the FERC has never found the need to file a buyer-side manipulation case. Should truly manipulative and anti-competitive buyer behavior be a serious risk, one would expect to find at least a few cases in which the FERC has used its enforcement authority to punish illegal buyer-side behavior. On the other hand, the absence of cases is consistent with the Supreme Court's conclusion, discussed in detail below, that buyer-side market power is rare, hard to exercise, and seldom successful, and that behavior that may appear to reflect buyer-side market power is usually pro-competitive and pro-consumer.

116. The FERC believes that "[b]ecause a purely merchant generator places its own capital at risk when it invests in a new resource, any such resource will have a strong incentive to bid its true costs into the auction, and it will clear the market only when it is cost effective."). *Id.* But, as discussed in section V.C. below, once an investor commits to build a capacity resource, that resource's marginal cost for capacity is nearly zero. Unlike energy, which has significant variable costs for fuel and O&M, there are few if any variable costs for capacity.

117. 153 F.E.R.C. ¶ 61,229 at P 62.

118. *See, e.g.*, 150 F.E.R.C. ¶ 61,139 at P 2.

119. *Id.* at P 3 (emphasis added).

Second, if buyer-side mitigation is actually aimed at intent, the FERC's approach seems to be over-broad and likely to sweep in behavior that is both pro-competitive and pro-consumer. The FERC has increasingly supported mitigation of buyer-side behavior where states and LSEs may have the "incentive and ability" to suppress prices artificially—without evidence of actual intent.[120] The legal justification focuses on the need to mitigate potentially illegal, anticompetitive, or economically irrational behavior, and thus appears to be rooted in the intent of the states and the LSEs. Yet, the actual mitigation is broad and disconnected from the motivations of individual market participants.

The FERC adopted an extreme hybrid between intent and impact in its October 9, 2015 NYISO decision, where the FERC decided it was unjust and unreasonable to mitigate purchases of certain narrowly defined types of renewable resources because the state and LSEs would have neither the incentive nor the ability to suppress prices artificially through investment in those resources.[121] Yet, the FERC still capped the total volume of unmitigated investments in those resources out of concern that even legitimate investment decisions could suppress market prices.[122]

The reason for the over-broad mitigation may be discerned from Commissioner Honorable's concurrence in NYPSC v. NYISO, where she noted the need to balance the interests of different stakeholders in the RTO markets.[123] On the one hand, the Commissioners recognize the states' interests in promoting environmental and other policies.[124] They also do not want to call into question the long-standing business models of co-ops, munis, and other vertically-integrated LSEs.[125] They recognize that those entities need to be able to "make decisions on the purchase of capacity that best meets their needs and to hedge their exposure to future ICAP obligations based on their reasonable expectations for the future" and that they may need "to plan on a long-term basis."[126]

On the other hand, many IPPs have consistently challenged state-mandated resource decisions and LSE self-supply as a threat to their business model. Standing with the IPPs is Pennsylvania, which has insisted that other states' decisions to engage in long-term resource planning undermine their decision to

120. *See, e.g.*, *PJM Interconnection, L.L.C.*, 143 F.E.R.C. ¶ 61,090 at P 108 (2013).

121. 153 F.E.R.C. ¶ 61,022 at P 10.

122. *Id.* at P 51.

123. 153 F.E.R.C. ¶ 61,022 (Comm'r Honorable, concurring).

124. *See, e.g.*, *PJM Interconnection, L.L.C.*, 115 F.E.R.C. ¶ 61,079 at P 104 (2006) ("The exception to which PPL/PSEG primarily objects—namely, reliability projects built under state mandate—is reasonable because it enable states to meet their responsibilities to ensure local reliability."); 135 F.E.R.C. ¶ 61,029 at P 20 (providing an opportunity for states to seek a waiver from mitigation under FPA section 206 where states believe necessary to promote state goals); *see also infra* § VI.F. (commissioners' separate statements).

125. *PJM Interconnection, L.L.C.*, 137 F.E.R.C. ¶ 61,145 at P 208 (2011) ("We agree with PJM that certain advantages associated with long-standing and well-recognized business models should not be deemed automatically suspect."); *but c.f. id.* at P 213 ("[T]he process will place the burden of demonstrating the appropriateness of cost advantages and revenues on the seller, and the reviewing entities (i.e. the IMM and PJM) will be alert to claimed cost savings that appear "irregular or anomalous that do not reflect arms-length transactions, or that ae not in the ordinary course of the seller's business.").

126. 153 F.E.R.C. ¶ 61,022 at PP 61-64 (finding also that "allowing select load serving entities (those who self-supply a majority of their needed capacity) to procure a supply portfolio to better meet their needs and hedge against future fuel or capacity market prices can be appropriate.").

depend entirely on the PJM market for future resources.[127] It is hard for the FERC to turn a blind eye to their concerns as a significant group of stakeholders, particularly when they claim that harm to their businesses will reduce future competition and future reliability and raise costs to consumers in the long run.[128]

Unfortunately, as discussed below, a compromise position that mitigates buyer-side behavior whenever the incentive and ability to engage in wrongful behavior may be present, and especially one that mitigates buyer-side behavior simply to address market impacts, will often prevent behavior that is actually both lawful and efficient, harming competition and consumers in the process.[129] As PJM's outside consultant, the Brattle Group, explained:

> [W]e are concerned that the new MOPR will inadvertently interfere with self-supply offers from generating resources that are competitive and do not involve manipulation. We are particularly concerned that the MOPR will lead to over-mitigation that will undermine bilateral markets and RPM participation by entities, such as public power companies, that meet their customers' needs primarily through long-term contracts or other self-supply options. The MOPR does not attempt to detect manipulative intent or incentives for manipulation. . . . However, there will be many legitimate reasons why an RPM bid could be below the Net CONE benchmark and should not be mitigated. In fact, the wide range of offer prices for new generation observed in RPM auctions over the last few years suggests the existence of a large range of cost structures, market outlooks, and bidding strategies.[130]

V. BUYER-SIDE MARKET POWER MITIGATION IN THE EASTERN RTOS CENTRALIZED CAPACITY CONSTRUCTS IS INCONSISTENT WITH WELL-SETTLED COMPETITION THEORY AND COMPETITION LAW

Buyer-side mitigation in the eastern RTOs is premised on the idea that LSEs that build their own generation or contract for capacity in the bilateral markets could, by acquiring "uneconomic capacity" and by bidding that capacity into the centralized capacity constructs below their costs, artificially drive down prices in the RTO auctions, and thereby harm competition, raise long-term costs to consumers, and undermine reliability. Viewed through the lens of well settled competition law, however, those claims cannot survive careful scrutiny.

127. *See, e.g.*, 135 F.E.R.C. ¶ 61,022 at P 142 ("[T]he Pennsylvania Commission notes, there is no valid state interest in ensuring that uneconomic offers can submit below-cost offers into the RPM auction."); 137 F.E.R.C. ¶ 61,145 at P 185.

128. *See, e.g.*, 137 F.E.R.C. ¶ 61,145 at PP 96-97 ("[T]he state exemption in PJM's tariff prior to the April 12 Order may have adversely affected other states that wanted to rely on prices in the capacity market to incent new entry as opposed to relying on state funding . . . . We continue to agree with the IMM that permitting a state exemption may in fact, over the long run, result in less investment in capacity and demand-side resources and the need in the future for additional subsidies from the state. Such a result would . . . impact other states that have chosen to rely on the price signals provided by the wholesale market.").

129. 150 F.E.R.C. ¶ 61,139 at P 50 ("[T]he fundamental objective of NYISO's buyer-side mitigation rules . . . is to protect against new entrants that have the ability and incentive to suppress capacity market prices through the exercise of buyer-side market power."); 153 F.E.R.C. ¶ 61,022 at PP 10, 47.

130. JOHANNES PFEIFENBERGER ET AL., BRATTLE GROUP, SECOND PERFORMANCE ASSESSMENT OF PJM'S RELIABILITY PRICING MODEL 149 (2011) [hereinafter BRATTLE REPORT]. Also, "[t]he objective should be to protect the wholesale capacity market from intentional manipulation, not from inadvertent effect that normal contracting and investment decisions can have on RPM prices, even if those investments and contracts turn out to be poor decisions." *Id.* at 151.

A. Competition Law Protects Competition Not Competitors

At base, generators complain that by building or contracting for resources that meet their needs, LSEs deprive the generators of profits they would otherwise have made. As the Supreme Court has said in several antitrust cases, "[t]he antitrust laws . . . were enacted for 'the protection of competition, not competitors.'"[131] The Court has also explained "[t]hat below-cost pricing may impose painful losses on its target is of no moment to the antitrust laws if competition is not injured: It is axiomatic that the antitrust laws were passed 'for the protection of competition, not competitors."[132]

Thomas Barnett, a former Assistant Attorney General in DOJ's Antitrust Division, has explained that:

> [O]ne firm's lost profits do not by themselves show that competition has suffered—indeed, one firm's inability to garner sales typically indicates no more than the superiority of other firms' products and the greater value captured by consumers who choose to buy them. We do well to remember that when antitrust laws are used to undo the results of the competitive process, it is consumers who ultimately lose.[133]

Thus, whether LSE's self-supply activities then merely harm those generators that lose out on sales to self-supply or whether they harm competition requires a much more detailed analysis than the FERC has conducted in its orders on buyer-side mitigation.

The FERC has repeatedly expressed concern that self-supply could harm those relying on centralized markets for their revenues and lead to bilateral contracts and self-built generation supplanting centralized market sales of capacity. In its 2009 and 2011 PJM rulings, for example, the FERC said that the MOPR is needed to "maintain a role for private investment."[134] In the 2011 ruling, the FERC added that failure to implement the MOPR "will create an environment in which only such self supply investment will occur" and "would significantly impede competition from all types of private investment."[135] The FERC has, in turn, accepted MOPR-proponents' arguments that the substitution of self-supply for private investment—presumably that private investment not contracting bilaterally with LSEs—will lead to long-term reliability problems and future cost increases, but the FERC has never explained how.

Before mitigating behavior that may well be pro-competition and pro-consumer, the FERC has an obligation to explain why the competitive success of self-supply and those private investors contracting bilaterally with LSEs is a problem for competition or consumers rather than simply a problem for a sub-class of private investors. It may be, in fact, that entry by LSEs and those

131. Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc., 429 U.S. 477, 488 (1977) (quoting Brown Shoe Co. v. United States, 370 U.S. 294, 320 (1962)) (citation omitted).

132. Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 224 (1993) (quoting *Brown Shoe*, 370 U.S. at 320).

133. THOMAS O. BARNETT, ANTITRUST DIVISION, U.S. DEP'T OF JUSTICE, COMPETITION LAW AND POLICY MODERNIZATION: LESSONS FROM THE U.S. COMMON-LAW EXPERIENCE (2007), http://www.justice.gov/atr/speech/competition-law-and-policy-modernization-lessons-us-common-law-experience (Presentation to the Libson Conference on Competition Law and Economics).

134. *PJM Interconnection, L.L.C.*, 128 F.E.R.C. ¶ 61,157 at PP 90-91 (2009); 135 F.E.R.C. ¶ 61,022 at P 16.

135. *Id.* at P 195.

contracting in the bilateral markets with LSEs is doing a good job of signaling the superiority of the resources LSEs are building themselves or contracting for in the bilateral market over the resources offered by private investors. Or, it may be signaling that consumers are able to capture more value from resources built by or for their LSEs than they can from those resources offered by those who rely entirely on short-term centralized markets for revenue.

To evaluate whether LSEs engaged in self supply are harming or benefiting competition and consumers, the FERC should conduct a careful analysis to determine whether that self-supply reflects an exercise of either monopsony or monopoly power. As the discussion below demonstrates, self-supply is highly unlikely to fall into either category.

B. LSEs Engaged in Self Supply Are Increasing Competition on the Supply Side of the Industry, Not Exercising Monopsony Power

Let us start with the complaint that states and LSEs are exercising monopsony power, or buyer-side market power. Unfortunately, that claim is a very poor fit to the facts in the markets. As the FTC has explained, "[a] buyer has monopsony power—or a group of buyers has oligopsony power—when it can profitably reduce prices in a market below competitive levels by curtailing purchases of the relevant product or services."[136] LSEs engaged in self-supply do not inefficiently curtail their acquisition of capacity. LSEs are prohibited by their resource adequacy obligations from reducing their total capacity acquisitions. They simply choose to buy less of the fungible short-term capacity product available in the centralized capacity constructs and instead acquire supply that meets their business, operational, and policy needs through the bilateral markets or through their self-build option. Those LSEs that build their own generation choose to compete head-to-head with the IPPs in the capacity market as FDR had encouraged them to do in his Portland speech in 1932. Those that enter into the bilateral market for capacity, through an RFP or otherwise, merely invite the IPPs and other generators to compete in the bilateral market to provide them with resources that meet all of their needs. They invite more supply and more supply-side competition, not less.[137] It may seem to those IPPs that choose not to participate in the bilateral markets or that offer capacity from resources that do not meet RFP criteria as though there is less competition, but that appearance arises from the misconception that all capacity is fungible when, as discussed above, capacity resources are actually highly differentiable. That some coal generators may be excluded by an RFP that seeks only renewable generation, for example, does not mean that competition is harmed. The IPPs that own the excluded coal generation are just as welcome to compete to provide the desired renewable

136. Statement of the Fed. Trade Comm'n, In the Matter of Caremark Rx, Inc./AdvancePCS, FTC File No. 031-0239 at 2 (Feb. 11, 2004), https://www.ftc.gov/sites/default/files/documents/cases/2004/02/040211ftcstatement0310239.pdf.

137. The FERC has supported exemptions from mitigation for new resources acquired through competitive RFPs so long as the LSE does not specify the capacity must come from new resources (regardless of whether existing resources meet the LSE's needs), or so long as all revenues for the new resource come from the centralized RTO markets and not from ratepayers. *See, e.g.*, 153 F.E.R.C. ¶ 61,066 at P 32; *see also generally* 150 F.E.R.C. ¶ 61,139. Clearly, both of these conditions make it hard for LSEs to acquire new resources needed to meet the needs of their retail ratepayers.

generation as anyone else. They simply cannot respond to the RFP with the undesired existing coal assets.

Similarly, the states that direct their regulated utilities to buy generation from certain types of resources do not tell utilities to buy less total capacity. Thus, they do not exercise monopsony power or undermine competition. They merely define the types of services or value that generators are expected to compete to provide. That is, states define LSEs' environmental obligations, renewable portfolio obligations, and/or obligations to acquire new, local generation that could satisfy long-term local reliability needs, and generators are welcomed to compete to meet those needs.[138] It turns out sometimes that those services and values are only available through the bilateral markets or self-build options and cannot be provided by the fungible, short-term product available in the centralized capacity construct. But, the LSEs are not directed to reduce their total purchases and competition in the markets writ large is unaffected. No monopsony power, as the economists understand that term, is involved.

The same conclusion can be reached from a more academic review of the principles of monopsony. In a 2005 article, Roger Noll, Professor of Economics at Stanford University explained that monopsonists transfer rents from producers of an input to themselves by "purchas[ing] fewer units than the quantity that would equate the buyer's marginal value of output to price and marginal cost."[139] By so doing, the monopsonist reduces revenue for the producers. But, the monopsonist also reduces the cost of the input by purchasing an inefficient level of inputs. That in turn raises the cost of the outputs that the monopsonist ultimately sells to consumers in the final goods market, harming the consumers.[140]

Professor Noll's explanation of monopsony and the harm caused by monopsony acquits LSEs who self-supply capacity from all charges of monopsony. First, LSEs are subject to a resource adequacy requirement in the RTO regions where the disputed centralized capacity constructs exist. They cannot acquire fewer units of capacity. They must meet their regulatory obligations. In fact, the IPPs are complaining that the LSEs' behavior is actually leading to the production of more units of the input, capacity, not less. Second, the complained of behavior—self supply—does not raise the cost of outputs to the consumer: safe, reliable, affordable power. By increasing supply, it brings down the cost of capacity for all LSEs—not just those engaged in self supply—and thus brings down the cost of power for all retail consumers. Moreover, while a specific new self-supplied generation resource may not offer lower-cost capacity than the centralized capacity construct in a particular year, the LSE invests in the resource because that generating unit offers other benefits not priced in the centralized capacity constructs that permit the LSE to optimize its resource portfolio and bring

138. Interestingly, the RPSs that the eastern RTOs fear are anti-competitive have been touted by economists for years as a market-based means of meeting state policies. *See, e.g.*, *Renewable Portfolio Standards*, WIKIPEDIA, https://en.wikipedia.org/wiki/Renewable_portfolio_standard (last visited Mar. 15, 2016) ("Those supporting the adoption of RPS mechanisms claim that market implementation will result in competition, efficiency and innovation that will deliver renewable energy at the lowest possible cost, allowing renewable energy to compete with cheaper fossil fuel energy sources.").

139. Roger Noll, *"Buyer Power" and Economic Policy*, 72 ANTITRUST L.J. 589, 595 (2005).

140. *Id.* at 596.

down the over-all cost of the retail electric service it brings to its consumers over the long-term.

Generators have argued that state-mandated resources and self-supply may reduce costs in the short-term, but will actually reduce supply and increase costs in the long-term. That is consistent with Professor Noll's explanation in his paper that when a monopsonist drives down the cost of the input they are purchasing, they shift quasi-rents from suppliers to themselves. Those rents are the difference between the short-run cost of a resource and the long-run average costs of supplying the resource. While suppliers can afford to sell resources at their short-run cost for a short period of time, they must recover their long-run average costs on average to be able to afford to continue to provide that resource into the future.[141] If that were what was happening in the centralized markets, that would be cause for concern, but it is not.

As noted above, states and LSEs are not buying an inefficiently small volume of capacity in order to reduce capacity prices. They are not transferring rents from suppliers to themselves by acquiring less total capacity. They are depriving some suppliers of revenue by acquiring capacity elsewhere, either by building resources themselves or by purchasing from other suppliers who provide them the resources they actually want. They may also be reducing prices by increasing total supply—as one would expect in any competitive market. The complaining suppliers are not being harmed because LSEs are acquiring sub-optimum levels of capacity, but because they are losing sales to competitors who can offer customers more value.

Many of the older, depreciated generation resources in the market can compete better with new resources on price than they can on other factors such as technical capability, environmental performance and long-term reliability benefits. Thus, by convincing the FERC and the RTOs to define the most "economic" resources to be those that can bid in at the lowest cost in a particular year, rather than those that provide the greatest value for the money over the long-term, the owners of those units have been able to convince the FERC and the RTOs to adopt market mitigation rules that insulate their resources from competition with new, cleaner resources that offer value not available from the existing fleet. Were their resources competitive with new investment across the range of values sought by states and LSEs, the IPPs that are losing sales in the centralized markets could instead compete to meet the needs of states and LSEs in the bilateral markets. Those private investors also have the option of shutting down those of their existing resources that do not satisfy customer demands[142] and competing to build the newer, more modern, more efficient, more appropriately located resource that a state or LSE is seeking in the bilateral market.

Even if LSEs engaged in self supply were not increasing supply-side competition, it is important to recognize that monopsony claims are looked at very skeptically by the antitrust enforcers and courts for a variety of reasons. First, not all exercises of customer buying power are unlawful. In *Kartell v. Blue Shield of Massachusetts, Inc.*, a case dismissing a challenge to Blue Shield's exercise of its undeniable buyer market power, the First Circuit explained that "even a monopolist is free to exploit whatever market power it may possess when that

141. *Id.* at 593, 600-602.

142. *ISO New England, Inc*., 135 F.E.R.C. ¶ 61,029 at P 255 (2011).

exploitation takes the form of charging uncompetitive prices"[143] and "more than monopoly power is necessary to make the charging of a noncompetitive price unlawful."[144] The court further explained "normally the choice of what to seek to buy and what to offer to pay is the buyer's. And, even if the buyer has monopoly power, an antitrust court . . . will not interfere with a buyer's (nonpredatory) determination of price."[145] "A legitimate buyer" the court asserted, "is entitled to use its market power to keep prices down."[146]

Second, illegal exercise of monopsony power is hard to accomplish. The Supreme Court in Weyerhaeuser Company v. Ross-Simmons Hardwood Lumber Company explained that "predatory pricing schemes are rarely tried and even more rarely successful" and that "[s]uccessful monopsony predation is probably as unlikely as successful monopoly predation."[147]

Third, exercises of monopsony power are very difficult to differentiate from competition. The same actions that may be taken in a predatory bidding scheme may also represent "the very essence of competition."[148] The same bidding behavior that might be used in a predatory bidding scheme could be justified by "myriad legitimate reasons" and be "essential to competition and innovation on the buy side of the market."[149] Low bids could also "reflect the lower cost structure of the alleged predator, and so represent[] competition on the merits."[150]

Fourth, as the court explained in *Weyerhaeuser*, describing an earlier decision laying out the test of predatory pricing:

> We were particularly wary of allowing recovery for above-cost price cutting because allowing such claims could perversely, "chill legitimate price cutting," which directly benefits consumers. Thus we specifically declined to allow plaintiffs to recover for above-cost price cutting, concluding that 'discouraging a price cut and . . . depriving consumers of the benefits of lower prices . . . does not constitute sound antitrust policy.[151]

Because monopsony is so difficult to prove and because over enforcement can so easily chill pro-competition and pro-consumer behavior, the Court in *Weyerhaeuser* imposed a very stringent test for monopsony liability that requires "a close analysis of both the scheme alleged by the plaintiff and the structure and conditions of the relevant market."[152]

The Court explained that the plaintiff must prove that the alleged predatory bidding led to below-cost pricing of the predator's outputs and that "the defendant has a dangerous probability of recouping the losses . . . [incurred] through the exercise of monopsony power."[153] Or, as explained in Professors Areeda and

143. Kartell v. Blue Shield of Mass., Inc., 749 F.2d 922, 927 (1984).

144. *Id.* (quoting Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263, 297 (2d Cir. 1979), *cert. denied*, 444 U.S. 1093 (1980)).

145. *Kartell*, 749 F.2d at 929.

146. *Id.*

147. Weyerhaeuser v. Ross-Simmons Hardwood Lumber Co., 549 U.S. 312, 323 (2007).

148. *Id.* (quoting *Brooke Group Ltd.*, 509 U.S. at 226).

149. *Weyerhaeuser*, 549 U.S. at 323-24.

150. *Id.* at 319.

151. *Id.* (quoting *Brooke Group Ltd.*, 509 U.S. at 223-24).

152. *Weyerhaeuser*, 549 U.S. at 325-26 (quoting *Brooke Group Ltd.*, 509 U.S. at 226) (emphasis added).

153. *Weyerhaeuser*, 549 U.S at 325-26.

Herbert Hovenkamp's treatise on Antitrust Law, "monopsony power can only exist if there is a concomitant decrease in the output or services in the buyer's downstream selling market. If there is no reduction in output or services to consumers, the exercise of buyer power simply represents a transfer of wealth, not harm to competition."[154]

Similarly, J. Thomas Rosch, then a Commissioner on the Federal Trade Commission, discussing the lower court decision in Weyerhaeuser, argued that it was irrelevant whether the defendant had monopsony or oligopsony power in the input market, and also irrelevant whether the defendant had engaged in "predatory bidding" unless the defendant also had market power in the output market. Because the antitrust laws are concerned with consumer welfare, and not with individual competitors, if the defendant was incapable of raising prices to the detriment of consumers in the output market, the defendants' behavior in the input market could not have harmed competition and could not have violated the antitrust laws.[155]

The risks of over enforcement that the *Weyerhaeuser* and *Brooke Group* courts discussed are clearly significant in the centralized capacity constructs. By self-supplying capacity in those constructs, LSEs and their counterparties in the bilateral markets bring both competition and innovation into the market for capacity. They force the development of newer generation and new types of generation that better meet the LSEs' broad range of business, operational, and regulatory needs. They bring their lower cost structure as vertically integrated utilities into that market, and they lower costs for the benefit of consumers by increasing supply and by optimizing investments for all of the benefit streams that come from a single generator (as opposed to just optimizing for the short term cost of capacity alone). Mitigation of self-supply bids can very easily chill pro-competitive legitimate conduct unless very carefully limited to prevent abusive behavior. That suggests that the FERC, before permitting the eastern RTOs to mitigate self-supply, should have conducted an extremely close analysis.

Yet, as discussed in the section above on litigation, the FERC conducted no such inquiry. Instead, the FERC and the RTO markets cast a wide net, seeking to mitigate bids from self-supply and state mandated resources whenever LSEs or states may have the "incentive and ability" to exercise monopsony power. The FERC did not ask whether LSEs were actually engaging in predatory or pro-competitive behavior. It did not ask whether LSEs are incurring actual losses in the centralized capacity constructs, whether they are reducing purchases to an inefficient level in the capacity markets, or whether they have "a dangerous probability" of recovering those losses by raising prices in the downstream retail markets.

If it had, the FERC would have seen that the LSEs who are bidding their self-supply into the centralized capacity constructs are not competing in the output market, the retail electric market, with the IPPs who are complaining about the

154. PHILIP E. AREEDA & HERBERT HOVENKAMP, FUNDAMENTALS OF ANTITRUST LAW 575 (3d ed. 2009).

155. J. THOMAS ROSCH, COMM'R, FED. TRADE COMM'N, MONOPSONY AND THE MEANING OF "CONSUMER WELFARE" A CLOSER LOOK AT *WEYERHAEUSER* (2006), https://www.ftc.gov/sites/default/files/documents/public_statements/monopsony-and-meaning-consumer-welfare-closer-look-weyerhaeuser/061207miltonhandlerremarks_0.pdf.

LSEs' bidding behavior. The LSEs' bidding behavior has neither the ability to drive the IPPs out of the retail electric market nor the ability to enhance the LSEs' level of market power in the retail electric market vis-à-vis the IPPs because the IPPs generally are not competing in that market. Further, the bidding behavior about which the IPPs are complaining drives down the cost of inputs for all participants in the output market who have resource adequacy obligations, savings that all participants in the output market will be able to pass on to retail consumers. In fact, if the LSEs are truly investing in "uneconomic" self-supply and bidding that in below their costs in the capacity auctions, then they are simultaneously increasing their own capacity costs and reducing their competitors' costs in the upstream centralized capacity constructs. Thus, the LSEs engaged in self supply are neither enhancing their competitive positions in the output market vis-à-vis the IPPs or vis-à-vis other LSEs as the *Weyerhaeuser* test would require. The IPPs themselves have conceded in the litigation, self-supply and state-mandated resources drive down costs to consumers in the short-term. And, despite the IPPs' consistent claims to the contrary, there is no evidence to suggest that it will drive retail costs up in the future.

It is worth noting that many of the LSEs who have been most vocal in support of self-supply rights are not-for-profit entities who have an incentive to acquire the right portfolio of resources at the lowest reasonable cost and must, as a matter of business structure, pass savings in the input market on to consumers. If the FERC had looked closely, they would have seen that the "incentive" to exercise monopsony power is illusory. That means that its decision to mitigate entry by LSEs whenever they have the "incentive and ability" to abuse monopsony power drastically over-mitigates pro-competitive, pro-consumer behavior.

C. LSEs Acting as Price Takers in the Market are Not Bidding "Uneconomically" and are Not Pursuing Future Supra-Competitive Revenues and Thus Their Actions Do Not Constitute Predatory Pricing

Perhaps the IPPs and the FERC were merely speaking imprecisely. Perhaps they do not mean to charge LSEs with monopsony power as that is technically understood, but rather with predatory pricing or unfair competition on the supply side. That claim too fails.

To succeed, a claim of predatory pricing must prove that the defendant's low prices "are below an appropriate measure of its . . . costs," and that the defendant has "a dangerous probabilit[y] of recouping its investment in below-cost prices."[156] That is, once it has driven its rival out of business, the defendant must be able to "recoup in the long run at least its original investment with supracompetitive profits."[157] It is the harm to consumers from those future supra-competitive prices with which the antitrust laws are ultimately concerned. Without those future high prices, the predatory pricing can only benefit consumers.

Because LSEs are offering capacity into the centralized capacity constructs, and because LSEs' desire to act as price takers in those constructs (effectively bidding in their capacity at $0) could cost IPPs sales and revenue and allegedly

156. *Weyerhaeuser*, 549 U.S. at 318-19.

157. *Id.* at 319.

could drive some of them out of the market, the predatory pricing theory appears more similar to the situation at hand than a claim of monopsony. This also looks more similar to the common refrain in capacity market cases that LSEs are allegedly offering their resources into the market below cost in order to drive down over-all prices in the market for the benefit of the LSEs' broader portfolios. On closer look, however, a predatory pricing theory is just as poor a fit to the facts as a monopsony claim.

First, the language and concepts used in this test do not apply well to LSEs subject to state mandates or engaged in self-supply. While those LSEs are submitting their resources into the centralized capacity market, they are not truly competing with the IPPs and the IPPs are not rivals as that term is typically understood. Self-supply does increase competition in the sense that it adds new resources and new options into the market. LSEs seeking to use self-supply are competing in the sense that FDR discussed in his Portland speech, creating a yardstick or birch rod with which to discipline the market. But they are not competitors in the sense of economic rivals that Weyerhaeuser appears to anticipate. LSEs seeking to use state-mandated resources or self-supply to satisfy their resource adequacy obligation are not acting as commercial players. They are not bidding a resource into the market to make a profit on that resource. They are not competing with the IPPs to sell their resources to third parties. They are not pursuing market share. The only customer an LSE acquiring self-supply seeks to take away from incumbent suppliers is itself.

To say it differently, it is inaccurate to describe LSEs' price taking strategy as predatory pricing. As the Supreme Court explained, "[i]n a typical predatory-pricing scheme, the predator reduces the sale price of its product (its output) to below cost, hoping to drive competitors out of business."[158] LSEs, however, submit their resources into the centralized capacity constructs only because the eastern RTOs and the FERC have required them to do so in order to demonstrate that they have met their tariff resource adequacy obligation. They seek to underbid IPPs in order to obtain permission to use their own resources to meet their obligation, not to drive the IPPs out of business so that they may raise their capacity prices at a later date to supra-competitive levels. LSEs in MISO, SPP, CA ISO, and all of the regions in the country without RTOs, are permitted to simply provide their state, RTO, or regional reliability entity evidence supporting their load forecast and evidence that they have access to the resources and reserves needed to meet their obligations. The market design in the eastern RTOs—by requiring market participants to acquire resources out of the capacity construct to demonstrate compliance with resource obligations—does not magically convert LSEs' desire to meet their administrative obligation into a dangerously competitive urge.

Even if the predatory pricing concept could theoretically apply to LSEs in the centralized capacity constructs, plaintiffs could not make the two showings required by the *Weyerhaeuser* court.

The first prong of the test requires plaintiffs to demonstrate that the "prices complained of are below an appropriate measure of its rival's costs."[159] The FERC

158. *Id.* at 318.
159. *Id.*

has described this test as whether an investment that an LSE wishes to use to meet its resource adequacy requirement has been "subsidized," whether it is "uneconomic" or more clearly, whether it is "economic by market-based RPM standards."[160]

To understand what that means, we need to unpack it a bit more. To determine whether a bid is economic, the RTOs look at the net levelized cost of new entry, either for a default unit or, under a unit specific review, the net levelized cost of new entry for the specific unit being bid into the market. The RTO looks at the cost of the unit, subtracts from that cost the revenues that the unit is expected to earn in the RTO's centralized markets for energy and ancillary services, and then levelizes that net cost out over 15 or 20 years.[161] Any bid lower than that figure, the FERC believes, artificially suppresses market prices.[162]

The FERC has said that states and LSEs are free to pursue goals other than low cost, such as environmental performance and long-term reliability, but that consideration of those goals cannot influence the application of buyer-side mitigation.[163] States and LSEs that take other factors into consideration must bear the risk that their mitigated bids will not clear the market and that the LSEs will, therefore, have to pay twice for capacity; once for the unit in which they invested for a whole suite of benefits for the grid and their consumers and a second time for capacity they must buy from the market to demonstrate that they have met their resource adequacy obligation. The FERC's approach, therefore, collapses the

160. *PJM Interconnection, L.L.C.*, 135 F.E.R.C. ¶ 61,022 at PP 194-95.

161. Joseph Bowring, *Capacity Markets in PJM*, 2 ECON. OF ENERGY & ENVTL. POL'Y, no. 2, at 47, 57 (2013).

162. *See, e.g.*, 137 F.E.R.C. ¶ 61,145 at PP 213-17 (explaining that PJM and the IMM may take an LSE's cost advantages into account in calculating a unit specific CONE, but tying that tightly to the sell offer's "competitive, cost-based, fixed, nominal levelized, net cost of new entry," and emphasizing that rate-based projects are permissible "so long as they show that the project is viable under a competitive revenue scenario."). At times, the FERC has been more or less flexible in calculating the unit specific CONE. In some instances, the FERC has required an extremely artificial estimate of CONE. In *Astoria Generating Co. v. N.Y. Indep. Sys. Operator, Inc.*, 140 F.E.R.C. ¶ 61,189 (Sept. 10, 2012), for example, the FERC reviewed NYISO's treatment of Astoria II, a power plant bid into the NYISO centralized capacity construct. NYISO had conducted extremely detailed unit-specific reviews of Astoria II's net CONE, and ultimately permitted it to bid into the market at a price that permitted it to clear. In relevant part, the FERC held that the contracting process under which NYPA had acquired the power was discriminatory—because it was only available to new generation resources—and thus that the favorable project financing terms Astoria II's PPA with NYPA enabled did "not reflect competitive market processes." *Id.* at P 135. The FERC, therefore, ruled that NYISO should have substituted a "reference unit's" cost of capital and equity levels—that is the financing available to IPPs building on spec and relying entirely on the short-term centralized markets for revenue—for the true financing terms when it conducted the unit-specific test. In other instances, however, where the FERC believes that the self-supply process has been more "competitive," the FERC has said that a unit specific review may take into account the LSE's actual cost of capital, depreciation schedule, and anticipated revenues from sales in bilateral markets, leading to a somewhat more accurate estimate of cost. *See, e.g.*, *PJM Interconnection, L.L.C.*, 137 F.E.R.C. ¶ 61,145 at P 74 (2011) ("[P]arties should have the opportunity to present a reasonable business case based on their individualized facts and circumstances, including the use of a different depreciation model."); *but see ISO New England, Inc.*, 142 F.E.R.C. ¶ 61,107 at PP 54-58 (2013) (explaining how NEISO's unit specific review subtracts from costs its expected non-capacity revenues, but excludes revenues that are not available to any resource of the same type anywhere within the New England Control Area and explaining that revenues from regulated rates, charges or other regulated cost-recovery mechanisms must be replaced "with the [IMM] estimate of energy revenues.").

163. *See, e.g.*, *ISO-NE and NE Power Pool Participants Comm.*, 138 F.E.R.C. ¶ 61,027 at PP 88, 91 (2012).

entire analysis of whether resources are "economic" to whether resources are cheap.[164]

In so doing, the FERC makes the mistake that many readers may have made in other contexts. Some first-time homebuyers buy the cheapest home only to learn that it is a money pit. Some inexperienced do-it-your-selfers will buy cheap tools only to find later that an investment in more expensive, higher-quality and more specialized tools would have made all of their projects faster, better, and ultimately less expensive. It is a mistake that astronauts nervously joke about sitting on top of an enormous fuel tank built by the lowest bidder. Cheaper does not necessarily mean more economic. Customers do not always want the least expensive product. They tend to want the "right" product for the lowest price, with "right" reflecting a variety of objective and subjective qualities.

In defining "economic" simply as "cheaper," and positing that centralized market revenues are the sole acceptable measure of value to the investor, the FERC fails to understand that capacity is not a fungible commodity like wheat.[165] As discussed above, LSEs will very rarely invest in a generation resource solely for capacity. Any LSE board of directors that committed tens of millions or a billion dollars for a new resource based solely on an evaluation of anticipated net revenues from the centralized markets would be violating their fiduciary duty.

LSEs seeking to provide their consumers and members with safe, reliable, and affordable power consistent with regulatory obligations must optimize a portfolio of resources by evaluating each of their energy and capacity resource options through a variety of lenses, including: price, portfolio diversity, fuel diversity, temporal diversity, environmental obligations, operational characteristics, unit characteristics, non-generation alternatives, reserve obligations, locational characteristics, and counter-party risk, and they must do so in light of how those resource options fit with each other, with the legacy grid, and with the other decisions that may be made by the other 4000+ industry participants. Thus, when they calculate the net value of an investment, when they determine whether the investment is economic to them, they compare the cost of that investment to all of the benefits that investment can provide their portfolio over the operational life of the asset and not just the cash revenues available in the short-term RTO markets and the centralized capacity constructs over 15 or 20 years. The most economic investment may well be one with the most expensive capacity because the unit provides locational, temporal or fuel diversity hedge values that a cheaper capacity resource or generic capacity purchased from the centralized capacity construct cannot. That capacity is far more "needed" by the LSE and the industry than an existing generic low-cost capacity resource that meets none of the LSE's other needs, and the "more expensive" capacity is likely to lower over-all costs for consumers because it is a much better fit in the portfolio and reduces total investment levels.

164. *Id.* at P 81.

165. COMM'N STAFF REPORT, FED. ENERGY REG. COMM'N, CENTRALIZED CAPACITY MARKET DESIGN ELEMENTS 15 (2013) ("[A]ll three eastern RTO/ISO centralized capacity markets define the capacity product in a generic way . . . . The generic capacity product definition used in the eastern RTO/ISO centralized capacity markets allows for little differentiation between the operational capabilities of the capacity resources that each market procures; every MW of capacity is generally treated the same.").

The FERC and the RTO's definition of "economic" ignores this context. As noted above, the FERC has at times recognized states' legitimate interest in pursuing policies affecting the generation mix, such as promotion of renewable energy, improved environmental performance, and long-term reliability. The FERC has also recognized LSEs' interest in values affecting the generation mix, including hedging long-term price risks in the markets and complying with state regulation. The FERC continues to insist, however, that if there is adequate capacity bidding into the centralized capacity construct, regardless of the characteristics of that generation, then the "market" does not need any new resources. And, if new resources cost more than existing resources, then they are deemed uneconomic regardless of the comparative ability of those resources to meet the buyers' desires for portfolio diversity, fuel diversity, temporal diversity, environmental obligations, operational characteristics, unit characteristics, non-generation alternatives, reserve obligations, locational characteristics, etc.[166]

Interestingly, the IMM for ISO-NE, NYISO, and MISO has admitted both (1) that an LSEs desire to support resources for reasons that are not priced in the centralized auctions is legitimate and should not be mitigated, and (2) that the market designs ignore that fact. At a September 25, 2014, the FERC Technical Conference, David Patton testified:

> It's rare that regulated entities don't care about costs. It's rare that they would have an ambition to invest uneconomically. I think where there is some disconnect is on some of these areas that aren't priced. I may want renewables for one reason or another, to improve environmental quality. Those are things that are actually legitimate, and if that's what's motivating the investments and those benefits are significant, then really they're not uneconomic and they shouldn't be mitigated under these provisions. We don't yet have a way of folding that into the evaluation.[167]

Unfortunately, Dr. Patton's view of what should or should not be mitigated has not made it into capacity market design or theory.

For purposes of the predatory pricing analysis, it is also important to understand that once an LSE has committed to make an investment in a resource for the overall value it provides—most of which is not and cannot efficiently be priced in any centralized market—it is a rational economic choice for it to act as a price taker in the capacity market. That capacity has no marginal cost for the LSE and every dollar it makes in the centralized capacity market constitutes a contribution towards the cost of the unit. The LSE's "cost" for each unit of capacity that it bids into the market is "0," and so an economic bid for that capacity in the centralized capacity construct is also "0." An LSE acting as a price taker in the centralized capacity constructs, therefore, cannot be bidding below cost as required by Weyerhaeuser's first prong unless there truly is no relationship

166. *PJM Interconnection, L.L.C.*, 143 F.E.R.C. ¶ 61,090 at P 56 (2013) ("The purpose of RPM is to clear the least-cost set of resources needed to meet reliability needs."); *see also* 138 F.E.R.C. ¶ 61,027 at P 91 ("[T]he FCM has no feature to explicitly recognize, for example, environmental or technological goals, nor does it contemplate reliability concerns beyond a three year forecast."); 137 F.E.R.C. ¶ 61,145 at P 90.

167. Transcript of Technical Conference at 77, *In re* Centralized Markets in Regional Transmission Organizations and Independent System Operators (2013) (FERC Docket No. AD13-7-000) (statement of Dr. Patton).

between the price the LSE paid for the resource it is bidding into the market and the value the LSE places on that resource.[168]

The second prong of the test, whether there is a "dangerous probability" that the LSE will recover its lost revenues through future supra-competitive pricing is equally inapposite in this situation. Neither the states requiring utilities to invest in specific resources nor LSEs investing in self-supply are looking to drive IPPs out of business. Nor are they looking to recoup "losses" incurred in acting as price takers by raising prices to supra-competitive levels in the future. In fact, it is these entities' incentive to keep prices down in the long-term that worries the IPPs and the FERC. It is in the LSEs' and states' interest to keep suppliers in business and to preserve wholesale competition, so long as those suppliers are willing and able to offer to sell the resources they need.

It is true that an LSE that invests in a new generation resource whose capacity cost in a particular year is greater than the cost of capacity from the centralized capacity construct might make up the difference through savings on the cost of the rest of the capacity that it purchases from the market. This does not, however, translate to predatory pricing. Nor does it create a clear parallel to a supplier engaged in withholding, where the supplier recovers its lost revenue from the withheld capacity because the rest of its generation benefits from artificially high prices in the market. Unless the LSEs' behavior fails the *Weyerhaeuser* tests, the LSE's cost savings harm neither consumers nor competition. Those cost savings are merely the fortuitous result of increased supply in the auction and the LSE would have received the same benefit of lower prices had a private investor been willing to construct new resources to meet the LSE's needs without a bilateral contract.[169]

As with monopsony, if the FERC is relying upon predatory pricing concepts to justify mitigating self supply whenever LSEs may have the incentive or ability artificially to suppress market prices, it is badly over-mitigating pro-competitive, and pro-consumer behavior.

D. Though the FERC is Not an Anti-trust Enforcer, it Must Take Competition Principles Into Consideration in its Evaluation of Buyer-side Market Power Mitigation

Much but not all of the analysis above relies on definitions of market abuses drawn from antitrust law. It is indisputable that the FERC is charged with implementing the Federal Power Act and not the nation's antitrust laws. That which is unjust and unreasonable may not violate the Sherman Act or the Clayton Act. On the other hand, while the FERC may not have any authority to enforce

168. PJM's Consultant on market design, the Brattle Group explained "[o]ver-mitigation would be particularly problematic for resources developed as self-supply or through bilateral contracts. In addition to the factors described above, self-supply and bilateral resources will rationally offer into RPM as a price taker (i.e., offer at or near zero) if the development of the resource has already been committed. Such a project's development is not contingent on the auction outcome, but the project must clear to count toward the buyer's resource requirement or contractual obligations." BRATTLE REPORT, *supra* note 126, at 150.

169. Of course, as discussed in Section VI.B. below, that is one of the reasons that centralized capacity constructs do not attract significant new private investment. The added supply reduces the revenue that the investor would receive from the other resources the investor has in the auction.

antitrust law in its own work with respect to wholesale market design, it is still bound to consider antitrust policy as part of that process.[170]

Moreover, the FERC's obligation to consider antitrust principles would appear particularly important here, with respect to the MOPR issue, because the FERC is engaging much more in a traditional competitive analysis than a traditional FPA section 205 or 206 just and reasonableness analysis. The Commission is not asking whether those entities that seek to use their self-supplied resources to meet their resource adequacy obligations are charging rates that satisfy traditional cost-of-service tests for what is just and reasonable. Nor is the Commission asking whether the returns that competitive generators receive in the centralized markets meet those same cost-of-service tests for what is just and reasonable. In fact, the FERC has expressly rejected generators' claims that it has an obligation in competitive wholesale markets to ensure that they recover their costs plus a reasonable rate of return.[171]

Rather, the FERC is evaluating, at least in part, whether LSEs with self-supply are bidding below their costs in an artificial manner that harms competition to the ultimate detriment of consumers. The FERC is trying to determine whether prices in the centralized capacity constructs reflect those that would arise in a truly competitive market. That is exactly the kind of question that the Federal Trade Commission, Department of Justice and the courts have reviewed for decades under the antitrust laws. Though the FERC has much more experience with cost of service ratemaking than they, the FTC, DOJ, and the courts have far more experience than the FERC in evaluating the impact of different bidding behaviors on the markets.[172] The FERC would be wise to pay attention to the red flags that antitrust precedents waive over the risks of over-aggressive enforcement of proscriptions against predatory bidding and predatory pricing.

E. Buyer-side Mitigation is Simply Counterintuitive

The FERC's buyer-side mitigation rules are not just out of step with antitrust law. The FERC should also reject the RTOs' buyer-side mitigation policies because they have turned a number of ordinary regulatory and market concepts on their heads.

First, the goal of a resource adequacy requirement (apart from the capacity construct itself) is to ensure that all LSEs served by an RTO bring sufficient

170. As the FERC noted in Order No. 888, "While *we must take antitrust concerns into consideration in exercising our responsibilities under the FPA*, we are not an antitrust court, and our responsibilities are not those of the Department of Justice." Order No. 888, F.E.R.C. STATS. & REGS. ¶ 31,036 at 31,683 (1996) (citing, *inter alia*, Gulf States Utilities Company v. FPC, 411 U.S. 747, 758-60 (1973) (emphasis added)). S*ee also Northeast Utilities Service Company*, 56 F.E.R.C. ¶ 61,269 at 61,998 (1991); *Florida Power & Light Company*, 8 F.E.R.C. ¶ 61,121 at 61,449 & n.1 (1979) (citing FPC v. Conway Corporation, 426 U.S. 271 (1976)).

171. *ISO New England, Inc*., 135 F.E.R.C. ¶ 61,029 at PP 251-372 (2011). In a competitive market, "the Commission is responsible only for assuring that [a resource] is provided the opportunity to recover its costs, not a guarantee of cost recovery." *Id.* at P 254 (internal quotation and citation omitted).

172. Mobil Pipe Line v. FERC, 676 F.3d 1098, 1104 (D.C. Cir. 2012) ([W]hen an agency is statutorily required to adhere to basic economic and competition principles—or when it has exercised its discretion and chosen basic economic and competition principles as the guide for agency decision-making in a particular area . . . the agency must adhere to those principles when deciding individual cases.").

capacity to the table to ensure reliability.[173] Thus, one would expect that a market design built to administer and enforce a resource adequacy requirement would reward LSEs that invest in capacity. By second-guessing LSEs' investment decisions and subjecting those decisions to the risk of double payment for capacity, however, the minimum offer rules actually provide disincentives for such investments.[174]

Second, under ordinary conditions in a market, when there is surplus capacity, prices drop. That is a natural market dynamic illustrated by the ubiquitous chart showing supply and demand curves, where the price drops as supply increases, holding the demand curve constant. By treating LSE investment in self-supply and state-mandated resources as suspect and subjecting them to minimum offer rules without evidence of deliberate manipulation, the centralized capacity constructs minimize volatility and work to ensure that the price settles around net CONE.[175] While that provides some investor certainty, it conflicts with market fundamentals.

Third, an oft described reason for adopting market structures in lieu of traditional cost of service regulation is that those market structures protect consumers from risk should investors make bad investment decisions. In fact, the FERC has justified the MOPR out of fear that if self-supply should depress prices and force some IPPs out of the market, it will force all consumers to once again shoulder the risk of direct resource investments.[176] Unfortunately, the market design has already done that. By discouraging investment in new resources, the centralized capacity construct forces consumers to continue to pay for older, less reliable, less efficient, and less-well-located generation resources whether they want them or not. The owners of those resources do not bear the ordinary competitive risks that their resources might no longer be wanted because consumers are forced to continue to pay for them so long as they cost less than the net CONE of newer, more reliable, more efficient, and better-located resources. Moreover, because the constructs seek to prop the price of capacity up near CONE (or above, should there be a capacity shortage), consumers bear much of the down-side risk in the market, but they get little of the up-side benefit of rock-bottom prices when there is a surplus due to new investment.

Fourth, another common reason given for adopting market structures for capacity is to provide investors with more accurate incentives to invest in new capacity resources when and where they may be needed.[177] One would expect, therefore, that those who respond to those incentives by building new capacity would be permitted to benefit from having done so. Yet, as noted above, by second-guessing LSE's investment decisions and subjecting those decisions to the

173. COMM'N STAFF REPORT, *supra* note 161, at 2.

174. The FERC has answered this argument by asserting that the purpose of the capacity construct is not merely to administer the resource adequacy requirement but to provide efficient market incentives for generators to build the capacity required for LSEs to be able to meet that requirement. That may be, but as explained below, the market is structurally incapable of meeting that requirement. Even if it could, it still leaves the question why the constructs would penalize those entities with the greatest incentive for supporting investment in new resources for choosing to do so.

175. COMM'N STAFF REPORT, *supra* note 161, at 7.

176. *See, e.g.*, § V.A.

177. *PJM Interconnection, L.L.C.*, 115 F.E.R.C. ¶ 61,079 at P 29 (2006).

risk of double payment for capacity, the MOPR actually provides disincentives for such investments.

Fifth, by disallowing efforts by States and LSEs to compensate renewable resources, long-term resources, and the like for the specific values that they provide consumers above and beyond the fungible commodity value of energy, the centralized capacity constructs' buyer-side mitigation provisions seek to ensure that all capacity is treated equally.[178] That violates the precept that undue discrimination involves both the dissimilar treatment of similarly situated parties and the similar treatment of dissimilar parties.[179] It is as wrong to require that different generators providing consumers different values must receive the same level of total revenues as it is to allow two identical generators to be treated differently by the market.

Finally, in most markets, customers are considered kings. Competitors strive to attract market share by competing on price and quality. Their goal is to provide consumers with what they want. In its MOPR cases, however, the FERC has turned that concept upside down. Consumers' preferences for specific resources, if they cost more than what the FERC or the market monitor think they should, are considered uneconomic and payments for those resources are treated as out-of-market, or subsidies. The FERC and the RTOs have told LSEs and the states in which renewable resources and in how much renewable resources they can invest without being treated as suspect. They have decided for LSEs how long or short they may be in capacity before they may invest in new capacity resources without being treated as suspect. The FERC and the market monitors are substituting their own judgment for what is "economic" for that of customers.

One can compare this situation to regulatory agencies' usual treatment of business decisions under prudency review. Justice Brandeis explained the role of a regulator reviewing utility investment decisions in his separate opinion in *Missouri ex rel. Southwestern Bell Telephone Co. v. PSC* in 1923. He explained:

> The term prudent investment is not used in the critical sense. There should not be excluded from the finding of the base, investments which, under ordinary circumstances, would be deemed reasonable. The term is applied for the purpose of excluding what might be found to be dishonest or obviously wasteful or imprudent expenditures. Every investment may be presumed to have been made in the exercise of reasonable judgment unless the contrary is shown.[180]

The full Court expanded on that idea in West Ohio Gas Co. v. PUC of Ohio in 1935. There, it explained: "Good faith is to be presumed on the part of the managers of a business. In the absence of a showing of inefficiency or improvidence, a court will not substitute its judgment for theirs as to the measure of a prudent outlay."[181]

178. Note the FERC's near identical statements in PJM and in NEISO, that the markets have "no feature to explicitly recognize, for example, environmental or technical goals, nor does it contemplate reliability concerns beyond a three-year forecast." 137 F.E.R.C. ¶ 61,145 at P 90; 138 F.E.R.C. ¶ 61,027 at P 91. *See also* 153 F.E.R.C. ¶ 61,022 at P 25 ("[T]he Commission has explicitly rejected the argument that it would be appropriate to have prices formed in such a manner so as to discriminate between new [more efficient, lower emission] entrants and existing capacity.").

179. Alabama Elec. Coop. v. FERC, 684 F.2d 20, 21 (D.C. Cir. 1982).

180. Missouri ex rel. Sw. Bell. Tel. v. Pub. Serv. Comm'n of Mo., 262 U.S. 276, 289 n.1 (1923).

181. West Ohio Gas v. Pub. Util. Comm'n of Ohio, 249 U.S. 63, 72 (1935) (internal citation omitted).

One can also compare this situation to courts' review of the rationality of decisions made by corporations, in which courts typically apply the "business judgment rule." Following the business judgment rule, courts will defer to the business judgment of corporate executives based on the principle that the "directors of the . . . corporation are clothed with [the] presumption, which the law accords to them, of being [motivated] in their conduct by a bona fide regard for the interests of the corporation whose affairs the stockholders have committed to their charge."[182] That rule suggests that if an LSE invests in a resource for the benefit of the LSE and its consumers, the court would assume that was a rational economic decision aimed at appropriately managing the corporation's risk profile absent evidence of mal- or misfeasance. The rationale for the rule is the recognition by courts that, in the inherently risky environment of business, Boards of Directors need to be free to take risks without a constant fear of lawsuits affecting their judgment.[183]

Compare the respect given LSE managers and directors under prudency review and the business judgment rule with the following description of the "deference" given to LSEs' risk-balancing investment decisions in ISO-NE:

> A resource that seeks to offer into the FCM at prices below the applicable resource-specific trigger price must include in its qualification package the lowest price at which the resource seeks to offer capacity in the FCA, along with supporting documentation justifying that price as competitive in light of the resource's costs. The IMM will enter all relevant resource costs and non-capacity revenue data, as well as assumptions regarding depreciation, taxes, and discount rate into the capital budgeting model used to develop the relevant trigger price and will calculate the break-even contribution required from the FCM to yield a discounted cash flow with a net present value of zero for the project. The IMM will then compare this calculated break-even price with the requested unit offer price to determine whether to grant the request.[184]

Moreover, the FERC required the IMM to "adjust any forecasts or assumptions relied on to support the project's request that are clearly inconsistent with [the IMM's view of] prevailing market conditions."[185] Here, the FERC is freely substituting its judgment, the RTO's judgment, and the IMM's judgment of the reasonableness of an investment and the underlying market analysis for that of the LSE and its board of directors.[186] That is not competition or a market, but a chess game in which one person plays both sides of the board.

182. Gimbel v. Signal Cos., 316 A.2d 599, 608 (Del. Ch. 1974).

183. *See generally Business Judgment Rule*, WIKIPEDIA, https://en.wikipedia.org/wiki/Business_judgment_rule (last visited Mar. 15, 2016) (citing Gagliardi v. TriFoods Int'l Inc., 683 A.2d 1049, 1052 (Del. Ch. 1996)); Steven Bainbridge, *Director Liability for Risk Management*, PROFESSORBRAINBRIDGE.COM (July 27, 2009), http://www.professorbainbridge.com/professorbainbridgecom/2009/07/director-liability-for-risk-management.html.

184. 142 F.E.R.C. 61,107 at P 44.

185. *Id.* at P 45.

186. If you find analogies useful to understand complex issues, and if you like a really good salad Caprese, tomatoes provide an interesting parallel to centralized capacity markets.

Although some supermarkets offer wide varieties of produce, many supermarkets offer just one kind of celo-packed, pink, under-ripe, tomatoes. For those who just need "a tomato," those may be fine. The supermarket makes a good stand-in for the centralized capacity constructs that treat each kW as if it were the same as every other kW. Some consumers, however, do not think a tomato is a tomato. They want organic tomatoes, or

VI. THE COMMISSION ERRED WHEN IT TURNED TO CENTRALIZED CAPACITY CONSTRUCTS TO ENSURE RESOURCE ADEQUACY

As seen above, one of the Commission's oft-stated reasons for buyer-side market mitigation is its belief that centralized capacity market revenues are required in the eastern RTOs to make up the "missing money" required to provide investors who rely on centralized market revenues with the incentive to keep existing generation running and to invest in new generation. The discussions above are replete with statements that the purpose of the capacity markets is to ensure resource adequacy by providing sufficient revenues for generators.[187]

All of the discussions in section IV above, may thus be irrelevant. It may not matter whether LSEs seeking to self-supply resources are actually engaged in monopsony behavior or predatory pricing. It may not matter whether they are engaged, or even able to engage, in uneconomic behavior or whether their behavior is anti-competitive or anti-consumer. All that may matter is that their behavior drives down prices in the centralized capacity constructs and, in so doing, undermines private investors' contributions to long-term resource adequacy. If in fact the goal of the centralized capacity constructs is to provide incentives for private investment in generation, any LSE entry will undermine that goal and the FERC should adopt the IPPs' broad buyer-side market-power mitigation proposals.[188]

Unfortunately, the entire foundation of this concept is flawed. No matter how mitigated self-supply may be, centralized capacity constructs would be an ineffective tool for encouraging new generation. They are by definition incapable of meeting the FERC's goal.

heirlooms, or purple tomatoes, or yellow tomatoes, or sauce tomatoes. To get those tomatoes, they may choose to shop at farmers' markets, buy tomatoes at farm stands, or participate in a cooperative farm share program. Those provide a good parallel to the bilateral markets for generation. Others will choose to grow their own tomatoes, the perfect equivalent to LSEs' option to build their own generation. When consumers buy tomatoes in the bilateral market or grow their own, they reduce demand for the celo-packed tomatoes from large growers. They force the large growers to reduce their prices in order to try to regain market share. If consumers shift in sufficient numbers, they could put some growers out of business. They might even make it hard for those who are satisfied with celo-packed tomatoes to find them in the store. Still, we could not imagine that consumers who choose to grow their own tomatoes could be told that their decision was "uneconomic." Even if the consumers found that they could not eat all the tomatoes that came off their plants and they gave the excess away to their neighbors, we would not consider that uneconomic. After all, the costs for the plants was sunk and the excess tomatoes had no marginal cost. We could not imagine that those consumers who grow their own tomatoes could be told that they could not eat their own tomatoes but must instead buy the supermarket tomatoes so as to protect the large growers from artificial price suppression in the market for celo-wrapped tomatoes.

If the large tomato growers lost sales and lost money and were forced to scale back their farms, we would not say that was the result of unfair competition. We would say it was because they failed to offer a product that the tomato-eating public wanted. If they had wanted to stay in business, we would say, they should have diversified into organic or heirloom tomatoes or reached out to consumers through farmers' markets and farm stands.

Generation is like tomatoes. No one plant is like another. If the market is not offering what consumers want, no matter how many celo-wrapped tomatoes may be sitting uneaten on supermarket shelves, LSEs should be permitted to grow their own tomatoes.

187. Bowring, *supra* note 157, at 57; COMM'N STAFF REPORT, *supra* note 159, at 2.

188. *See, e.g.*, AREEDA & HOVENKAMP, *supra* note 150 (and accompanying text).

A. Centralized Capacity Constructs Have Failed the Empirical Test as a Tool to Ensure Resource Adequacy

As an empirical matter, by looking at the financing sources of new capacity in the market it is possible to test the theory that investors will build new generation in response to centralized capacity construct revenues without bilateral contracts or state mandates. And, in fact, the American Public Power Association (APPA) has done exactly that. The titles of their reports accurately describe the results of their surveys: "Power Plants Are Not Built on Spec"[189] and "Capacity Markets Do NOT Incent New Electric Generation."[190]

In their studies, APPA found that nearly all generation in the United States has been built by LSEs or in connection with long-term power-purchase agreements (PPAs) with LSEs. Their analysis found that only 2.4% of new capacity had been built on spec, for sale into the markets, and that number includes new facilities for which no information could be found about contracts. In fact, APPA found that only 6% of all capacity built in 2013 was even built within the footprint of the RTOs that have centralized mandatory capacity constructs (even though those states hold a little over one quarter of the customers).[191] Two thirds of the 2013 capacity APPA reviewed was built with PPAs and 31.6% was constructed under the ownership of a utility. 2% was constructed directly by the end use customer. Of the 2.4% to be sold into the markets, nearly all received some form of non-market funding such as grants under the American Recovery and Reinvestment Act. That left only 0.1 percent built solely for sale into the RTO markets without any other source of income.[192] The updated 2015 study indicates that there may be more merchant generation built for future years, but it is not yet clear whether any of that generation will be built.[193]

B. Centralized Capacity Constructs Cannot Provide Investors the Long-term Certainty Offered by Bilateral Markets

There is a good reason that investors are not building solely in response to RTO market incentives. Investors require the certainty of native load or long-term PPAs. The Commission understood this at one point, stating: "we are mindful of the comments made to us by representatives of the financial community, that dependence on price volatility for investment is an inadequate foundation for cost-effective financing of new infrastructure. A clear preference for long-term contracts and/or reliable revenue streams was stated."[194]

David Patton similarly noted in his testimony at the September 25, 2014 Technical conference:

189. POWER PLANTS, *supra* note 97.

190. ELISE CAPLAN, AM. PUB. POWER ASS'N., CAPACITY MARKETS DO NOT INCENT NEW ELECTRIC GENERATION: MARKET REFORMS FOR RELIABLE AND AFFORDABLE ELECTRICITY (2015) [hereinafter CAPACITY MARKETS], *available at* http://appanet.files.cms-plus.com/PDFs/94%202015%20Power%20Plant%20Study%20Update%20Final.pdf.

191. POWER PLANTS, *supra* note 97, at 1.

192. *Id.* at 2.

193. CAPACITY MARKETS, *supra*, note 186, at 8-9.

194. *PJM Interconnection, L.L.C.*, 115 F.E.R.C. ¶ 61,079 at P 68 & n.78.

> Well, there actually is a forward bilateral market, and the kind of lock-in most investors are looking for is lock-in of five, ten, fifteen years' worth of revenue. So they want a contract. The important thing for the RTO to do is to facilitate markets, or to have markets that will facilitate that efficient contracting process.[195]

The ratings agencies have also long expressed their view that long-term bilateral contracts enhance financial security.[196]

There is also a good reason why investors want long-term contracts before investing. Although shortages in the markets drive up prices, signaling the need for new capacity, actually building capacity in response to that price signal automatically destroys the price signal by increasing supply and driving down price. Thus, the only entities in the market that have an incentive to build generation or to contract to have it built in response to price signals are those who want the price to go down—LSEs and state regulators. The market design should do all it can, therefore, to enable those investments. Through the MOPR, however, the mandatory market increases the risks to any LSE that responds to the price signal through self-supply—including the risk of having to pay twice for capacity if their mitigated bids do not clear the market—making it less likely that those entities will build much new generation.

In their pleadings in support of the MOPR, generators make this point extremely well. They point out that even a small amount of additional capacity in the market can drive prices down to a level that deprives them of cost recovery for their existing resources.[197] What incentive could they have to build that generation? No matter how badly needed, it would only reduce their revenue on their other resources.

C. Centralized Capacity Constructs Cannot Provide Incentives for Investment in the "Right" Generation Resources that Meet LSEs' and States' Business, Operational, and Policy Goals

The centralized capacity constructs are also a poor choice for ensuring adequate generation capacity because they treat all capacity as fungible. That simplicity makes them good tools for the efficient transfer of capacity in the short

195. Transcript of Technical Conference, *supra* note 163, at 62-63. BRATTLE REPORT, *supra* note 124, at v ("[I]t will be beneficial to both suppliers and customers if long-term contracts are facilitated and not hindered by RPM design and state retail regulation. To address long-term contracting concerns, we present options for increasing forward price transparency and offer recommendations to mitigate the perhaps unintended consequences of the recent modifications to MOPR [removing guaranteed clearing for self-supply].").

196. *See, e.g.*, GF ENERGY LLC, ELECTRIC UTILITY RESOURCE PLANNING: THE ROLE OF COMPETITIVE PROCUREMENT AND DEBT EQUIVALENCY (2005), *available at* http://www.ksg.harvard.edu/hepg/Papers/John_Shelk_handout.pdf; DAVID BODEK, STANDARD AND POOR'S METHODOLOGY FOR IMPUTING DEBT FOR U.S. UTILITIES' POWER PURCHASE AGREEMENTS (2007), *available at* https://www.xcelenergy.com/staticfiles/xe/Regulatory/Regulatory%20PDFs/CO-Rate-Case-2012/5/Exhibit-No-GET-5.pdf (Long-term contracts shift risk from generation owners to purchasers.); BRATTLE GROUP, WHITE PAPER: UNDERSTANDING DEBT IMPUTATION ISSUES (2008) (Final Draft), *available at* http://www.hks.harvard.edu/hepg/Papers/Brattle%20Imputed%20Debt%2025%20May%202008%20final%20.pdf.

197. IPPs argued in the PJM case that an Impact Screen that exempted new entry that changed the capacity market price by less than $25 MW/day would have brought the $16.46/MW/day price in 2012-13 down to $0 and reduced compensation in the unconstrained portion of PJM by almost $1.4 billion. *PJM Interconnection L.L.C.*, 135 F.E.R.C. ¶ 61,022 at P 95 (2011).

term between those who are long and those who are short. This is what the voluntary MISO centralized capacity market achieves.

On the other hand, centralized capacity constructs' treatment of all capacity as fungible makes them a very ineffective tool for driving investment in the right resources to meet the industry's broader need for such values as portfolio diversity, fuel diversity, temporal diversity, environmental compliance, and operational characteristics such as ramping capability, black-start capability, and inertia. Because the design of the market drives prices towards levelized net CONE for a gas turbine, it is incapable of providing investors with income streams that reflect their ability to provide these other values. The FERC has twice admitted that the markets are not designed to take into account many of those benefits.[198] Because many of the values that generation provide cannot be monetized in the centralized markets the way that they can be in the bilateral market, it is irrational to assume as the FERC does that "a purely private new entrant should be able to recover 100 percent of its costs from [centralized] market revenues."[199]

Outside of the capacity construct context, it is clear that the FERC has consistently recognized this fact. In a very recent FERC staff Primer on energy markets, FERC staff explained that LSEs supply load with a combination of self-supply, bilateral, and spot purchases, and that even in the eastern RTOs, LSEs utilize a combination of all three.[200] In that same report, FERC staff noted that "LSEs have typically satisfied their reserve obligations with owned generation or bilateral contracts with other suppliers." The Primer describes the RTO-run capacity markets as "a way [for LSEs] to satisfy their reserve obligation" with a near-term focus.[201]

The Commission explained the industry's need to look beyond spot markets very clearly in 2008:

> Long-term power contracts are an important element in a functioning electric power market. Forward power contracting allows buyers and sellers to hedge against the risk that prices may fluctuate in the future. Both buyers and sellers should be able to create portfolios of short, intermediate, and long-term power supplies to manage risk and meet customer demand. Long-term contracts also improve price stability, mitigate the risk of the abuse of market power, and provide a platform for investment in new generation and transmission.[202]

Similarly, in its Standard Market Design (SMD) NOPR, the FERC concluded that "spot market prices do not consistently signal the need for new infrastructure in the electric power industry."[203] That problem, the FERC concluded, arose from

198. *See, e.g.*, *supra* note 162.

199. *Consolidated Edison Co. of N.Y., Inc. v. N.Y. Indep. Sys. Operator, Inc.*, 150 F.E.R.C. ¶ 61,139 at P 64 (2015).

200. DIVISION OF ENERGY MARKET OVERSIGHT, OFFICE OF ENFORCEMENT, FED. ENERGY REG. COMM'N, ENERGY PRIMER: A HANDBOOK OF ENERGY MARKET BASICS 57-58 (Nov. 2015).

201. *Id.* at 61.

202. Notice of Proposed Rulemaking, *Wholesale Competition in Regions with Organized Electric Markets*, 122 F.E.R.C. ¶ 61,167 at P 130 (2008). *See also* MOREY, *supra* note 96, at 60 ("Long-term bilateral power purchase contracts are crucial to the functioning of electricity markets.").

203. Notice of Proposed Rulemaking, *Remedying Undue Discrimination Through Open Access Transmission Service and Standard Electricity Market Design*, F.E.R.C. STATS. & REGS. ¶ 32,563 at P 461 (2002), 67 Fed. Reg. 55,542 (2002) (to be codified at 18 C.F.R. pt. 35) [hereinafter SMD].

market price mitigation that suppresses shortage prices[204] because of the mismatch between short-term prices and the long-term development horizon for generation and transmission resources,[205] and because that mismatch "may bias construction choices toward supply resources that can be constructed quickly, perhaps sacrificing long-term cost minimization, environmental concerns, and fuel diversity goals." Moreover, the FERC explained, "[m]ost customers prefer spreading out resource capital costs over time to concentrating them into a peak period." For that reason, the FERC proposed to adopt a resource adequacy construct that would force all LSEs to enter the bilateral market to purchase long-term capacity resources. In so doing, the FERC reasoned that a "well-designed resource adequacy requirement supports competitive markets if it allows suppliers to compete to provide infrastructure and buyers to choose the infrastructure with the best combination of features such as cost, reliability, environmental effects, and service life." In fact, the FERC explained that "[c]entral to the Standard Market Design concept is its reliance on bilateral contracts entered into between buyers and sellers. The resource adequacy requirement strongly encourages such long-term contracts. The short-term spot markets set out below are intended to compliment bilateral procurement."[206]

During the FERC's September 25, 2013 Technical Conference on Capacity Markets, several witnesses expressed the importance of long-term bilateral contracts. Robert Ethier, Vice President of Market Development for ISO-NE, stated that if he had the opportunity for a "do-over" in ISO-NE, he would have liked to have seen "more robust bilateral engagement, "with more robust load-serving entities, with long-term sort of obligations, frankly, to serve load, or at least long-term market interest in serving load."[207] David Patton of Potomac Economics, which serves at the IMM for ISO-NE, NYISO, and MISO, testified that the goal of the transparent price signal in the market is to "allow[] people to contract forward and make long-term decisions."[208]

The benefits of bilateral and centralized markets may best be differentiated on a temporal scale. The centralized markets are very good at real-time, day-ahead commitment, and other short time frames. The centralized markets have enhanced the reliability and efficiency of the day-ahead commitment process and real-time dispatch of the electric system. They have helped to ensure that the transmission system is operated on a non-discriminatory basis.

The bilateral markets, on the other hand, have the capability of addressing LSEs' needs beyond the real-time and day-ahead commitment time frames. Generation and transmission resources can take 2-15 years to build and can remain in service for 40+ years. They can require tens-of-millions to billions of dollars to build. They can offer different LSEs and other parties multiple benefit streams to meet a wide variety of needs, but they can also pose a significant risk for LSEs, their investors, and their consumers. In a way that centralized capacity constructs cannot, the bilateral markets permit investors and LSEs to customize their

204. *Id.* at P 14.

205. *Id.* at PP 461, 462-64.

206. *Id.* at P 10.

207. Transcript of Technical Conference, *supra* note 163, at 92.

208. *Id.* at 60.

transactions to monetize each of the different potential value streams, to manage risk amongst each other, and to provide long-term secure income streams to support the investments.

D. Though Not Suited to Ensuring Resources Adequacy, Centralized Capacity Constructs Could Provide Value If They Worked Seamlessly with Bilateral Markets and LSEs' Self-build Options

The limits of the centralized capacity construct would not be a problem were they able to work seamlessly side-by-side with the bilateral markets, with the capacity market facilitating payments to generators for their capacity value, the bilateral markets enabling compensation for values such as risk management and environmental attributes, and the centralized energy and ancillary services markets facilitating economic dispatch in real-time. Unfortunately, the MOPR and other buyer-side market power mitigation provisions treat payments for non-capacity values in the bilateral markets as uneconomic subsidies, making it difficult for LSEs to contract with investors to build generation that meets those needs, and thus blocking revenue streams that might otherwise have encouraged investors to build needed new generation.

At best, the failure of the markets to work together side-by-side will lead to separate centralized markets being needed to provide separate incentives to different entities to build single-purpose resources: one resource for capacity, another resource for reactive power, another resource for quick ramping, another resource for black start, etc. The FERC has already asked the industry whether additional markets are needed for additional services.[209] While each market for each resource type will be "efficient" and will acquire the lowest cost resources of that type, taken together, the separate markets will prevent LSEs from putting together a portfolio of multi-purpose resources that optimizes total investment to minimize costs for consumers. Consumers will pay much more getting each service a la carte than they would were their LSE permitted to invest in a balanced portfolio of multi-purpose resources. The multiplication of narrow, single-purpose markets will also increase complexity and reduce competition, thus multiplying opportunities for market power and market manipulation.

At worst, the failure of the markets to work together side-by-side will lead to shortages of resources needed to meet the whole gamut of system needs, including resource adequacy, fuel diversity, grid support, and more. There may be enough capacity, but not enough fuel diversity, insufficient clean resources for LSEs to meet environmental obligations, etc. Or, the barriers imposed by minimum bid rules may undermine adequacy as well, by creating too much risk for those entities best positioned to respond to market signals for new capacity.

209. *See, e.g.*, Technical Workshop, Price Formation in Energy and Ancillary Services Markets Operated by Regional Transmission Organizations and Independent System Operators (FERC issued Dec. 9, 2014) (Panel 3 asked whether new ramping and reserves products are needed); *see also* MOREY, *supra* note 96, at 69 (discussing the diversity of different capacity values and different parties' discussion of those values in response to FERC's Notice Allowing Post-Technical Conference Comments, *Centralized Capacity Markets in Regional Transmission Organizations and Independent System Operators*, FERC Docket No. AD13-7-000 (Oct. 25, 2013).

E. Nuclear's Challenges in the Eastern RTOs are a Symptom of the Problems with the RTOs' Reliance on Centralized Capacity Constructs to Ensure Resource Adequacy

Nuclear is a critically important resource in the industry's mix, particularly as the industry begins to implement the Clean Power Plan. It produces low-cost energy, it is dependable regardless of weather, it has a reliable, long-term fuel supply without price volatility, it offers carbon-free, emission-free power, and the operators of nuclear plants have dramatically improved the plants' reliability and efficiency in the past few decades. Having nuclear in the portfolio helps with resource diversity, fuel diversity, temporal diversity, environmental compliance, and counterparty risk.

Yet, owners of nuclear resources in the eastern RTOs have declared that they may need to shutter several nuclear plants before their licenses expire. That is not happening in the Southeast, where TVA, Santee Cooper, and Georgia Power are building new nuclear plants. It is not a major threat in MISO. Why?[210]

Perhaps, it is because none of the non-price-related values of nuclear is recognized in the short-term markets, under-compensating nuclear for the benefits it provides, forcing closure if nuclear cannot compete on price alone with low-cost gas and renewable energy. As discussed above, centralized markets treat energy and capacity as fungible commodities and thus provide for competition on price alone. That is fine for managing dispatch and for short-term economic exchange, but those markets are unable to recognize and monetize other values that generators can offer, such as fuel diversity, fuel security, and environmental attributes.

Outside the eastern RTOs, the non-price values of nuclear can be recognized in other ways. LSEs and their regulators who value the other benefits nuclear can provide a portfolio can take those benefits into account in judging the prudence of direct investments in nuclear resources. Though nuclear may today be more expensive than other generation options, looking at the price of energy and capacity alone, LSEs and regulators may conclude that it will be more economic in the long-term, that it provides a worthwhile hedge against gas price volatility, or that it provides the best long-term approach to complying with federal CO_2 restrictions. Those values can be priced by an LSE's board in its evaluation of investment options, and they can be priced by state regulators in their prudency reviews. Once rate-based, the investors in the plant have certainty that they will recover their investment and return. In the bilateral markets, parties can also value these benefits. An LSE can pay more in the bilateral markets for a long-term contract from a nuclear resource than they might pay for equivalent power from another resource because they conclude that the nuclear plant provides these benefits in a manner that the cheaper resource does not. That long-term deal and

210. *See, e.g.*, James Conca, *If No One Wants the Fitzpatrick Nuclear Power Plant to Close, Why is it Closing?* FORBES (Nov. 10, 2015), http://www.forbes.com/sites/jamesconca/2015/11/10/if-no-one-wants-the-fitzpatrick-nuclear-power-plant-to-close-why-is-it-closing/#7a591e8c2cff; *Nuclear Power Emits No Greenhouse Gases, Yet It Is Struggling in the Rich World*, ECONOMIST (Oct. 31, 2015), http://www.economist.com/news/international/21677243-nuclear-power-emits-no-greenhouse-gases-yet-it-struggling-rich-world-half-death.

higher compensation again gives investors the certainty they need to commit their dollars.

In the eastern RTOs, however, that additional compensation for the non-price benefits of nuclear is not recognized by the centralized markets. Unless an operator of nuclear plants sells power in the bilateral markets it cannot tap a revenue stream that compensates it for those additional values. Perhaps the competitive nuclear operators in the Eastern RTOs have chosen not to tap that market. Or, perhaps they cannot find counterparties in the bilateral markets because so many competitive LSEs choose to acquire power solely out of the centralized markets.[211] If the former is the case, that decision falls on the management and boards of the competitive nuclear operators. If the latter, that is the fault of a market design that permits states and competitive LSEs to pay only for the commodity value of power in the centralized markets without sharing in the cost of the broader non-price benefits of different generation resources. As discussed in more detail below, so long as consumers served by competitive LSEs continue to expect safe, reliable, affordable, environmentally sustainable power, at fairly stable rates, the market design must require them to bear the cost of those values—including perhaps the cost of nuclear power.

F. The FERC's Ongoing Challenge Trying to Enable State Renewable Energy Policies is Another Symptom of the Problem with the Eastern RTOs' Reliance on Centralized Capacity Constructs to Ensure Resource Adequacy

In a number of dissenting and concurring opinions in MOPR-related cases, several FERC commissioners have expressed their concern about the conflict between state policies supporting renewable resources and the goals the FERC has established for centralized capacity constructs.[212] The Commissioners all seemingly want to find a way to enable states to pursue their admittedly important policy goals. On the other hand, the Commissioners continue to believe that centralized capacity constructs must somehow clear at the "right" price: a price

211. *See, e.g.*, Nathan Wilson et al., *The Impact of Long-Term Generation Contracts on Valuation of Electricity Generating Assets under the Regional Greenhouse Gas Initiative*, RES. FOR THE FUTURE 9 (Aug. 2005), http://www.rff.org/files/sharepoint/WorkImages/Download/RFF-DP-05-37.pdf (finding that only three of the nuclear plants in the RGGI region had long-term contracts for any of their generation that extended beyond 2004).

212. *See, e.g.*, *ISO New England, Inc*., 135 F.E.R.C. ¶ 61,029 (2011) (Comm'r LaFleur & Chairman Wellinghoff, concurring) (Emphasizing that exemptions from mitigation, allowed by the order under FPA section 206 "may be a critical component of entities' efforts to satisfy their renewable portfolio standard obligations."); *New England States Comm. on Elec. v. ISO New England, Inc.*, 142 F.E.R.C. ¶ 61,108 (2013) (Comm'r Norris & Chairman Wellinghoff, dissenting) (Complaining that denial of the NE states' request for a MOPR exemption for resources called for by state policy, "[t]hese responses fail to grapple with the question of how to accommodate states' legitimate interest in pursuing fuel diversity goals within their resource planning jurisdiction with our responsibility to ensure just and reasonable wholesale rates."). *Id.* (Comm'r LaFleur, concurring) (Explaining, "I strongly support renewable energy, and recognize the inherent conflict between renewable portfolio standards and the FCM," but finding that "[g]iven the importance of reliability of service to customers, particularly in New England . . . it is more important than ever that such market prices are accurate."); *ISO New England, Inc.*, 142 F.E.R.C. ¶ 61,107 (2013) (Comm'r Norris & Chairman Wellinghoff, dissenting in part) (for the same reason noted in *NESCOE v. ISO-NE* above).

that is high enough to support IPP investment in new capacity and a price that reflects only the lowest-cost capacity resources.[213]

That dual desire has led the FERC to adopt some compromise positions that seem to satisfy neither side of the debate over the design of centralized capacity constructs. In PJM and NY, the FERC has now approved exemptions from buyer-side mitigation for certain limited types of renewable capacity up to a volume cap.[214] In those orders, the FERC does not satisfy the states, who see those orders still giving the FERC and the RTOs the authority to decide how much of which renewable resources the states can promote before state policies become "suspect," undermining the authority they believe the FPA gives them to make decisions about resources in their states. Nor do the compromises satisfy the IPPs who still see the FERC permitting new resources into the market without a price floor, suppressing their market revenues and displacing their generation resources.[215]

Unfortunately, the problem is unresolvable so long as the FERC continues to assign centralized capacity constructs the responsibility to acquire enough capacity to satisfy resource adequacy requirements at the lowest possible price. The renewable resources the states wish to promote—for good reasons—are unlikely ever to be the lowest-cost capacity resources. As discussed in more detail below, the only way to resolve the conflict is to repurpose the centralized capacity constructs, and to make them residual to resources that states and LSEs acquire on their own, not because they are the lowest-cost capacity resources, but because they are the lowest-cost resources that meet their broad policy, operational, and business needs.

VII. THE COMMISSION CORRECTLY WORRIES ABOUT ADEQUACY, BUT BLAMES THE VICTIM NOT THE CULPRIT

It is not unreasonable for the FERC to worry about resource adequacy within the eastern RTOs. In some states, the systems that had been in place to ensure resource adequacy have changed significantly. In states that have chosen to restructure their retail markets, there is no longer a regulatory compact. Competitive LSEs are not required to meet the long-term electricity needs of all retail consumers in a service territory and no consumers are responsible for repaying all of the LSEs' prudently incurred costs for used and useful resources. The competitive LSEs do not need to plan long-term for their load and they have

213. *See, e.g.*, *PJM Interconnection, L.L.C.*, 137 F.E.R.C. ¶ 61,145 at P 3 (2011) ("Our intent is not to pass judgment on state and local policies and objectives with regard to the development of new capacity resources, or unreasonably interfere with those objectives. We are forced to act, however, when subsidized entry supported by one state's or locality's policies has the effect of disrupting the competitive price signals that PJM's RPM is designed to produce, and that PJM as a whole, including other states, rely on to attract sufficient capacity.").

214. *PJM Interconnection, L.L.C.*, 143 F.E.R.C. ¶ 61,090 (2013); *New York Pub. Serv. Comm'n v. N.Y. Indep. Sys. Operator, Inc.*, 153 F.E.R.C. ¶ 61,022 (2015).

215. *See, e.g.*, *id.* at P 25. (The [IPPs] disagree with the Complainants' argument that it is beneficial for certain otherwise economic resources to be pushed out of the market in order to advance "legitimate public policy goals," and to "make[] room for the interconnection of new, more efficient, lower emission resources." The [IPPs] contend that this presupposes that certain resources are more "worthy" (and should therefore be paid more) than other resources, but the Commission has explicitly rejected the argument that it would be appropriate to have prices formed in such a manner so as to discriminate between new entrants and existing capacity.). *Id.*

little incentive to do so because those consumers may be buying power from someone else in a year or two. A competitive LSE could choose to compete for retail load by promising a stable rate over the long-term backed by a balanced portfolio of resources, but that would be a risky strategy. Should fuel prices, environmental regulations, or market structures change, the competitive LSE could be out-of-the-money for some period of time (until fuel prices or rules change again) and could lose many of its customers. The "safe" strategy is to buy power and capacity out of the short-term centralized markets like most other competitive LSEs.

Certainly, not all states and LSEs in the eastern RTO region have restructured their retail markets. Vermont, Virginia, North Carolina, and Kentucky largely still have traditional systems. Even in the restructured states, the munis and co-ops still largely operate under a traditional regulatory compact with their consumers and members. Nevertheless, a substantial portion of load in the eastern RTO region is served by competitive LSEs without the incentive to invest long-term in capacity resources or to invest in new generation that can provide any of the other benefits to consumers discussed above such as fuel diversity, locational diversity, environmental benefits, and grid support.

This creates a significant challenge for the FERC. Because many LSEs in the eastern RTO regions will not invest long-term in assets for the benefit of the grid, the FERC feels obligated to create markets that will drive investment by IPPs in those resources. Moreover, some states are fully committed to the restructured model and are relying on the FERC to make the model work. The FERC does not want to let them down. It is understandable, therefore, that the FERC would be willing to accept—or even promote—buyer-side mitigation. If state-mandated resources and self-supply create new entry in the market that drives down prices below the level that the FERC believes necessary to meet the needs of IPPs, and FERC believes those IPPs are critical to meeting system needs in the absence of the regulatory compact, then the FERC's approach might seem reasonable.

Unfortunately, as discussed above, a short term centralized capacity construct approach cannot meet the FERC's goals. Even if it could, buyer-side mitigation blames the victim and not the cause of the FERC's quandary. LSEs who are still engaged in long-term resource planning did not break the old system that ensured resource adequacy. LSEs who are still engaged in long-term resource planning are not the ones who are short on resources. The LSEs who are still engaged in long-term resource planning are still willing to make the long-term commitments that investors demand before funding the construction of a power plant that may cost tens-of-millions to a billion dollars and that may have a useful life of over 40 years.

At fault for resource adequacy concerns are those who are unwilling to make commitments towards such resources more than a month, a year, or three-years in advance. Whether it is the retail consumer, the competitive retail supplier, the state that has committed to retail competition or the IPP looking for revenue only in the centralized markets, their short-term view is a poor fit to such a complicated, capital-intensive, and long-term industry. The "safe" strategy that competitive LSEs take in restructured states is a race-to-the-bottom, not an efficient long-term strategy for resource planning and development. The model may have appeared to have worked briefly while the eastern RTOs worked their way through the

capacity glut that arose from the rush to gas in the 1990s, but its shortcomings are becoming increasingly clear as capacity levels drop. Those shortcomings will only become more obvious as states start to rework the resource mix in response to the Clean Power Plan.

There is some question whether it is the FERC's job to ensure resource adequacy. This has traditionally been the state's responsibility.[216] But, there is no question that it is the FERC's responsibility to protect wholesale consumers. The FERC cannot permit the short-term strategies employed by some LSEs to cause prices to rise to unjust and unreasonable levels for other LSEs. FERC cannot permit short-term strategies by some states to cause prices to rise to unjust and unreasonable levels for consumers in other states.

Ironically, that has been the FERC's justification for buyer-side mitigation and other market design elements aimed at keeping capacity market prices up around CONE, even in periods of excess capacity.[217] But the FERC got it backwards. Rather than burdening states and LSEs looking to promote the investment in long-term resources required to serve consumers reliably over the long-term, the FERC should shift the burden onto those states that have leaned on their neighbors, that have sought to avoid the cost and risk of long-term investments in resources.

Consumers and regulators in restructured states have just as much interest as those in traditionally regulated states in safety, reliability, and affordability. And, they have just as much interest in clean and efficient power.[218] That requires

216. There is no question that the FERC has the authority to regulate the resource adequacy requirements and capacity markets established by jurisdictional RTOs. That question has been fully litigated. *See, e.g.*, Municipalities of Groton v. FERC, 587 F2d 1296 (D.C. Cir. 1978); Maine Pub. Utils. Comm'n v. FERC, 520 F3d 464 (D.C. Cir. 2008). But, that is different from saying that the FERC must act to remedy shortcomings caused in particular states by state decisions.

217. *See, e.g.*, *PJM Interconnection, L.L.C.*, 135 F.E.R.C. ¶ 61,022 at P 143 ("[T]he actions of a single state could have the effect of preventing other states from participating in wholesale markets.").

218. It may appear that by restructuring the retail markets, policy makers had rejected a service vision of the industry and substituted a commodity vision in its place. Despite these appearances, however, and the rhetoric of competitive supply, most consumers and policy makers in restructured states still expect consumers to receive very much the same services as they did prior to restructuring. Consumers and policy makers still want the system to be safe. Consumers and policy makers are still concerned about affordability, and there is a great uproar in restructured states when prices spike in the markets. *See, e.g.*, Same Evans-Brown, *New England Electricity Prices Spike as Gas Pipelines Lag*, NPR (Nov. 5, 2014), *available at* http://www.npr.org/2014/11/05/361420484/new-england-electricity-prices-spike-as-gas-pipelines-lag; Matt Fair, *Pa. AG Zaps Power Cos. With Suits Over Price Spikes*, LAW360 (June 20, 2014, 5:26 PM), *available at* http://www.law360.com/articles/550324/pa-ag-zaps-power-cos-with-suits-over-price-spikes. Consumers and policy makers are still concerned about reliability. As the FERC stated in its SMD NOPR, a NOPR it issued in response to, and in an effort to accelerate, retail and wholesale competition, "[c]ustomers object strongly to inadequate supplies—and high prices when supplies are inadequate—because electricity is essential for many uses and customers cannot turn to substitutes to reduce electricity demand. Electric power drives modern life, and there is significant societal disruption from even short supply interruptions." SMD, *supra* note 199, at 467. State regulators in restructured states continue to monitor traditional metrics of local reliability, such as SAIDI and SAIFI. *See, e.g.*, PUB. SERVICE COMM'N OF MD., STAFF REVIEW OF 2016-2019 SAIFI AND SAIDI PROJECTIONS, (July 10, 2015), *available at* http://webapp.psc.state.md.us/newIntranet/Casenum/NewIndex3_VOpenFile.cfm?filepath=C:/AdminDocket/RuleMaking/RM43/099//RM43-20162019SAIDISAIFIComprehensiveReportFINAL-070815.pdf; PA. PUB. UTIL. COMM'N, ELECTRIC SERVICE RELIABILITY IN PENNSYLVANIA (2014), *available at* http://www.puc.state.pa.us/General/publications_reports/pdf/Electric_Service_Reliability2014.pdf. State and

investment in long-term resources. And, as discussed above, investors in those resources want long-term financial commitments. There is no free ride in economics. If the customers of competitive LSEs in restructured states want to receive safe and reliable power at stable prices but pay no more than the commodity price of electricity, the costs of that service must go somewhere.

The FERC understood this dynamic very well when it drafted the much maligned but often insightful SMD NOPR. There, the FERC explained that "[i]n an interconnected region, the failure of some market participants to secure long-term electricity resources can contribute to a shortage that affects reliability and spot market prices for all participants in the wholesale power market."[219] It also explained that "[u]nder retail competition, load-serving entities competing for customers may compete on the basis of cutting the cost of forward contracting for resources unless they all are held to the same resource adequacy requirement."[220] Given how shortly SMD was written after retail restructuring was instituted in some states, it has proven remarkably prescient.

In the SMD NOPR, the FERC did not respond to the fear of underinvestment by instituting barriers to entry by LSEs that still had the obligation to serve. Instead, it proposed to direct RTOs and other independent transmission providers to require all LSEs to meet their share of future resource needs "through self-

federal regulators continue to monitor resource adequacy closely, with the debates over capacity markets discussed below being only one area in which that is seen. Certainly, state and federal regulators took an active role examining the reliability and price implications of the 2014 Polar Vortex, when extreme cold weather pushed the adequacy of the grid to its limits and drove up prices. *See, e.g.*, Cynthia Dizikes, *New Power Rules Prompted by Polar Vortex May Hike Chicago-Area Electricity Bills,* CHICAGO TRIBUNE (July 28, 2015, 5:02 AM), http://www.chicagotribune.com/news/ct-power-price-hike-met-20150727-story.html; Veronique Bugnion, *The Polar Vortex Wreaks Havoc on Utility Bills*, ENERGY COLLECTIVE (Jan. 31, 2014), http://www.theenergycollective.com/vbugnion/334481/polar-vortex-wreaks-havoc-utility-bills; Todd Griset, *Polar Vortex Caused Energy Price Spikes, says FERC Staff*, JDSUPRA.COM (Oct. 21, 2014), http://www.jdsupra.com/legalnews/polar-vortex-caused-energy-price-spikes-83180/; COMM'N STAFF REPORT, FERC, WINTER 2013-2014 OPERATIONS AND MARKET PERFORMANCE IN RTOS AND ISOS (2014), https://www.ferc.gov/legal/staff-reports/2014/04-01-14.pdf; Jamie Smith Hopkins, *Energy-Bill Shocks Follow Cold Weather*, BALTIMORE SUN (Mar. 22, 2014). Consumers and policy makers still want the electric system to meet stringent environmental guidelines and still want to promote new technologies in restructured states. In fact, the restructured states have some of the most aggressive renewable portfolio standards, energy efficiency standards, distributed generation policies, and climate regulations of any states in the country. *Database of State Incentives for Renewables & Efficiency*, DSIRE, www.dsireusa.org (last visited Mar. 15, 2016) (for more information on state support for DER and renewable energy). Eight of the nine states that formed the Regional Greenhouse Gas Initiative (REGGI) are restructured. NAVIGANT, EVOLUTION OF THE ELECTRIC INDUSTRY STRUCTURE IN THE U.S. AND RESULTING ISSUES 41 (2013), *available at* http://www.emrf.net/uploads/3/1/7/1/3171840/evolution_of_the_electric_industry_for_emrf_10-8-13.pdf. And, in most restructured states, the states still ensure universal access to retail electric service by requiring the former incumbent LSEs to serve as a provider of last resort, acquiring resources under state supervision to serve those retail consumers who cannot or choose not to purchase their power from a competitive supplier. Sam Kennedy, *Bill Would End Default Electricity Service in Pennsylvania*, MORNING CALL (Oct. 26, 2013), http://articles.mcall.com/2013-10-26/news/mc-bill-would-end-default-electricity-service-20131026_1_mensch-electricity-supplier-retail-suppliers; BARBARA R. ALEXANDER, SUMMARY OF RECENT STATE DEFAULT SERVICE DEVELOPMENTS (Nov. 2006), *available at* http://www.maine.gov/mpuc/legislative/maine_energy_council/SUMMARYOFRECENTSTATEDEFAULTSERVICEDEVELOPMENTS.doc#sthash.TsDDZxag.dpuf.

219. SMD, *supra* note 199, at P 469.

220. *Id.* at P 470.

supply, contracts to purchase generation, biddable demand or other demand response program."[221] The FERC went so far as to propose that:

> [I]f the operating reserve level decreases to the point that the Independent Transmission Provider must curtail load, the Independent Transmission Provider must, to the extent possible, curtail the spot energy purchases of the load-serving entity that did not meet its resource adequacy requirement before curtailing the spot energy purchases of load-serving entities that did.[222]

Why did the FERC take this approach in the SMD? Because "[t]he proposed approach is like the traditional reserve margin requirement imposed by states on monopoly utilities. It worked well during most of the last century to ensure adequate supplies, and is still in use in most states, especially states that have no retail choice program."[223]

Pennsylvania has participated actively in the PJM MOPR dockets and in the lawsuits against New Jersey and Maryland. It has sought to protect its decision to restructure its market. It trusts the centralized RTO markets to meet the needs of its consumers and does not want decisions by others to undermine its policy choice. If the FERC adopted its proposal in SMD and required all LSEs, including competitive LSEs in restructured states, to build their own generation or acquire resources in the bilateral market, the Pennsylvania model would not work. How can the FERC resolve that conflict?

The FERC should do what most regulators involved in ratemaking seek to do—impose costs on those who cause them.[224] LSEs that have acquired state-mandated or self-supplied resources are not imposing any costs on the RTO or their neighbors. They are meeting their own needs and their consumers are responsible for covering those costs.

On the other hand, to the extent that state policy has undermined wholesale markets by undermining the long-term revenue required to support bilateral contracting, the FERC should provide incentives for states to address that error. One option would be to let those competitive retail suppliers and their consumers see the volatility and risk of shortages their short-term business strategy may cause. If competitive LSEs do not acquire enough resources and that causes resource scarcity and drives up prices for capacity and energy, it is not unjust and unreasonable to expect just those competitive LSEs and their consumers to bear that cost. The centralized capacity constructs are already designed to have this impact. Absent a MOPR, those who meet their resource adequacy obligation largely through owned resources and long-term bilateral contracts would have little exposure to volatility in the short-term capacity constructs, whereas those who rely more heavily on those constructs would be much more exposed to high prices arising from shortages.

221. *Id.* at P 475.

222. *Id.* at P 477.

223. *Id.* at P 481.

224. *See, e.g.*, K N Energy, Inc. v. FERC, 968 F.2d 1295, 1300 (D.C. Cir. 1992) ("[A]ll approved rates [must] reflect to some degree the costs actually caused by the customer who must pay them."); *see also* Midwest ISO Transmission Owners v. FERC, 373 F.3d 1361, 1368 (D.C. Cir. 2004) (Courts "evaluate compliance [with cost causation principles] by comparing the costs assessed against a party to the burdens imposed or benefits drawn by that party.").

Another option employed in most regions of the country is for the RTO or other regulating body to impose a fine or a fee on those LSEs that fail to bring sufficient resources to market. If that payment is high enough, it should provide sufficient incentives for those LSEs to acquire reliable capacity resources. LSEs in MISO, for example, have a substantial incentive to meet their resource adequacy obligation, as they are subject to a penalty of 2.748 times CONE for any shortfalls.[225]

Pennsylvania or other restructured states may be concerned that putting the burden squarely on LSEs will force some competitive LSEs out of business, as they may not have the capital to invest in capacity resources or may choose not to invest it in that way. If so, then the competitive market is working by forcing out those competitors that lack the resources or desire to participate in the market in a manner that reflects the costs and risks that they are imposing on the grid. If those competitive LSEs are not asked to bear those costs and risks, they have an artificial and uneconomic competitive advantage as they are free riding on others' investments in reliability and grid management. If those competitive LSEs do not bear those costs and risks, states that have chosen to rely on retail competition will free ride on other states' and LSEs' decisions to think holistically and plan long term. States should be free to choose the retail model that fits them, but they should bear the consequences of their choices.

There is still a concern that this approach does not adequately protect reliability. What if competitive LSEs fail to support the construction of new resources in response to the risk of market volatility or in response to the financial penalties? What if they simply choose to pass the financial penalties on to consumers without building new resources? What if they simply choose to go out of business without building new resources when the cost of the penalties rises too high? Notwithstanding what the FERC said in its SMD order, the RTOs cannot curtail only those retail customers on a feeder whose competitive LSE failed to meet its resource adequacy obligation.

Fortunately, there are other options that are worth exploring. The FERC or the states could impose the obligation to meet resource adequacy on distribution service providers (also LSEs under the FPA definition), as proposed by Cliff Hamal of Navigant Economics in his BiCap proposal.[226] Interestingly, many of the distribution service providers in the New England region have already proposed to take on a similar obligation to provide the long-term commitment needed to bring new gas pipeline capacity into New England, since competitive gas generators have been unwilling to do so.[227] Other options are also available,[228] though it is beyond the scope of this paper and beyond the author's capacity to

225. *Midwest Indep. Transmission Sys. Operator, Inc.*, 153 F.E.R.C. ¶ 61,229 at P 47 (2015).

226. C. Hamal, *Solving the Electricity Capacity Market Puzzle: The BiCap Approach*, NAVIGANT ECON. (July 4, 2013), http://www.navigant.com/~/media/WWW/Site/Insights/Economics/ECON_ElectricCapacityMarket_TL_1213.ashx.

227. *See, e.g.*, Mary Serreze, *Massachusetts DPU Rules Electric Companies May Purchase Natural Gas Pipeline Capacity*, MASSLIVE (Oct. 6, 2015), http://www.masslive.com/news/index.ssf/2015/10/mass_dpu_rules_that_electric_c.html.

228. *See, e.g.*, MOREY, *supra* note 96, at 76 (discussing some of those options).

offer a perfect market design under which each wholesale customer truly bears the costs that they impose on the system.

Designing such a construct, that protects reliability while also protecting consumers from short-term thinking by some market participants, is not an easy task.[229] But, it is a very different effort and a more productive effort than that on which the FERC is currently focused. The industry would be well served if the FERC transferred the hundreds (thousands?) of staff hours spent on litigation over buyer-side mitigation in a model that is fundamentally flawed to trying to figure out how to give all states and LSEs the incentive—and freedom—required to bring needed resources to market themselves.

VIII. THE RIGHT PATH: RETURN TO RESIDUAL CAPACITY MARKETS AND PUT THE BURDEN BACK ON ALL LSES TO MEET CONSUMERS' AND REGULATORS' LONG-TERM GOALS INCLUDING RESOURCE ADEQUACY

Though not every region may benefit, there is nothing fundamentally wrong with the idea of centralized capacity constructs, so long as they operate neatly in conjunction with, and not in conflict with, bilateral markets and LSEs' self-build options. As with the voluntary centralized capacity market in MISO, they can be an efficient supplemental tool for enabling those who are long in capacity and those who are short to transact in the short term. To the extent there is excess capacity available, centralized capacity constructs also permit both generators and LSEs to diversify their portfolios, adding short term sales and purchases to a broader portfolio that also includes long- and medium-term capacity transactions. They can also provide a useful price discovery role, though, as the FERC has recognized, the centralized capacity constructs are not a perfect tool for price discovery because of the difference in value between short-term resources in the centralized market and longer-term resources available in the bilateral market.

Again, while each region is different, there is also nothing fundamentally wrong with the idea of mandatory centralized capacity constructs. So long as they are residual markets supplementing resources available in the bilateral markets and through LSEs' self-build options, they can provide the same value as the voluntary market. They can provide the same opportunity for efficient exchange in the short-term, portfolio diversification, and transparency.

The FERC and the eastern RTOs took a wrong turn, however, when they converted the mandatory centralized capacity constructs from residual auctions into the only safe option for new capacity resources by depriving LSEs of guaranteed clearing for self-supply and state mandated resources. They took a wrong turn when the FERC and the RTOs concluded that the centralized capacity constructs needed to, or even could, arrive at a "right" price that could, if properly engineered through layers of mitigation and market rules, provide efficient price

229. EZRA HAUSMAN ET AL., SYNAPSE ENERGY ECON., INC., BILATERAL CONTRACTING IN DEREGULATED ELECTRICITY MARKETS A REPORT TO THE AMERICAN PUBLIC POWER ASSOCIATION 2 (2008) ("[W]hile bilateral contracts are widely recognized as crucial to the functioning of truly competitive electricity markets, RTOs have failed to create an environment conducive to the vigorous, competitive, long-term bilateral contracting that would provide the most benefits to consumers. The primary obstacles we find are related to risk asymmetry: buyers face greater risks than sellers in waiting to transact in today's spot markets, so sellers can charge a risk premium for bilateral contracts.").

signals that would induce private investors to make enough investment in new and existing resources to ensure resource adequacy.

As discussed above, PJM and ISO-NE did not always put LSEs with self-supply or state-mandated resources at risk of paying twice for capacity. That is a very recent development: 2011 in ISO-NE and PJM.[230] Prior to the change, the residual markets permitted self-help, bilateral markets, and centralized markets all to operate in harmony. They permitted LSEs to access short-term capacity resources without burdening their efforts to build "yard-stick" or "birch-rod" resources for themselves or to enter into highly-customized transactions in the bilateral market that permitted the LSEs to build a resource portfolio that took into account their business, operational and policy needs.

Prior to the change:

- Developers and their investors could access long-term revenue streams from LSEs and states in the bilateral market that provided them the certainty they needed to justify investments in capital intensive long-term resources;
- LSEs with sufficient resources to meet their obligations were not at risk of being required to purchase duplicate resources out of the market;
- When LSEs built or encouraged the construction of new supply, market prices responded consistently with market fundamentals and consumers benefited from that added supply;
- The risk that new technologies, new regulatory requirements, and/or changes in other industry dynamics that would make older resources less competitive fell on the owners of those older resources;
- Consumers served by LSEs that invested in physical hedges (self-supply resources) faced less risk in the market;
- LSEs who responded to market signals by acquiring the new resources they needed to address all of their business needs could do so without facing the risk of paying twice or having their business judgment second guessed by economists who are focused solely on prices in a single short-term market and lack the LSEs' broad business perspective; and,
- States could address a wide range of policy considerations including long-term reliability, environmental impacts, compliance with EPA requirements, economic development, and others without being subjected to second-guessing by those same economists who lack a broad policy perspective.

It is true, on the other hand, that a return to residual markets would deprive investors of the supposed certainty that centralized capacity construct prices would average out around net levelized CONE over time. It would deprive them of the supposed ability to invest based solely on revenues they anticipate they would earn in the RTO's centralized market without contributions from the bilateral markets, states, or LSEs' native load. The FERC and the RTOs would not be able to rely on the centralized capacity constructs as a tool to provide the price signals required

230. *ISO New England, Inc*., 135 F.E.R.C. ¶ 61,029 (2011); *PJM Interconnection, L.L.C.*, 135 F.E.R.C. ¶ 61,022 (2011).

to ensure resource adequacy. The FERC would have to look elsewhere for that function.

As discussed above, however, that is not a problem because the centralized capacity constructs were fundamentally incapable of meeting the goal the FERC had set for them. Instead, by asking them to perform that function, the FERC and the RTOs were undermining market fundamentals, undermining needed investment in the "right" resources, imposing undue risk on consumers, depriving consumers of the ability to respond rationally to that risk, imposing unjust and unreasonable prices on consumers, and undermining state policy goals. The FERC and the RTOs were also unnecessarily enabling short-term thinking by states, competitive LSEs, and IPPs in the same way that a family member enables an alcoholic by giving them a bottle of whiskey for Christmas. Such thinking simply is not appropriate in an industry with the need to optimize a portfolio of long-lived assets.

The FERC would be wise, therefore, to rethink its centralized capacity constructs. Centralized capacity constructs should be considered a supplement for, not a replacement or substitute for bilateral capacity markets and self-supply. Centralized capacity constructs should be "residual to" bilateral markets and self-built resources, to provide an additional option to help LSEs manage their risks and portfolios. LSEs should have the right to use their own resources to serve their own load. They should only be required to purchase from the centralized capacity construct if required to make up for any shortfall in the resources to which they already have rights. All generation owners, whether IPPs or LSEs with excess resources, should then be permitted to compete to serve that remaining shortfall.

In reimagining the markets this way, the FERC and the RTOs would also need to put the obligation for resource adequacy back where it belongs—on LSEs and states—and give them both the freedom and incentive to meet that obligation in the manner that best meets their needs. In so doing, the FERC would solve one of the fundamental concerns that the IPPs have expressed with the bilateral markets—too few counterparties willing to enter into long-term contracts. If the FERC can put the burden back on restructured states and competitive LSEs to ensure long-term reliability, they can recreate that natural market for long-term transactions in the bilateral market.

How that can best be done is a complicated challenge for which this paper does not have an answer. But, it seems it must be a simpler question than trying to figure out how best to dissuade LSE entry into mandatory centralized capacity constructs in such a manner as to engineer a consistent market clearing price that the FERC and the RTOs hope will encourage private investors to invest in enough of the right new capacity, in the right places, on a timely basis, on spec.