Capacity Market Repricing Proposal

June 12, 2017

Introduction

PJM is evaluating *how* policy initiatives and market rules can be designed to harness the benefits of competitive markets while meeting state policy goals in the most efficient manner possible.

This working paper details the “accommodate” path, which would address subsidies in the capacity market by administratively adjusting subsidized resource offers to prevent capacity price distortion. This market reform would ensure that out-of-market subsidies do not impact the overall competitiveness of the capacity market, and the efficient entry and exit of resources.

This proposal is being evaluated with other potential solutions as part of the Capacity Constructs / Public Policy Senior Task Force (CCPPSTF). PJM has released this proposal as a point of discussion due to the urgency of the subsidies issue. PJM expects this proposal will receive consideration in the CCPPSTF in due course. This action is not taken to supplant the stakeholder process. Rather, the CCPPSTF will identify both the characteristics of a well-functioning capacity construct as well as potential public policy initiatives states could take regarding resource adequacy, fuel diversity, public and environmental policies. The group will then compare state actions to the current capacity construct to identify areas for change and develop solutions.

Two-Stage Capacity Auction

A two-stage approach to determine cleared commitments and clearing prices in a single capacity auction would address subsidies in a way that:

- Maintains the correct price signal to incent entry and sustain competitive resources necessary to achieve long-term resource adequacy
- Commits only the quantity of capacity necessary in any given delivery year

This proposal is an update to PJM’s Potential Alternative Approach to Expanding the Minimum Offer Price Rule to Existing Resources proposal from the August 2016 Grid 20/20 on public policy and market efficiency. The primary difference in this updated proposal is that the settlement for subsidized resources would be administered by PJM instead of by the state(s) with subsidized resources.

In this design, resources would submit one set of offers into a single capacity auction, as they do today. However, the cleared capacity commitments and the clearing prices would be determined in separate stages.

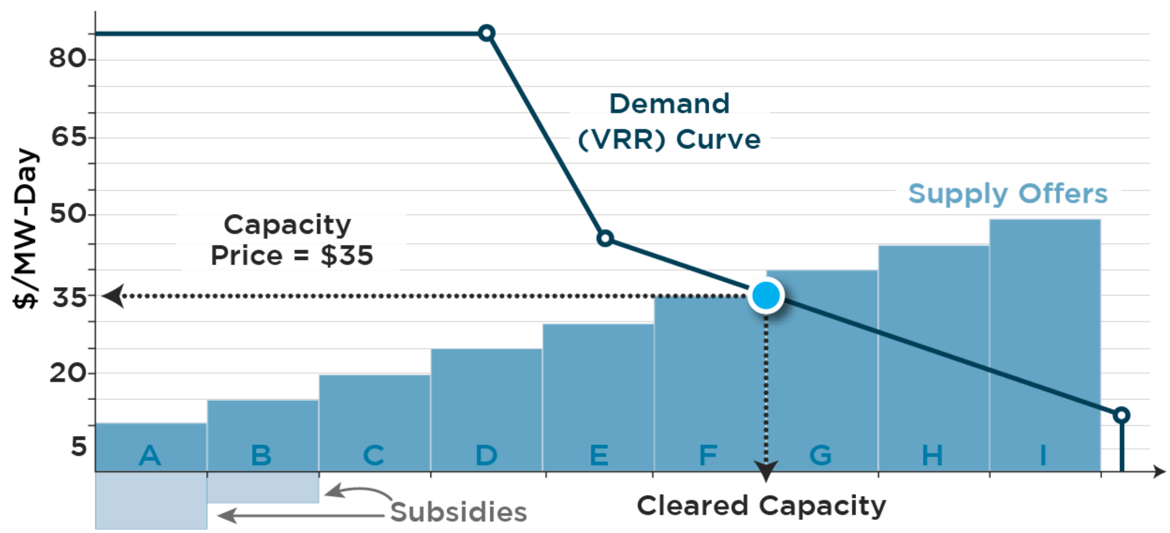
Subsidies that are determined to be actionable by PJM and stakeholders will trigger repricing. More detail on distinguishing between actionable and non-actionable subsidies is included in following sections.

Resources with actionable subsidies that clear the first stage of the auction would be relied on as capacity resources as they are today and subject to the same reliability obligations. Capacity market offers of subsidized resources will be administratively adjusted in the second, price-setting stage of the auction to prevent distortion of the capacity price.

Stage 1: Determination of Cleared Capacity

- Subsidized units that trigger repricing could offer into the auction as they do today, subject to PJM rules.
- Clearing this auction would determine those resources that ultimately would receive a capacity commitment, and establish a "suppressed capacity price."

Figure 1. First Stage of Auction, Cleared Capacity Determined



Stage 2: Determination of Clearing Price

- PJM would recalculate prices in the auction by:
  - Removing offers submitted by subsidized units from the price formation and settlement process, and
  - Replacing those offers with reference price offers[1] reflecting what would be a competitive offer from a unit of that type and vintage
- Although units with offers below the restated capacity price but above the suppressed capacity price would appear infra-marginal, they would not receive a capacity commitment because they did not clear in the first stage.

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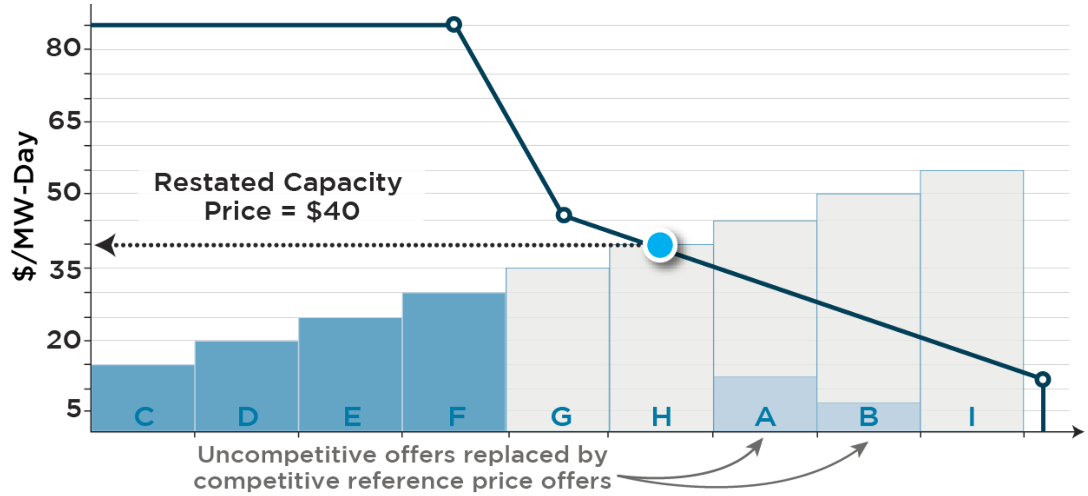
[1] The reference price for resources with actionable subsidies would be a technology-based, locational approximation for each resource's going forward costs, similar to the default Avoidable Cost Rates currently in the PJM Tariff.

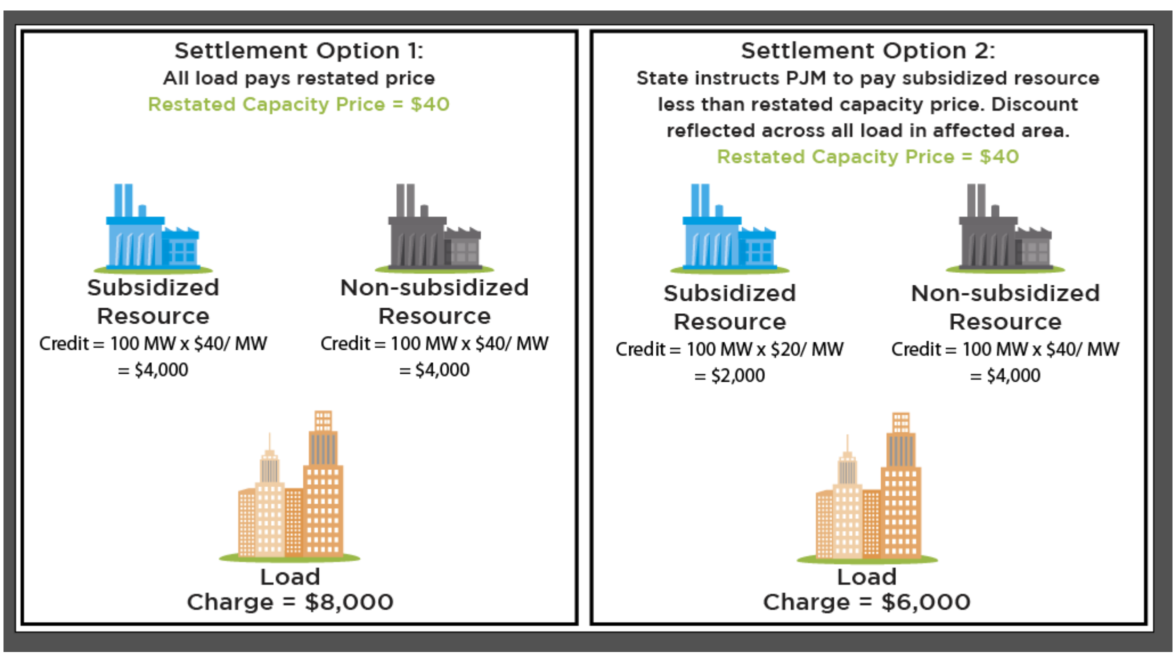
Figure 2. Second Stage of Auction, Capacity Price Determined



Settlement

PJM would credit all cleared capacity resources and charge all demand the restated capacity price unless the state(s) with subsidized resources direct PJM to pay those resources less than the restated capacity price. The discount from reducing a subsidized unit's capacity credit at the state's request would be applied to load as indicated by that state. This gives states the option to determine how much customers are paying for subsidized resources through the capacity market since the resources are already receiving an out-of-market payment. Figure 3 provides an example of this concept.

Figure 3. Settlement Example



Subsidies

The question of how to best preserve price integrity in the PJM capacity market in the face of selective, out-of-market subsidies presents, in theory, three broad options:

1. Take action to address all subsidies, recognizing that all subsidies interfere with a theoretically perfect operation of the market
2. Take no action against any subsidy, recognizing the ubiquity of subsidies and the difficulty in justifying distinction between “actionable” and “non-actionable” subsidies
3. Develop criteria or principles that identify subsidies that warrant action based on design or impact, and leave all other subsidies unaddressed

PJM recommends the third approach. The Capacity Market Repricing Proposal distinguishes actionable from non-actionable subsidies. Before examining the approach and rationale used to distinguish actionable from non-actionable subsidies, important preliminary observations should be noted.

First, any action to mitigate subsidies (*i.e.,* PJM’s Minimum Offer Price Rule) or to accommodate subsidies (*e.g.,* the repricing proposal discussed here) requires identifying a class of actionable subsidies. The existing MOPR already adopts the third approach by distinguishing between subsidies subject to mitigation (a minimum offer) and those that are ignored. However:

- PJM believes that distinguishing between subsidies would be less controversial and impactful to the market sellers under the repricing proposal because the consequence of that distinction does not fall directly on the subsidized resource. Under the proposed repricing rule, the subsidized resource can freely decide on its capacity market offer. This is not the case under MOPR.
- The repricing rule imposes no added risk on the resource failing to clear the auction or failing to receive a capacity commitment. Thus, the affected locational deliverability area (LDA) does not face the potential of “double procuring” capacity under the repricing rule as it does under MOPR.
- Because the consequence of identifying a resource for repricing under the proposal is limited to forming the clearing price in the RPM auction that is paid to all unsubsidized resources, PJM believes the subsidized resources can be repriced according to a reference price[2] as opposed to a unit-specific cost analysis.

Second, application of the Capacity Market Repricing Proposal is limited only to those jurisdictions that have elected to rely on the PJM markets to manage resource adequacy (states that have by law or regulation unbundled public utility operations). Similarly, the repricing rule is not intended to apply within a Fixed Resource Requirement service area. Finally, existing tariff exemptions in the minimum offer pricing framework (such as the self-supply rules) would be adopted so as to limit applicability of the repricing rule.

[2] The reference price for resources with actionable subsidies would be a technology-based, locational approximation for each resource’s going forward costs, similar to the default Avoidable Cost Rates currently in the PJM Tariff.

Criteria to Identify Actionable Subsidies: When Would Repricing Be Triggered?

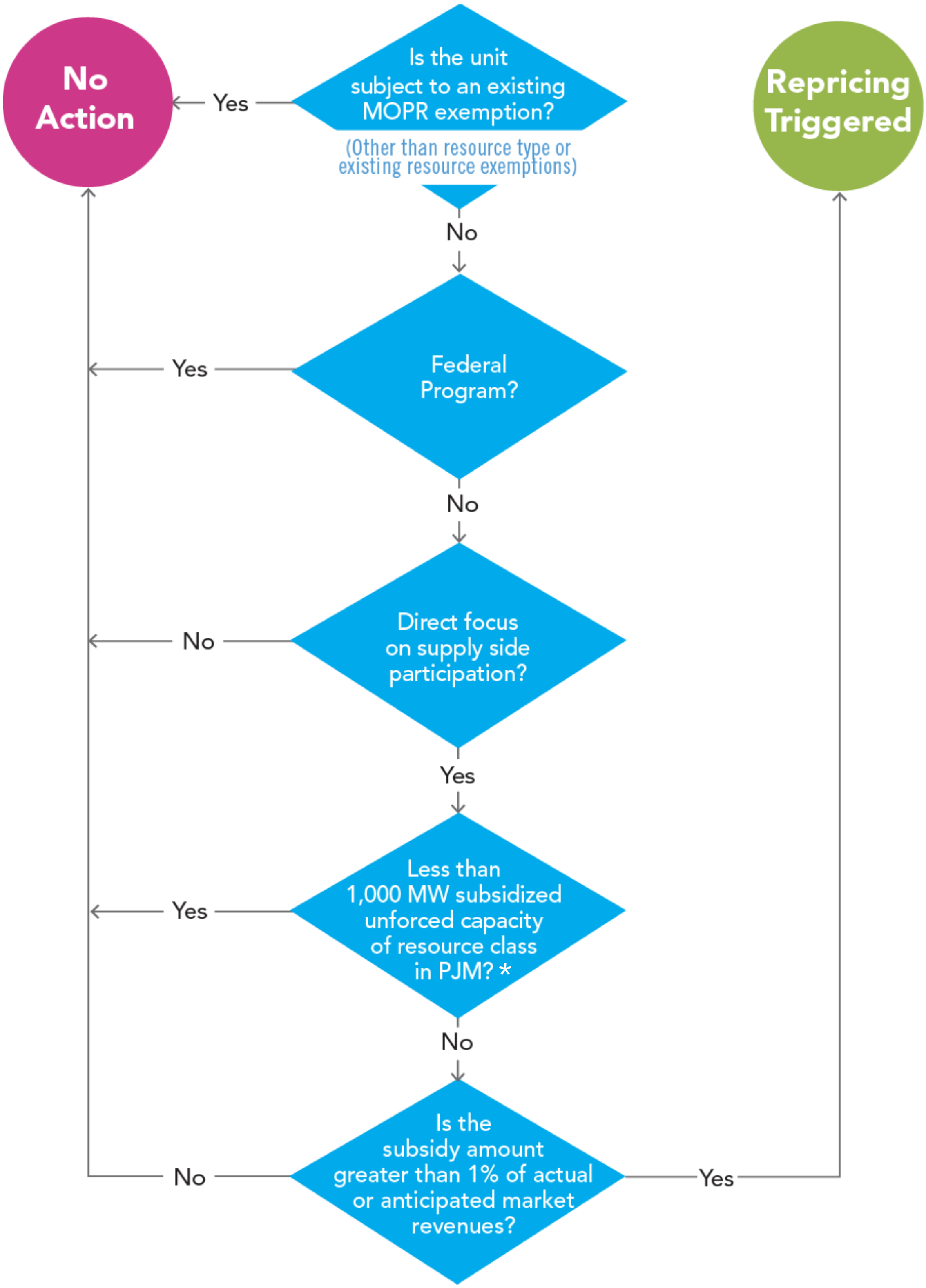
The decision tree in Figure 4 describes the criteria PJM would apply to identify subsidies that would trigger repricing under this proposal. If a subsidy is identified as "actionable," the associated resource's competitive offer will be administratively adjusted in the second, price-setting stage of the auction to prevent distortion of the capacity price. All resources that are subject to repricing will still receive capacity commitments and are still subject to the same stringent reliability obligations.

The exercise of distinguishing actionable subsidies from non-actionable subsidies is one of judgment – guided more by practicality and less by pure principle. Although identifying a subsidy as actionable under the proposal is not, as described, as consequential and problematic for the market seller as under MOPR, PJM would prefer to maximize the number of actual competitive offers on the supply curve and minimize repricing subsidized units with administratively set reference price offers.

Accordingly, the repricing triggers set forth in this proposal reflect a judgment on materiality and recognition that the capacity market can tolerate, and has tolerated for a decade, some modest level of distortion from programs that selectively advance certain resources, whether by design or consequence. PJM's Capacity Market Repricing Proposal is intended to operate by ignoring subsidies that have only a minor or theoretical impact on capacity price outcomes.

The PJM proposal adopts repricing triggers informed by the analysis and reasoning of the federal courts, including the Supreme Court in the *Hughes* case. The Capacity Market Repricing Proposal is designed to ignore "generic" subsidies, such as incentives and tax breaks that support economic development generally. Programs that selectively target the advancement of a particular resource while excluding other similarly situated resources would be subject to repricing under the proposal.

Figure 4. Subsidy Decision Tree for Triggering Repricing



* Application and implementation issues associated with this proposal as applied to renewable portfolio standards is a matter which should be the subject of further discussion in the stakeholder process.

The first decision criterion distinguishes resources that are subject to an existing MOPR exemption,[3] which could include wholesale resources that are regulated by a state, self-supply resources, etc. Subsidies to any resources that are subject to an existing MOPR exemption (other than current exceptions for existing resources and fuel type) would not be considered actionable.

The second decision criterion distinguishes federal from state programs and excludes federal programs from triggering repricing. Admittedly, this distinction does not rest on any economic difference – a federal production tax credit that supports the uneconomic entry of 500 megawatts is just as distorting as a state purchase power contract for a 500 megawatt preferred resource. The basis for this distinction is a pragmatic recognition that neither PJM nor the FERC have much latitude to address federal programs authorized by Congress. Federal programs apply nationally and arguably form an accepted and understood element of the investment landscape and do not differentiate simply by location of the asset in a particular state. These subsidies are ones we must accept. They are widespread (IRS, DOE, Department of Agriculture, etc.), and examples can be found that support all generation resources and fuel types.

The third decision criterion is designed to exclude from repricing subsidy programs that:

- Are generic across broad areas of the economy, such as tax credits for any commercial investment and local economic development incentives
- Are directed at the electricity sector but predominantly focused on encouraging reduced consumption and conservation, such as rebates and incentives for behind-the-meter resources or programs that incent insulation, energy efficient buildings, etc.
- Directly target wholesale supply side resources, either individually or by class of resource. This would include demand response and energy efficiency that elects to participate as a wholesale supply-side resource in PJM markets.

The fourth decision criterion is aimed at capturing materiality. Subsidies for a defined class of resource types would not be subject to repricing to the extent each resource class has less than 1,000 MW of subsidized, unforced capacity offered into and clearing the PJM capacity market. (Such resources classes are proposed as coal; nuclear; natural gas; renewable, including hydropower, pumped storage, solar and wind; and demand response and energy efficiency.) However, once that threshold is exceeded all subsidized resources within that resource class would be subject to repricing. PJM acknowledges this approach relies on judgment. The "1,000 MW" level stated here should be considered indicative and, like other elements of this proposal, the appropriate value certainly will be subject to further stakeholder discussion. The intent, however, is to filter subsidies in a way that prevents them from having a material impact on market prices. An amount of subsidies that does not have a material impact on price is less likely to result in the creation of more subsidies. However, an appreciable quantity of subsidies could suppress price to the point of creating a domino effect resulting in additional subsidies.

The fifth decision criterion establishes a cutoff in instances where the subsidy amount is greater than 1 percent of a resource's actual or anticipated market revenues. This element of the test also is one of materiality, designed to exclude trivial benefits that state or local authorities might offer to generation in their regions.

[3] PJM Open Access Transmission Tariff (OATT), Attachment DD, Section 5.14(h)