

**Initial Comments on Capacity Market Proposals:
Market Power Mitigation**

**Department of Market Monitoring
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Overview

This paper provides some initial comments from the Department of Market Monitoring (DMM) on the market power mitigation provisions of the various capacity market proposals. Should California move forward with a centralized capacity market design, it is critically important that it be structured to provide sufficient safeguards against physical and economic withholding. This document provides a review of the market power concerns associated with centralized capacity markets, discusses how various market power mitigation provisions provided in the various proposals address these concerns, and identifies areas where proposals would benefit from additional details.

System Market Power

The need for market power mitigation may be significantly lessened by a capacity market design that provides a strong incentive for investment in new resources and allows potential new investment to compete to meet capacity requirements. This is particularly true with respect to system-wide level, where new resources can compete to meet requirements driven by system-level capacity planning margins. As long as no significant barriers to entry exist for new supply, and load-serving entities (LSEs) have strong incentives or requirements to procure sufficient capacity on an advanced timeframe that allows for competition from new generating resources, limited market power mitigation should be necessary on a system-wide basis in a centralized capacity market.

From this perspective, proposals which include an explicit forward auction (such as the proposal of the California Forward Capacity Market Advocates (CFCMA)) or procurement process (such as the PG&E proposal) on a timeframe that allows for development of new supply options may provide a greater degree of system-level market power mitigation than proposals based on shorter terms auctions, such as the monthly approach proposed by Constellation or the annual approach proposed by Mirant.

In addition, as noted by DMM at the workshop, while the focus of these proposals is on the procurement and pricing of capacity, it is critically important that the CPUC and parties to this proceeding not lose sight of the essential role that long-term energy contracting plays in mitigating market power in the short-term energy markets. The best designed long-term capacity procurement and pricing structure will not prevent another energy crisis (even under a 15% planning reserve margin), if it is not coupled with large amounts of long-term energy contracting. At the end of the day, Californians consume energy, not capacity, and if this energy is not adequately hedged through long-term

contracts, the market will be ripe for significant market power abuse. With this in mind, the degree to which each approach facilitates or co-exists with long-term energy contracting has a significant impact on the overall protection against market power afforded by each approach.

Local Market Power

The need for local market power mitigation may also be significantly lessened by a capacity market design that provides a strong incentive for investment in new resources and allows potential new investment to compete to meet capacity requirements. However, DMM has noted that within many local areas, it may be inefficient or insufficient to rely on competition from potential new resources to mitigate the market power of existing suppliers. Within these local areas, significant barriers to entry may also exist that are difficult for the market monitor to assess. For these reasons, DMM believes that any proposal should include additional provisions to explicitly mitigate local market power, and should avoid over-reliance on entry of new capacity in load pockets.

The CAISO believes that it is preferable to develop market power mitigation provisions in advance in order to ensure that the provisions may be objectively applied by the CAISO. Additionally, simply relying on DMM and FERC to monitor for the exercise of market power is not an effective mitigation strategy. Thus, as discussed below, effective local market power mitigation would need to address both physical and economic withholding through clear ex-ante market rules.

In addition, as noted at the workshop, DMM believes additional analysis is required for how specific capacity requirements may be established for some local areas, such as the Bay Area and Western LA Basin, for which it may be difficult to specify a fixed capacity requirement due to the existence of various layers of reliability constraints and sub-area requirements. If such dimensions of local reliability requirements are ignored, auction results based on a fixed capacity requirement may be highly inefficient and/or require the CAISO to rely on a backstop contracting ability to meet local reliability requirements. In addition, incorporating these various sub-area constraints within Local Capacity Areas (LCAs) into capacity market requirements will show that the degree of local market power is much greater than may be suggested based on overall LCA supply margin and concentration of ownership reflected in aggregate LCA requirements and supply data.

Economic Withholding

The proposals of Constellation, Mirant and the CFCMA incorporate two distinct alternatives for the mitigation of local market power that may be exercised through economic withholding:

- The demand curve approach, incorporated in the Constellation and Mirant proposals; and
- The direct bid mitigation approach, based on specific structural, conduct and impact tests, incorporated in the CFCMA proposal.

Under PG&E’s proposal, local market power appears to be mitigated through a combination of ways:

- First, some capacity needed or able to meet local requirements may be procured through the Centralized Request for Offers (CRFO). Although this appears to be the primary mechanism to attract new supply that may meet local capacity needs under this proposal, it appears that an existing supply or repowering project may also be able to bid in this process. Presumably, local market power would be mitigated in this process by competition from potential new suppliers, and by the “demand elasticity” created by the fact that high priced bids may not be accepted, with any unmet reliability requirements being met instead by any of the other mechanisms described below.
- Second, the PG&E proposal suggests that some capacity needed to meet local requirements may be met by “self-supply” (PG&E, p.9).
- Third, under PG&E’s proposals, it appears local market power would also be mitigated through bid mitigation rules or limits incorporated in the Centralized Availability Market (CAM) conducted after the CRFO process was completed. For example, PG&E’s proposal indicates that availability prices in this market “would be based on fixed operations and maintenance costs.” (PG&E, p.9).
- Finally, PG&E’s proposal suggests that any “remaining above-market units with local market power would be addressed in analogous fashion to the MRTU process,” with such units “receiving a pre-negotiated price, or would be offered negotiated contracts based on their demonstrated fixed operations and maintenance costs.” (PG&E, p, 9-10).

As discussed below, DMM’s initial assessment of the demand curve approach and the more direct mitigation incorporated in the CFCMA approach – based on the details provided in these various proposals – is that the direct bid mitigation approach proposal provides a significantly greater level of protection against local market power. A more detailed discussion of each of these approaches is provided below. It is difficult to assess and compare the approach proposed by PG&E at this time due to the limited details on specific criteria used to determine prices, define local market power, and mitigate local market power during the various steps outlined in PG&E’s proposal.

Demand Curve Approach

The demand curve approach incorporated in the Constellation and Mirant proposals is designed to provide a structural safeguard against market power through the downward sloping nature of the demand curve, combined with the upper bound on demand curve pricing. Specific parameters proposed for use in the demand curve for California’s market are not provided. However, the Constellation proposal cites demand curves currently used by the New York ISO as examples of what demand curves might look like (Constellation, p. 16). DMM’s initial analysis of demand curves used in the New York

ISO suggests that the slope and price caps incorporated in these curves would be insufficient to effectively mitigate local market power within numerous of the major load pockets within the CAISO, given the concentration of ownership of supply available to meet local capacity requirements in these areas.¹ This analysis is consistent with recent developments in the New York ISO's local capacity markets for New York City. As detailed in a recent filing, the NYISO's Independent Market Monitor has determined that prices in the local capacity market for New York City have been uncompetitively high due to economic withholding of supply by one or more major suppliers.²

When significant local market power exists, an additional concern with the demand curve approach is that the market clearing quantity may be significantly below the level of capacity actually needed to meet local reliability requirements. If this results from economic withholding of capacity, this would presumably force the CAISO to utilize its backstop procurement authority to contract with additional supply. However, such supplemental procurement could have the perverse effect of encouraging such economic withholding by providing another opportunity for suppliers to earn capacity payments for capacity that is economically withheld from the auction.

In sum, under approaches based on administratively set demand curves, the elasticity of demand (or slope of the demand curve) may provide limited protection against local market power. Thus, DMM believes additional market power mitigation provisions may be necessary under such approaches.

Direct Bid and Price Mitigation

The CFCMA proposal would mitigate local market power of existing resources through direct bid mitigation, which would be triggered by specific *structural*, *conduct* and *impact* tests. The CAISO understands this aspect of the CFCMA proposal to work as follows:

- First, the CAISO would determine if the entity's bid price for any of its existing resources was above 60% of Net CONE. If not, no further screens or bid mitigation would be applied to the entity's bid. Thus, any bid at or below 60% of Net CONE will be designated as a "safe harbor" for existing resources.

¹ Specifically, given DMM's understanding of the likely capacity requirements, total available supply and concentration of ownership of this supply in various LCR areas and sub-areas, the demand curve approach would appear to be inadequate to mitigate the degree of local market power in areas such as San Diego, the Western LA sub-area, and the Bay Area. DMM plans on providing specific analysis of this issue in a future whitepaper.

² See NYISO Tariff filing available on NYISO website: (http://www.nyiso.com/public/webdocs/documents/regulatory/filings/2006/12/NYISO_Tariff_filing_re_IC_AP_Mitigation_Measures122206.pdf).

- If the entity's bid price for any of its existing resources was above 60% of Net CONE, the CAISO would determine if the entity (a) controls 20% or more of the uncommitted capacity within the Local Area, or (b) is pivotal with respect to the uncommitted capacity available to meet the local requirement.
- If the participant failed either one of these structural tests, the participant would then be required to submit calculations of a Net Avoidable Cost Rate (Net ACR).³
- If an offer exceeds the Net ACR, as determined by the CAISO's market monitor based on its review of the participant's ACR filing, the Primary Auction is run with and without bid mitigation (e.g., first using the CAISO's calculation of Net ACR, and then with the participant bid price). If the impact of mitigating all participant's bids which fail the various tests described above to the Net ACR is to lower the capacity MCP by 5% or more within any area, then the capacity MCP is set using the mitigated bids in the affected areas.
- The participant can contest the decision of the market monitor at FERC, in conjunction with a pre-auction report that the CAISO will file.

Under this approach, within areas where there are sufficient existing resources to meet reliability requirements, the capacity MCP would presumably clear at no more than 5% above the highest Net ACR of existing capacity needed to meet demand.⁴ However, if new capacity was needed to meet local requirements, the capacity MCP would be set at the lowest cost bid for the incremental amount of new capacity needed to meet requirements, subject to an overall cap of 1.4 times Net CONE.

The various "bright line" tests for locational market power within local areas included in the CFCMA proposal appear to provide a reasonable framework for local market power mitigation. However, DMM notes that some additional analysis and consideration is needed to ensure that the specific thresholds included in the CFCMA will provide a reasonable degree of protection against local market power for the various load pockets in the CAISO system.

At the same time, the CFCMA proposal calls for the CAISO's market monitor to play a very significant role in the capacity market, and a much greater role than under the

³ Since bid mitigation is designed to reflect bidding under competitive market conditions, the CAISO assumes that the Net ACR is designed to represent a unit's projected net going forward fixed costs (excluding sunk costs). However, CFCMA proposal indicates that the Net ACR would include "on-going capital expenses." Thus, further clarification should be provided on what capital expenses would be included in the Net ACR calculation.

⁴ This also assumes that all existing capacity is bid and/or counted toward meeting local requirements through the provisions to deter physical withholding and to count capacity under export contract toward meeting local requirements included in the CFCMA proposal (see C.1, p.5 and C.5, p.7) These provisions are discussed in another section of these comments.

demand curve approach. Under both approaches, the CAISO must estimate Net CONE. However, as described above, the CAISO's market monitor must be prepared to perform extensive reviews of Net ACR calculations, develop and support alternative calculations as needed, and possibly defend these calculations in regulatory proceedings before FERC. In practice, this would require the market monitor to expand its internal resources to include staff with the necessary skills to perform these activities, and/or to contract and manage consultants with expertise in these areas.

Physical Withholding

In addition to mitigating the exercise of local market power through economic withholding, capacity market rules must prevent the exercise of local market power through physical withholding (i.e., simply not offering all available capacity in the auction). The Constellation and Mirant proposals appear to rely on the slope of the demand curve to deter both physical and economic withholding, without any specific provisions to address physical withholding.⁵ For example, the Constellation proposal states, "The CAISO conducts a demand curve clearing auction in which any uncommitted capacity may offer to sell its capacity for the coming months" (Constellation, p.4, #5).

Meanwhile, the CFCMA proposal includes a strong provision that deters physical withholding by existing suppliers within local areas. Specifically, the CFCMA proposal states that:

Existing resources must offer their capacity into the CFCM or provide notice of administrative de-listing due to unit retirement or an export contract to ensure that all resources on the CAISO system are accounted for. (C.1, p.5)

In addition, the CFCMA includes another provision which ensures that any capacity committed under bilateral export contracts can still meet local reliability needs:

If a resource within a Local Area de-lists for export purposes, its capacity will count towards the applicable Local Area Requirement but not the statewide Resource Adequacy Requirement, and the exporting resource must offer in the CAISO markets any energy not exported. (C.5, p.7)

This provision reflects the fact that local reliability requirements are met as long as a unit is scheduled and operates to provide energy, even if that energy is ultimately scheduled for export from the CAISO system. This "must-offer" requirement that would be established under the CFCMA proposal is analogous to provisions of the current RMR Condition 1 contract, which allows unit owners to contract and sell energy through

⁵ In workshop comments, Constellation appeared to also suggest that physical withholding would be deterred by FERC market rules prohibiting manipulation or anti-trust laws. As previously noted, DMM does not believe that reliance should be placed on this form of enforcement action by FERC or other legal or regulatory entities.

bilateral transactions, but also allows the CAISO to commit and dispatch any capacity that is not scheduled to meet a bilateral sale. This requirement promotes efficiency by recognizing that a unit meets local reliability requirements even if the unit is scheduled to meet an export schedule, and prevents potential exclusion or withholding of existing supply from local capacity auctions through export contracts.

While the general provision outlined in Section C.5 of the CFCMA appears to provide an effective framework for treatment of export contracts and local reliability requirements, additional details would need to be developed to clarify the nature and timing of the “must offer” requirement applicable to these units. For example, in order to meet local reliability requirements, long start units would need to offer capacity in the Day Ahead IFM market.