Capacity Procurement Mechanism Enhancements Track 2 – Final Proposal

Comments by Department of Market Monitoring

August 31, 2023

Background

DMM appreciates this opportunity to comment on the ISO's Capacity Procurement Mechanism (CPM) Enhancements Track 2 Final Proposal.[1]

Since establishing the CPM soft offer cap in 2014, the ISO's policy has been to set the CPM soft offer cap based in part on an estimate of the annual going forward fixed costs of a typical new gas-fired unit plus a 20% adder.[2] This annual cost estimate is then divided by 12 to get a monthly value used as the soft cap for monthly CPM designations. All CPM designations have been paid at or just below this monthly soft cap. Units receiving these CPM payments also keep all net revenues earned from operating in the market.

The ISO set the current soft offer cap using estimates of annual going forward fixed costs for a 550 MW combined cycle unit derived from reports issued by the California Energy Commission (CEC) in 2018/2019. The ISO tariff requires that the ISO open a stakeholder initiative every four years (at the latest) to examine the soft offer cap and consider whether it needs to be changed. In this initiative, the ISO proposes to meet this tariff obligation by increasing the CPM soft offer cap based on updates provided by the CEC to its 2018/2019 estimates of annual going-forward fixed costs. DMM understands these updates consist only of adjustment to the CEC's 2018/2019 estimates to account for assumed increases in labor costs and inflation of other cost components. Based on these assumed cost increases, the ISO proposes to increase the monthly CPM soft offer cap from \$6.31/kw-month to \$7.34/kw-month — or by about 16%.

Comments

As noted in DMM's prior comments and filings on the soft offer cap, DMM continues to believe that the annual cost estimates in the CEC's 2018/2019 reports used in setting the CPM soft cap are significantly greater than the actual going forward fixed costs of gas-fired resources.[3] The cost

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[1] *Capacity Procurement Mechanism Enhancements – Track 2 Final Proposal*, CAISO, August 17, 2023: http://www.caiso.com/InitiativeDocuments/Final-Proposal-Capacity-Procurement-Mechanism-Track2-Aug172023.pdf

[2] *Capacity Procurement Mechanism Replacement Draft Final Settlement Document for ISO Board of Governors*, CAISO, December 15, 2014, p. 15: http://www.caiso.com/Documents/DraftFinalSettlementProposal-CapacityProcurementMechanismReplacement.pdf

[3] *Supplemental Comments on Capacity Procurement Mechanism Soft Offer Cap Straw Proposal*, Department of Market Monitoring, September 10, 2019: http://www.caiso.com/InitiativeDocuments/DMMSupplementalCommentsCapacityProcurementMechanismSoftOfferCap-StrawProposal.pdf

updates used in this new estimate reflect assumed increases in some cost components due to inflation and do not include additional analysis of actual going forward fixed costs for gas units. Nevertheless, DMM supports the proposed 16% increase in the current monthly CPM soft cap for several reasons.

- While DMM believes the CPM soft cap is based on a significantly inflated estimate of annual fixed going forward costs (plus 20%), this annual fixed cost estimate is then divided by 12 in order to set the soft cap for monthly CPM designations. In practice, most units only receive CPM designations for one to two peak summer months of the year — when there is limited or no excess supply available and bilateral capacity prices are highest. Thus, the current methodology of dividing annual costs by 12 to determine monthly payments does not accurately reflect actual market conditions and how the CPM is used. This additional inaccuracy offsets much of the overall impact of inaccurately high estimates of annual fixed costs on monthly CPM costs for capacity procured only a few peak months of the year.

- When originally developed, the CPM mechanism was expected to play an important role in mitigating market power in local capacity areas in which one or two major suppliers were pivotal in terms of the supply of capacity needed to meet local requirements. In recent years, however, almost all of the capacity procured under the CPM mechanism has been for system level capacity rather than for local requirements. From 2020 to 2022, almost all (99%) of capacity procured under the CPM has been for system capacity.

- The annual fixed cost estimate used by the ISO is also only one input to the overall formula for setting the CPM cap. The soft cap formula is designed to ensure that units receive revenues well in excess of going forward fixed costs, since it also includes a 20% adder and units receiving CPM payments retain all net market revenues received when in operation. When combined with the way in which annual fixed costs are divided by 12 when setting the monthly CPM soft cap, this creates a significant disconnection between the current soft cap and the economic theory upon which the CPM payment was originally based (i.e. that the soft cap should be based on going forward fixed costs).

- In practice, the CPM soft cap (plus the proposed 16% increase) now represents a value for short term capacity payments that appears to be supported by a relatively broad consensus of stakeholders – including suppliers and load serving entities. Stakeholders appear to agree that the CPM soft cap represents a reasonable cap for the peak summer months under current market and system conditions in the CAISO balancing area and the broader western regional market.

- Finally, as noted in the final proposal, numerous stakeholders have requested that the ISO explore CPM-related changes beyond the monthly soft offer cap and in the context of California’s resource adequacy program. The ISO has indicated that the scope of this current initiative is limited to an update of the monthly soft offer cap, but has committed to working with stakeholders beginning in 2024 on broader reforms to the CPM in the context of California’s resource adequacy program. DMM strongly supports this approach, as it will allow the ISO and stakeholders to focus efforts on a more comprehensive set of changes needed in the overall CPM and resource adequacy framework.

For these reasons, DMM supports the 16% increase in the current monthly CPM soft cap being proposed by the ISO in this initiative.

The following section of these comments provide some analysis of CPM designations over the last four years highlighting how CPM designations have only been issued during a few peak summer months of the year – when there is limited or no excess supply available and bilateral capacity prices are highest.

The final section of these comments summarize analysis of potential revenues received by gas-fired units from DMM's 2022 annual report which highlight the magnitude and potential impact of the current CPM soft cap in terms of the financial viability of relatively new gas fired generation.

CPM designations by month

Figure 1 summarizes CPM designations over the last four years by month and resource type. As shown in Figure 1, almost all CPM designations have occurred in the peak summer months from July to September. All of this capacity was procured at or near the CPM soft cap.

- Gas units have accounted for about 73% of CPM capacity over the last four years.
- Battery storage accounts for about 16% of CPM capacity over this period. In 2022, a significant amount of battery capacity (501 MW) was procured under CPM since this capacity became operational prior to summer 2022 but had not been used to meet resource adequacy requirements of any load serving entity.
- In September 2022, the ISO procured 242 MW of import capacity under the CPM. This illustrates how in some cases the ISO may need to rely on CPM to compete in a regional market to procure capacity in the peak summer months.

Figure 2 summarizes CPM designations over the last four years in terms of how many months during each year individual resources have received CPM designations.

- About 58% of these only received a CPM designation during one month of any year.
- About 20% of units received a CPM designation during two months of any year, with another 19% receiving a CPM for three months of a year.
- The remaining 3% of these units received a CPM designation during four months of any year.

Figure 1. CPM designations by month (2019-2023)

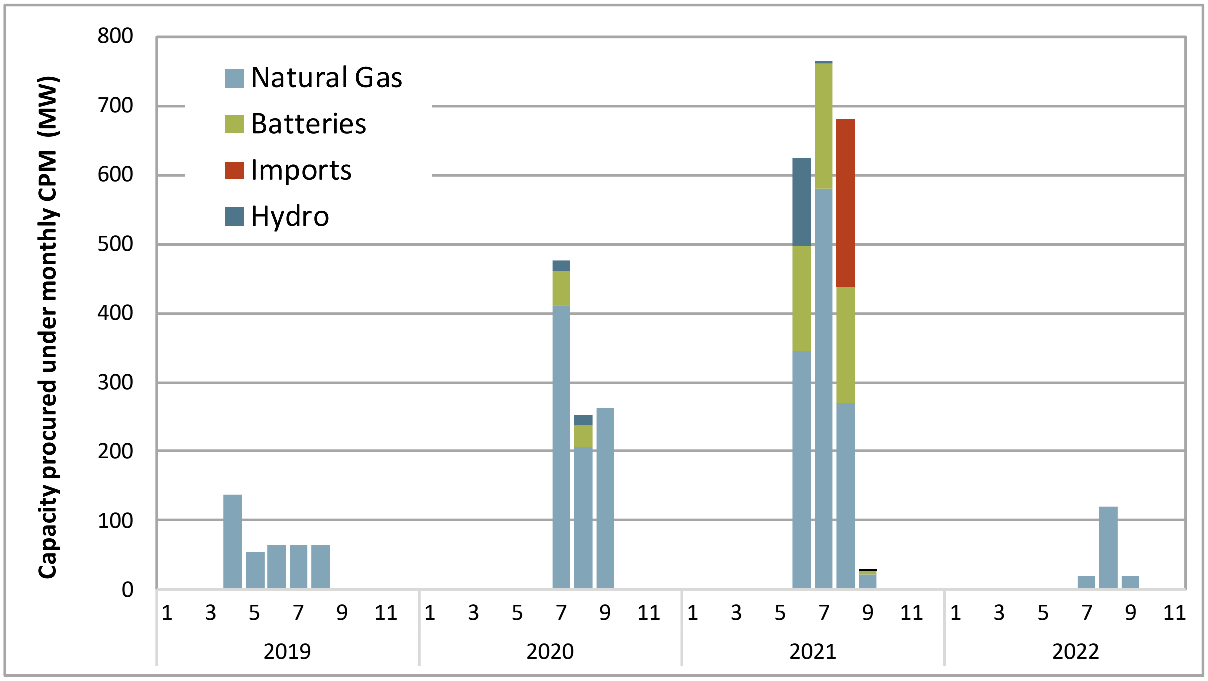
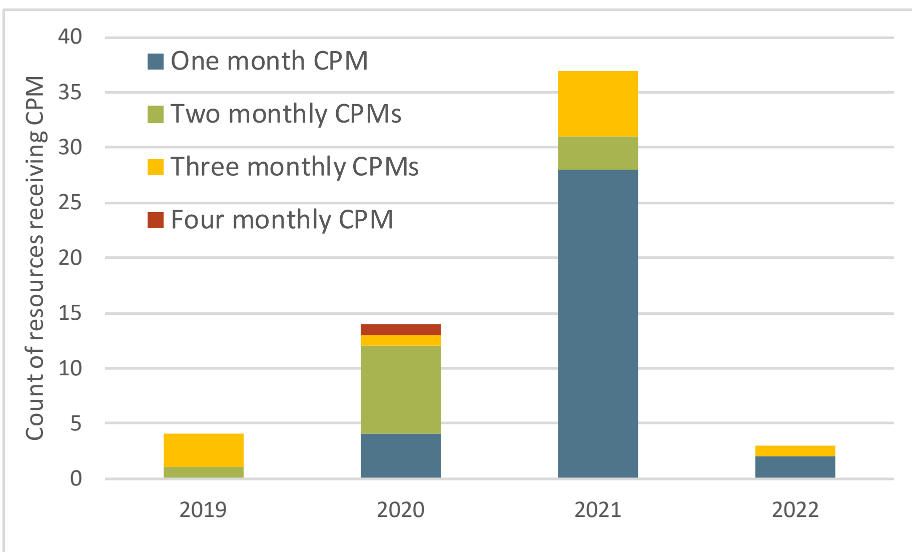


Figure 2. Number of monthly CPM designations per year received by resources (2019-2023)



Analysis of gas-fired unit revenues

Every wholesale electric market must have an adequate market and regulatory framework for facilitating investment in needed levels of new capacity. In California, the CPUC's long-term procurement process and resource adequacy program are currently the primary mechanisms to ensure investment in new capacity when and where it is needed. Given this regulatory framework, annual fixed costs for existing and new units critical for meeting reliability needs should be recoverable through a combination of long-term bilateral contracts and other energy market revenues.

Each year, DMM examines the extent to which revenues from the California ISO day-ahead and real-time markets contribute to the annualized fixed cost of typical new gas-fired generating resources.[4] This analysis is based on a market optimization model of a hypothetical combined cycle unit and a combustion turbine. DMM has benchmarked these results with actual market revenues for similar existing units. For this analysis, DMM uses DMM's own estimate of going forward fixed costs developed from an extensive review of sources inside and outside of the ISO.[5]

Figure 3 shows net revenue results from this analysis compared to estimated annualized fixed costs of a hypothetical combined cycle unit. The green bars in this chart show estimated net energy market revenues over the past seven years. Figure 3 shows that, from 2020 through 2022, net revenue estimates for a hypothetical combined cycle unit in the NP15 and SP15 regions are generally near or in excess of DMM's estimate of the annualized going forward fixed costs. Since 2020, if these combined cycle units received a capacity payment equal to the CPM soft cap, total revenues for units in SP15 would be near or in excess of total annualized costs for these units, while total revenues for units in NP15 would fall a bit below annualized costs.

Figure 4 shows a similar analysis for a hypothetical combustion turbine unit. Figure 4 shows that since 2020, net energy market revenue estimates for a hypothetical combustion turbine unit in both the NP15 and SP15 regions are generally near or in excess of DMM's estimate of the annual going forward fixed costs. However, since 2016, even if these combustion turbine units received a capacity payment equal to the CPM soft cap, total revenues for these combustion turbine units would be lower than total annualized costs for these units.

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[4] *2022 Annual Report on Market Issues & Performance*, CAISO DMM, July 11, 2023: [2022-Annual-Report-on-Market-Issues-and-Performance-Jul-11-2023.pdf (caiso.com)]

[5] *Supplemental Comments on Capacity Procurement Mechanism Soft Offer Cap Straw Proposal*, Department of Market Monitoring, September 10, 2019: http://www.caiso.com/InitiativeDocuments/DMMSupplementalCommentsCapacityProcurementMechanismSoftOfferCap-StrawProposal.pdf

Figure 2. Estimated net revenue of hypothetical combined cycle unit

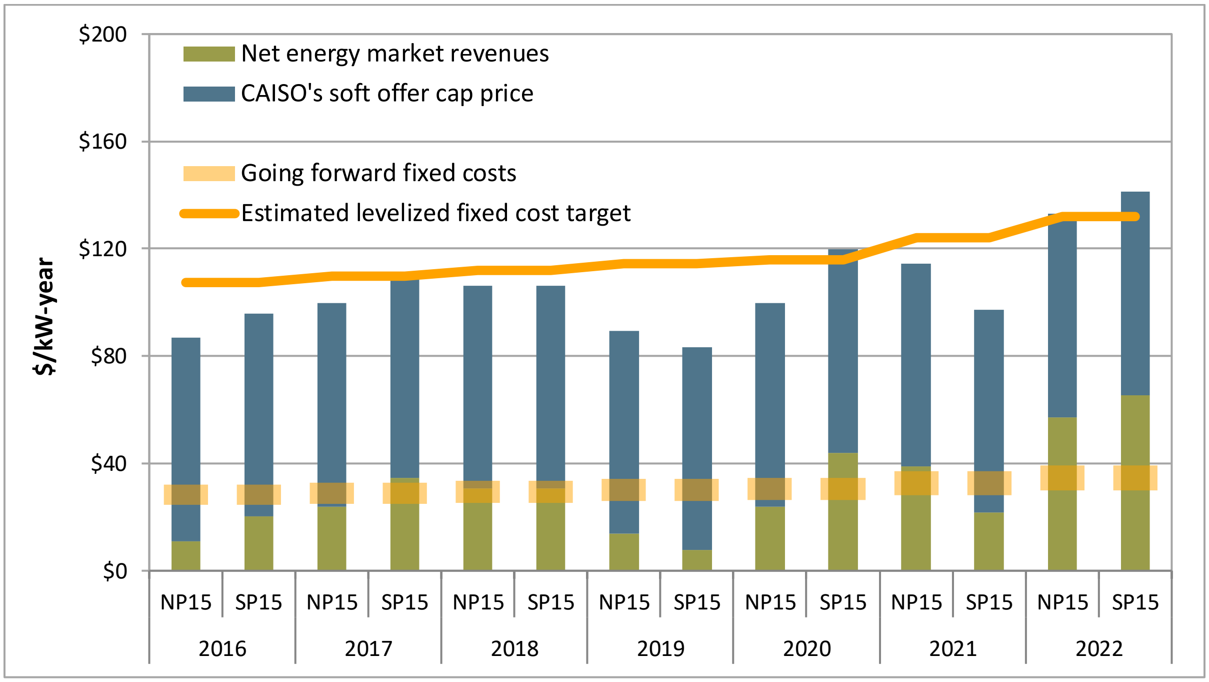

Figure 3. Estimated net revenues of new combustion turbine