
In this tariff filing, the CAISO proposes to revise compensation for resources under the Capacity Procurement Mechanism ("CPM") with offers above the CPM soft offer cap. DMM supports the options filed by the CAISO in this proceeding as incremental enhancements to current CPM tariff provisions. However, as explained in these comments, DMM believes further changes are needed in the overall Reliability Must-Run ("RMR") and CPM backstop procurement mechanisms as part of a comprehensive package of changes which the Commission has indicated is needed in the CAISO's market design.

I. MOTION TO INTERVENE

DMM respectfully requests that the Commission afford due consideration to these comments and motion to intervene, and afford DMM full rights as a party to this proceeding. Pursuant to the Commission’s Order 719, the CAISO tariff states that “DMM shall review existing and proposed market rules, tariff provisions, and market design elements and recommend proposed rule and tariff changes to the CAISO, the CAISO Governing Board, FERC staff, the California Public Utilities Commission, Market Participants, and other interested entities.”2 As this proceeding involves CAISO tariff provisions that affect the efficiency and potential for market power in the CAISO markets, it implicates matters within DMM’s purview.

II. COMMENTS

A. Compensation for CPM Offers Above the CPM Soft Cap

The current provisions for compensation of CPM offers above the soft cap are unjust and unreasonable

As explained in DMM’s comments on the CAISO’s January 12, 2018 CPM tariff filing, DMM believes the current provisions for compensation of CPM offers above the CPM soft offer cap are unjust and unreasonable:

It is unjust and unreasonable to provide a unit that has unilateral market power with guaranteed recovery of all fixed costs (including sunk investment costs) plus a return on equity – as well as all the market revenues that result from unlimited participation in the CAISO and bilateral energy markets. The purpose of limits on compensation incorporated in backstop mechanisms such as the CPM and RMR provisions of the CAISO tariff is to mitigate market power – not reward units with market power with compensation in excess of what the generator would earn in a competitive market ….the proposed compensation for ROR-CPM units can also

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2 CAISO Tariff Appendix P, Section 5.1.
create market inefficiencies and may undermine California’s resource adequacy program and CAISO’s CPM competitive solicitation process.\(^3\)

The CAISO’s filing would address this longstanding issue by making compensation payment for CPM offers above the CPM soft offer cap consistent with the policy upon which the CPM soft offer cap is meant to be based: i.e. a fixed payment based on a unit’s \textit{going forward fixed costs} plus 20%. Under the CAISO’s proposal, CPM resources with offers above the CPM soft offer cap would also continue to retain all net market revenues from sales of energy and ancillary services. If the Commission finds this level of compensation unreasonable, the CAISO proposes a CPM payment based on the unit’s going forward fixed costs (without the 20% adder), with the unit owner continuing to retain all net market revenues from sales of energy and ancillary services.

\textit{The 20\% adder proposed by the CAISO may not address the concerns expressed in the Commission’s prior CPM Order.}

The CAISO indicates that the proposed 20\% adder included in CPM compensation is designed to reflect guidance the Commission provided in the 2011 and 2015 CPM Orders, i.e., the CPM should provide some meaningful contribution toward fixed cost recovery. However, in the 2011 order cited by CAISO, the Commission simply indicated that the CAISO’s tariff filing \textit{had not provided any sufficient explanation} of how payment of going-forward fixed costs plus a 10\% adder (and the unit’s net energy market revenues) would be sufficient to perform long-term____________

\(^3\) \textit{Motion to Intervene and Protest of the Department of Market Monitoring, ER18-641-000, February 2, 2018, p.8.} 
maintenance or any other needed capital improvements. As stated in the Commission’s 2011 order:

CAISO, in this filing, has not explained how the use of going-forward costs for CPM compensation will provide incentives or revenue sufficiency for resources to perform long-term maintenance or make improvements that may be necessary to satisfy new environmental requirements or address reliability needs associated with renewable resource integration.4

In this filing, the CAISO does not provide any explanation or analysis showing whether or not the 20% adder is either adequate or necessary to effectively cover the specific types of costs described in the Commission’s 2011 order. As noted in the CAISO filing, the 20% adder was reached as part of a 2011 settlement, rather than as the result of any analysis of what level of adder might be needed to cover such costs (in conjunction with the energy market revenues retained by CPM units).5

During the CPM stakeholder process, DMM suggested that the CAISO consider a different approach that could directly address the specific concerns expressed in the Commission’s 2011 Order. DMM suggested that instead of employing a one size fits all 20% adder the CAISO could allow a resource seeking compensation above the CPM soft offer cap to demonstrate any actual going forward costs needed for “long term maintenance” and “environmental upgrades” that would not be covered under the categories of going forward fixed costs that are recoverable under current CPM tariff provisions.6 With this more targeted and customized

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5 Transmittal Letter, p. 17.
approach, CPM provisions could provide for recovery of such costs in a manner similar to provisions already allowed for RMR under the CAISO tariff.

The CAISO’s filing responds to DMM’s suggested approach for recovery of any needed long term maintenance or environmental upgrades in several ways. First, CAISO notes that “DMM’s proposal ignores that the CPM, which is voluntary and was primarily designed as a tariff-based mechanism … , to promote a more streamlined approach to backstop procurement and minimize the potential for protracted litigation,” and notes that “most CPM designations are for one- or two-month terms and/or are for only a portion of the capacity of a resource.”³ DMM agrees that monthly CPMs should continue to be compensated with an administratively streamlined approach such as the monthly soft cap of $6.31/kW currently in place. DMM clarifies that its comments and concerns regarding the level of the current soft cap and the 20% adder included in the soft cap are aimed only at annual CPM designations rather than monthly CPM designations a few months in duration or for only a portion of a resource’s capacity.

Second, CAISO contends that “allowing recovery only for only a limited subset of fixed costs (i.e., only long-term maintenance and environmental upgrade costs) appears to be inconsistent with the Commission’s prior orders,” and notes that Commission’s 2011 CPM Order intended to ensure additional revenues to “provide, at a minimum, a meaningful opportunity for CPM resources to recover additional fixed costs.”⁸ This argument seems to ignore the fact that

⁷ Transmittal Letter, p. 21.
⁸ Transmittal Letter, p. 22.
units receiving the CPM payment also retain all net revenues from energy market participation. These energy market revenues (combined with the component of the CPM payment based on going forward fixed costs) already ensure that CPM resources recover additional fixed costs beyond their going forward fixed costs.

Finally, CAISO explains that if the CPM payment (plus the unit’s net market revenues) is insufficient to cover needed long-term maintenance and upgrade costs, a unit would then be able to recover these costs under an RMR contract. The CAISO filing asserts that:

a resource that believes accepting a CPM designation is insufficient to recover its costs, including long-term maintenance and upgrade costs, is likely no longer viable in the market and can submit a retirement or mothball notice and request an RMR designation, which expressly provides a means for recovering actual costs in these areas.\(^9\)

The CAISO filing does not include any explanation or analysis of how or why a 20% adder is an appropriate level relative to potential costs of “long term maintenance” and “environmental upgrades” that would not be recovered under the rest of the CPM payment for going forward fixed costs plus the unit’s net market revenues. In practice, a 20% adder may be too low for some units that face these additional costs, while the adder provides additional revenue for CPM units not facing these costs. Thus, DMM continues to suggest that the CAISO consider a provision

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\(^9\) Transmittal Letter, p. 20.
for annual CPM resources facing potential long-term maintenance and upgrade costs that would allow resources to file for resource-specific recovery of these costs.

*The reasonableness of an adder above going forward fixed costs should take into account the net market revenues retained by CPM units.*

DMM clarifies that it does not oppose including a reasonable adder above a unit’s actual going forward fixed costs in annual CPM payments for any resource with going forward fixed costs in excess of the CPM soft cap. However, the reasonableness of any such adder should be assessed taking into account the fact that CPM units also retain all net energy market revenues.

In addition, as explained in the following section, analysis by DMM indicates the current CPM soft offer cap appears to be based on an inaccurately high assumption of annual going forward fixed costs of most or all gas units. Based on DMM’s analysis, the current soft cap appears to be significantly in excess of the actual annual going forward fixed costs of gas units even if the 20% adder were excluded from the annual CPM soft cap calculation.

**B. CPM Soft Cap Initiative**

As noted in the CAISO filing, the CAISO’s efforts to modify CPM-RMR backstop procurement provisions included a CPM Soft Cap initiative which ran from May 2019 to January 2020. In this most recent initiative, the CAISO and stakeholders considered a wide range of changes to the CPM provisions which included a review of the current level of the soft cap for annual CPM designations. The CAISO’s August 2019 straw proposal developed in this initiative included the following key features:
• First, the soft cap would remain at the current level of ($76/kW-year) based on the CAISO’s finding that estimates of going forward costs incorporated in reports by the California Energy Commission (CEC) had not changed significantly between the 2014 report which was used in setting the soft cap initially and the most recent 2019 report published by the CEC.

• Second, the CAISO proposed to apply a market power test (or three pivotal supplier test) to annual CPM solicitations, in recognition that the CPM bidding and selection process was usually uncompetitive. If this test indicated CPM conditions were structurally uncompetitive, units would be offered CPM compensation equal to their full cost of service (including sunk fixed cost recovery and a return on undepreciated sunk capital investment).

The CAISO’s August 2019 straw proposal gained significant support among some stakeholders, despite comments noting the need for the CAISO to develop additional details on the proposal for market power mitigation. In addition, DMM provided analysis in response to the August 2019 straw proposal providing strong evidence that the current soft offer cap is significantly in excess of going forward fixed costs of most or all gas resources and should therefore be further reviewed by the CAISO.10

However, the CAISO’s final January proposal dropped all the changes relating to market power mitigation of annual CPM solicitations that had been included in the

straw proposal and continued to propose keeping the soft cap at its current level.

The CAISO’s final January 2020 proposal did not mention or address any of DMM’s analysis showing that the estimates of going forward fixed costs that the current soft cap is based on appear to be very inaccurate and should be reviewed by the CAISO.

DMM’s comments on the final January proposal recommended the following:

To be consistent with the ISO’s long-standing policy for determining the soft offer cap, DMM continues to recommend that the ISO reassess the accuracy of cost estimates based on CEC reports and set the soft offer cap based on a more reliable and accurate estimate of going forward fixed costs. DMM [also] recommends that the ISO continue this stakeholder initiative to thoroughly review its method for determining the CPM soft offer cap and to give further consideration to the framework described in the ISO’s prior proposal to test for and mitigate market power in CPM solicitations.11

**The CPM soft offer cap appears to be based on a very inaccurate assumption of annual going forward fixed costs of gas units.**

Since establishing the CPM in 2011, the CAISO’s adopted policy has been to set the CPM soft offer cap equal to the annual going forward fixed costs of a typical new gas-fired unit plus 20%.12 Units receiving CPM payments also keep all net revenues earned from operating in the market. The CAISO initially set the current soft offer cap using the CEC 2014 estimate for the levelized going-forward fixed costs of a mid-cost 550 MW combined cycle.13 The CAISO’s estimate of going forward fixed

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12 Transmittal Letter, p. 17.

costs include three components from the CEC report: (1) fixed annual O&M, (2) insurance and (3) ad valorem (taxes).

In the CPM soft cap stakeholder process, DMM expressed concerns that fixed O&M estimates based on the 2014 and 2019 CEC reports which the CAISO uses for setting the soft offer cap significantly overstate the going forward costs of a typical combined cycle resource. DMM’s August 2019 comments on the CAISO’s straw proposal explained why DMM believed a closer review of the going forward fixed cost estimates used in the CEC reports was needed and recommended that the CAISO perform additional review of the cost estimates developed from the CEC reports.\textsuperscript{14}

As explained in DMM’s August 2019 comments:

DMM has numerous concerns about the cost data in the CEC reports, and recommends that the CAISO perform additional verification and/or an independent assessment of [going forward fixed costs]. The CEC report was not designed to provide an estimate of [going forward fixed costs] and was not intended to be used for the kind of rate-making that occurs when these data are being used for setting the soft cap. DMM understands that the data on costs of generation in the CEC report were initially developed prior to 2014 based on self-reported data collected through a survey. No details of this survey or the components/assumptions underlying the data used to estimate [going forward fixed costs] are provided in the report.\textsuperscript{15}

In addition to questioning the quality of the CEC data, DMM also identified a specific reason why the CEC data being used by the CAISO was an inaccurate estimate of going forward fixed costs.


\textsuperscript{15} Ibid, p. 4.
maintenance costs that actually depend on the usage of the unit (e.g. start-ups, run hours and MWh produced). In the ISO market, a significant portion of these maintenance costs are incorporated in maintenance adders applied to startup, minimum load and energy bids used to dispatch units and provide revenue recovery.16

The CAISO itself has not undertaken any review to assess the accuracy of the CEC data or how it was being utilized in setting the CPM soft cap. However, DMM has performed extensive analysis of going forward fixed costs based on a wide range of other data sources. DMM’s analysis specifically focused on estimates of fixed annual O&M costs, since the CEC report appears to categorize almost all maintenance as being a fixed annual cost, rather than maintenance costs that actually depend on the usage of the unit (e.g. start-ups, run hours and MWh produced).

DMM’s analysis provides strong evidence that the CEC report data used by the CAISO significantly overestimates the actual going forward fixed annual O&M costs of gas units. Figure 1 compares estimates of fixed annual O&M from 18 different reports and studies reviewed by DMM to the fixed O&M assumptions in the CEC’s 2014 and 2018 reports.17 As shown in Figure 1, the CEC data are about three times higher than the highest estimates of fixed annual O&M found by DMM.

Figure 2 shows the impact of the apparent inaccuracies in CEC data on fixed O&M costs used by the CAISO to set the annual CPM soft cap. Figure 2 assumes

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16 Ibid, p. 4.
17 A list of these studies is provided in DMM’s supplemental comments on the CAISO’s CPM Soft Offer Cap straw proposal. See CPM Soft Offer Cap Straw Proposal: Supplemental Comments by Department of Market Monitoring, September 10, 2019, pp. 5-6: http://www.caiso.com/InitiativeDocuments/DMMSupplementalComments-CapacityProcurementMechanismSoftOfferCap-StrawProposal.pdf
that other components of the soft cap based on CEC data (i.e. insurance and ad valorem) are accurate. Figure 2 compares the CAISO’s calculation of the CPM soft offer cap (based on the CEC data) with a calculation of the CPM soft offer cap based on an estimate of fixed annual O&M derived from DMM’s review of other data sources.

As shown in Figure 2, the current soft offer cap is based on estimated fixed annual O&M costs of about $38/kW-year. The upper range of estimates of fixed annual O&M costs identified by DMM was about $13.50/kW-year. If the soft offer cap was calculated using this lower estimate of fixed annual O&M costs, the soft offer cap would drop from $76/kW-year to $40/kW-year. Figure 2 shows that even without the 20% adder, the current soft cap appears to be significantly in excess of the actual going forward fixed costs of gas units.

The CAISO’s final CPM proposal and the CAISO’s filing do not address or even acknowledge DMM’s analysis. Instead, the CAISO states that its decision not to change the soft cap is based on the fact that the CEC’s 2018 study “indicates that the going forward fixed costs for a new combined cycle resource did not materially change over the past five years.”\textsuperscript{18} While it is true that the fixed O&M cost number reported by the CEC has not materially changed over the past five years, the CAISO filing ignores strong evidence that the CEC cost data overstates the actual annual going forward fixed costs of gas units.

\textsuperscript{18} 2020 Draft Final Proposal, p. 7.
Figure 1. Estimates of fixed O&M costs of combined cycle units ($/kW-year)

Figure 2. CPM soft offer cap based on different estimates of fixed O&M costs
The level of the annual CPM soft offer cap deserves scrutiny due to the uncompetitiveness of local capacity markets and CPM designations.

The CPM provisions of the CAISO tariff were initially developed to provide a mechanism for procuring capacity through a competitive market process. In practice, however, there are now numerous indications that the CPM process has not been competitive on either a local or system basis.

For example, every year DMM’s annual reports provide an assessment of the structural competiveness of all of the CAISO’s local capacity areas.20 DMM calculates the residual supply index for each area based on the amount of supply available to meet local reliability requirements established under the state’s resource adequacy program.21 If LSE’s do not procure sufficient capacity to meet these requirements through bilateral resource adequacy contracts, the CAISO must procure capacity in the local area through the CPM or RMR process. As part of this annual analysis, DMM also identifies the number of suppliers in each area that are individually pivotal.22


21 In this analysis, DMM subtracts capacity owned by load serving entities from the supply and demand in each area, reflecting the assumption that this capacity is shown by each LSE to meet part of their own local capacity requirements.

22 If supply is insufficient to meet demand with the supply of any individual supplier removed, then that supplier is pivotal.
Table 1 provides a summary of this analysis for structural competitiveness for major local capacity areas from DMM’s 2018 annual report. As shown in Table 1, there are at least one or two pivotal suppliers in all these local capacity areas.

Table 1. Structural competitiveness of local capacity areas

<table>
<thead>
<tr>
<th>Local capacity area</th>
<th>Net non-LSE capacity requirement (MW)</th>
<th>Total non-LSE capacity (MW)</th>
<th>Total residual supply ratio</th>
<th>Number of individually pivotal suppliers</th>
</tr>
</thead>
<tbody>
<tr>
<td>PG&amp;E TAC area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greater Bay</td>
<td>1,867</td>
<td>3,648</td>
<td>1.95</td>
<td>1.16 0.53 0.22 2*</td>
</tr>
<tr>
<td>North Coast/North Bay</td>
<td>503</td>
<td>709</td>
<td>1.41</td>
<td>0.02 0.00 0.00 1</td>
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<tr>
<td>Sierra</td>
<td>281</td>
<td>336</td>
<td>1.19</td>
<td>0.37 0.03 0.02 2</td>
</tr>
<tr>
<td>Stockton</td>
<td>115</td>
<td>31</td>
<td>0.27</td>
<td>0.10 0.01 0.00 All**</td>
</tr>
<tr>
<td>SCE TAC area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA Basin</td>
<td>2,923</td>
<td>4,951</td>
<td>1.69</td>
<td>0.39 0.27 0.18 1</td>
</tr>
<tr>
<td>San Diego/Imperial Valley</td>
<td>1,388</td>
<td>1,918</td>
<td>1.38</td>
<td>0.76 0.34 0.10 2</td>
</tr>
</tbody>
</table>

* At least two suppliers are pivotal due to sub-area requirements not incorporated in requirements for Greater Bay Local Capacity Area.
** Available capacity is insufficient to meet the LCA requirement; All supply is needed to contribute toward the LCA requirement.

In addition to the total capacity requirements for each of these local capacity areas, additional reliability requirements exist for numerous sub-areas within local capacity areas, such as the Greater Bay. Some of these sub-area requirements can only be met by specific individual generating plants. Others involve complex combinations of units that have different levels of effectiveness at meeting the reliability requirements. If a unit needed for a sub-area requirement is not procured in the resource adequacy program, the CAISO must procure capacity from the unit using the CPM or RMR process.

A second indication that the CPM process is in practice non-competitive are the annual CPM designations that the CAISO has issued to meet local resource adequacy requirements in the last few years. In 2017, CAISO issued annual CPM designations for two resources to meet local area reliability requirements for 2018. In
both of these cases, DMM understands that no other resources could meet these reliability requirements, so that no bids from other resources could even be considered in the annual CPM process. The first of these resources received an annual CPM designation for 545 MW at the soft cap of $75.68/kW-year.\textsuperscript{23} The second of these resources received an annual CPM designation for 510 MW at total bid cost of $74.33/kW-year (i.e. just slightly under the soft cap of $75.68/kW-year.)\textsuperscript{24}  

A third indication that the CPM process is typically non-competitive is the CPM solicitation for monthly system level capacity conducted by the CAISO for September and October 2018. This solicitation was triggered by an updated forecast of monthly peak loads that were higher than the load forecast used to set system level resource adequacy requirements.\textsuperscript{25} This solicitation resulted in procurement of about 600 MW of CPM capacity for September and about 3,000 MW for October 2018.  

Figure 3 shows the total capacity that was offered and procured in the CAISO’s CPM solicitation for system capacity for September and October 2018. As shown in Figure 3, the CAISO issued CPM designations to 624 MW out of 1,150 MWs bid into the solicitation for September. For October, the CAISO issued CPM designations for all eligible bid capacity, indicating that all suppliers were individually pivotal to meet the CAISO’s October procurement target.\textsuperscript{26}  

\textsuperscript{23} DMM 2018 Annual Report, p.252.  
\textsuperscript{24} Ibid.  
\textsuperscript{25} DMM 2018 Annual Report, p. 255.  
\textsuperscript{26} The CAISO reported a 5,103 MW difference between the initial load forecast used to set October resource adequacy requirements and the updated October forecast (including a 15% planning reserve margin). See Intent to designate CPM capacity pursuant to CPM significant event, California ISO, August 2, 2018, p. 4.  
\url{http://www.caiso.com/Documents/Presentation-CapacityProcurementMechanismSignificantEvent.pdf}
Figure 3. Bid capacity and procurement targets for September and October 2018 system CPM solicitations

Table 2. Structural competitiveness of 2018 CPM solicitation for monthly system capacity

<table>
<thead>
<tr>
<th></th>
<th>September</th>
<th>October</th>
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<tbody>
<tr>
<td>RSI1</td>
<td>1.04</td>
<td>.32</td>
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<tr>
<td>RSI2</td>
<td>.74</td>
<td>.15</td>
</tr>
<tr>
<td>RSI3</td>
<td>.48</td>
<td>.04</td>
</tr>
</tbody>
</table>

The CAISO’s report on the October 2018 CPM solicitation indicated the CAISO considered the difference in forecasts and October resource adequacy showings and issued CPM designations for 2,946 MW of capacity for the month of October. DMM’s analysis shows that this figure represents all eligible bid capacity in the October solicitation. See October 1, 2018 Significant Event CPM Designation Report, California ISO, October 22, 2018, p. 2: http://www.caiso.com/Documents/October_1_2018_Significant_Event_CPM_Designation_Report.pdf
Figure 3 also shows that one or two suppliers represented over 50% of total bid capacity in both the September and October 2018 CPM solicitations. Thus, both the September and October solicitations were clearly structurally uncompetitive. Table 2 shows residual supply indices ("RSI") for the September and October CPM solicitations.

**DMM recommends that the CAISO continue its review of the soft offer cap for annual CPM designations.**

As noted in these comments, DMM clarifies that its concerns and comments regarding the level of the current soft cap and the 20% adder included in the soft cap are aimed at annual CPM designations rather than monthly CPM designations a few months in duration or for only a portion of a resource’s capacity.

Additionally, DMM does not oppose a reasonable adder being included in the CPM payment assuming that the adder is applied to an accurate accounting of gas resources’ actual going forward fixed costs. However, as explained in these comments, analysis by DMM indicates the current CPM soft offer cap appears to be based on an inaccurately high assumption of annual going forward fixed costs of gas units. As previously shown in Figure 2, even without the 20% adder the current soft cap appears to be significantly in excess of the actual going forward fixed costs of gas units.
III. CONCLUSION

DMM supports the options filed by the CAISO in this proceeding as incremental enhancements to current CPM tariff provisions. However, as explained in these comments, DMM believes more extensive evaluation of the CPM and RMR pricing and market competitiveness is necessary to fully address the problems with the CAISO’s overall RMR/CPM backstop procurement framework.

DMM respectfully requests that the Commission afford due consideration to these comments as it evaluates the proposed tariff provisions before it.

Respectfully submitted,

/s/ Eric Hildebrandt

Eric Hildebrandt, Ph.D.
Executive Director, Market Monitoring
Ryan Kurlinski
Manager, Analysis & Mitigation Group
Cristy Sanada
Senior Market Monitoring Analyst
Brett Rudder
Senior Market Monitoring Analyst

California Independent System Operator Corporation
250 Outcropping Way
Folsom, CA 95630
Tel: 916-608-7123
ehildebrandt@caiso.com

Independent Market Monitor for the California Independent System Operator

Dated: March 17, 2020
CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon the parties listed on the official service lists in the above-referenced proceedings, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, California this 17th day of March, 2020.

/s/ Candace McCown
Candace McCown