

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

**California Independent System Operator) Docket No. ER14-2574-000
Corporation)**

**MOTION FOR LEAVE TO ANSWER
AND ANSWER OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

On August 1, 2014, the California Independent System Operator Corporation (“CAISO”) submitted a proposed tariff amendment in this proceeding to establish flexible resource adequacy capacity requirements. The amendment expands the resource adequacy provisions of the CAISO tariff to include requirements and must offer obligations for flexible resource adequacy capacity needed by the CAISO to address the challenges of reliably operating the grid as the fleet of variable energy resources grows. The amendment also adds authority to the capacity procurement mechanism for the CAISO to undertake backstop procurement of flexible capacity in the event of a cumulative deficiency.

Pursuant to the Commission’s August 1, 2014 combined notice of filing, 22 entities submitted motions to intervene in this proceeding, 13 of which included comments on or protests of the CAISO’s proposed tariff amendment.¹ The CAISO does

¹ Interventions with comments or protests were filed by California Department of Water Resources State Water Project (“SWP”), California Municipal Utilities Association (“CMUA”), California Public Utilities Commission (“CPUC”), Cities of Anaheim, Azusa, Banning, Colton, Pasadena, and Riverside, California (collectively “Six Cities”), City of Santa Clara, California (“SVP”), Cogeneration Association of California and the Energy Producers and Users Coalition (“CAC/EPUC”), Electric Power Supply Association (“EPSA”), Northern California Power Agency (“NCPA”), Pacific Gas and Electric Company (“PG&E”), Powerex Corp. (“Powerex”), San Diego

not object to the requested interventions, but in this answer will respond to the comments and protests and explain why they provide no valid basis for the Commission to reject the CAISO's proposal, or modify it beyond the extent of the changes suggested by the CAISO in this Answer.

I. MOTION TO FILE ANSWER TO PROTESTS

The CAISO respectfully requests permission to file this answer in response to the protests filed in this proceeding.² Notwithstanding Rule 213(a)(2),³ the Commission has accepted answers to protests that assist the Commission's understanding and resolution of the issues raised in the protest,⁴ clarify matters under consideration,⁵ or materially aid the Commission's disposition of a matter.⁶

The CAISO submits that good cause for the requested waiver exists. The protests in some cases reflect a misunderstanding of the nature, purpose, or operation of the proposed flexible resource adequacy capacity requirements and in others raise

Gas & Electric Company ("SDG&E"), Southern California Edison Company ("SCE"), and Western Power Trading Forum ("WPTF").

Interventions without comments or protests were filed by Alliance for Retail Energy Markets, Brookfield Energy Marketing LP, Calpine Corporation, EnerNOC, Inc., E.ON Climate & Renewables North America LLC, Golden State Water Company, Modesto Irrigation District, NextEra Energy Resources, LLC, and NRG Power Marketing and GenON Energy Management.

² The CAISO submits this filing pursuant to Rules 212 and 213 of the Commission Rules of Practice and Procedure, 18 C.F.R. §§ 385.212 and 385.213 (2011). Capitalized terms not otherwise defined herein have the same meaning as set forth in the CAISO Tariff, Appendix A, Definitions.

³ 18 C.F.R. § 385.213(a)(2) (2013)

⁴ *Sw. Power Pool, Inc.*, 89 FERC ¶ 61,284 at 61,888 (1999).

⁵ *Tenn. Gas Pipeline Co.*, 82 FERC ¶ 61,045 at 61,186 n.5 (1998).

⁶ *See, e.g., Entergy Services, Inc.*, 116 FERC ¶ 61,286 at P 6 (2006); *Midwest Indep. Transmission Sys. Operator, Inc.*, 116 FERC ¶ 61,124 at P 11 (2006); *High Island Offshore System, L.L.C.*, 113 FERC ¶ 61,202 at P 8 (2005); *Entergy Services, Inc.*, 101 FERC ¶ 61,289, at 62,163 (2002); *Duke Energy Corp.*, 100 FERC ¶ 61,251, at 61,886 (2002); *Delmarva Power & Light Co.*, 93 FERC ¶ 61,098, at 61,259 (2000).

issues that the CAISO was unable to anticipate, and therefore did not fully address, in the transmittal letter but can do so here. The answer will aid the Commission's understanding and inform its decision-making process by providing additional explanation and support for the essential provisions in the CAISO's proposal, in particular the allocation methodology and the forecast adjustment that were the focus of several comments and protests. The answer will also provide clarification in response to misstatements and mischaracterizations made in the comments and protests. For these reasons, the Commission should accept the CAISO's answer.

II. ANSWER

A. Forecast Adjustment

PG&E asserts that the forecast adjustment was not properly vetted with stakeholders and approved by the CAISO Board of Governors, and recommends that the Commission reject the provision because of the purportedly "flawed" process.⁷ PG&E mischaracterizes the stakeholder and Board processes and the CAISO proposal, and provides no basis for the Commission to reject the forecast adjustment. The CAISO has sought input from stakeholders on the forecast adjustment since the initial straw proposal was issued in the flexible resource adequacy criteria and must-offer obligation stakeholder initiative in December 2012.⁸ The CAISO first raised the possibility of setting a cap on the adjustment factor in the third revised straw proposal issued in that initiative in October 2013.⁹ The revised draft final proposal discusses

⁷ PG&E Comments at 8-9.

⁸ [Straw Proposal](#) at 7 n. 6.

⁹ [Third Revised Straw Proposal](#) at 24.

several factors that could contribute to the need for an adjustment to the flexible capacity need, including the absence of a planning reserve margin similar to that for the resource adequacy program that accounts for operating reserves, forecast error, and system outage rate.¹⁰ The memorandum to the Board on the flexible resource adequacy criteria and must offer obligation includes a statement that “[t]his system flexible capacity need will include additional amounts to account for contingency reserves and for forecast error.”¹¹ The forecast adjustment and the cap the CAISO has proposed fall within the policy approved by the Board, and certainly do not expand the policy; indeed, they limit it. They add specificity to the calculation of the forecast adjustment and cap the discretion the CAISO exercises, in direct response to stakeholder requests and concerns raised during the stakeholder process on the tariff language.

PG&E provides no substantive reasons why the forecast adjustment is unjust and unreasonable. PG&E’s comments offer no specific feedback on the proposed cap for the adjustment factor or opposition to the inclusion of an adjustment factor, but only argue that the Commission should require the CAISO to develop any “non-zero error term” used in the calculation of flexible RA capacity need via a stakeholder process and to obtain Commission approval for the use of the resulting non-zero error term¹² As discussed below, the CAISO’s proposed amendment addresses the first part PG&E’s recommendation about developing the forecast adjustment in a stakeholder process.

¹⁰ Revised Draft Final Proposal at 23-24.

¹¹ CAISO Memorandum to Board of Governors, Decision on flexible resource adequacy criteria and must-offer obligation at 4.

¹² *Id.* at 4.

The second part of the recommendation that would require the CAISO to seek Commission approval of the forecast adjustment each time it is used is unnecessary.

First, PG&E mischaracterizes the CAISO's proposed cap on any forecast adjustment as an attempt determine the forecast adjustment without conducting a stakeholder process.¹³ That is not the case. The CAISO will evaluate the exact level of the forecast adjustment and the cap every year in a stakeholder process. As expressly stated in proposed Section 40.10.1.1:

The CAISO shall conduct the study pursuant to the schedule set forth in the Business Practice Manual, which *shall include a process for stakeholders to review and provide input on the study methodology and assumptions and on the draft study results.*

(Emphasis added).

That the forecast adjustment will be a subject of this stakeholder process is clear from the revised draft final proposal and proposed Section 40.10.1.4. Specifically, the revised draft final proposal included the following discussion:

As the ISO conducts the flexible capacity need assessment each year based on the formula presented in section 4, the ISO will determine how well the first two components in the formula actually reflect the ISO's real-world flexible capacity needs, which include satisfying both 5-minute and 3-hour ramps experienced by the system. Based on this assessment, the ISO may adjust the error term up or down so that the need determined by the formula more accurately reflects the ISO's actual flexible capacity needs. *If the ISO's assessment identifies a need that requires modification to the flexible capacity needs (i.e. ϵ different than 0), then it will, as part of the annual assessment, explain why a modification to the ϵ term is justified and provide as much detail as possible regarding this cause and allocation of this changed need. Stakeholders will have an opportunity to ask questions of the ISO and discuss and comment on this addition or reduction to the need based on the error term in greater detail in the ISO's annual flexible capacity need assessment stakeholder process.*

¹³ *Id.* at p. 9.

(Emphasis added.)¹⁴ Proposed Section 40.10.1.4 expressly provides that:

The CAISO will determine the need for a forecast adjustment in consultation with the CPUC and other Local Regulatory Authorities, and as part of the stakeholder process under Section 40.10.1.1.

The CAISO's proposed cap on the adjustment factor is thus designed to work in conjunction with the stakeholder process, not as a replacement to the stakeholder process specifically referenced in proposed Section 40.10.1.1. This stakeholder process will include a discussion of the components considered in calculating the adjustment factor. Further, proposed Section 40.10.1.4(c) clearly states that the adjustment factor "shall not exceed" the calculated amount. It does *not* state that the adjustment factor "shall be determined as this amount." Stated differently, the cap does not affect the calculation of the forecast adjustment; it only limits the total amount of any such adjustment.

The CAISO has proposed that the adjustment factor be determined using a process similar to the one used for the local capacity requirements, where the CAISO conducts a stakeholder process that covers the assumptions, study methodologies, and study results. The final outcome of that stakeholder process is the local capacity needs. These results are not subject to annual approval by FERC. The CAISO's proposed process for the flexible capacity need will follow a similar process. It is not necessary for the CAISO to submit the final determination of the adjustment factor to FERC each year as PG&E suggests.

Six Cities and CMUA question whether the forecast adjustment is necessary to maintain reliability on the basis that the flexible capacity need methodology in proposed

¹⁴ [Revised Draft Final Proposal](#) at 23.

Section 40.10.1.3 already takes into account the need for contingency reserves in determining the maximum three-hour net load ramp for each month.¹⁵ As noted in the transmittal letter, the forecast adjustment is necessary because some resources procured as flexible resource adequacy capacity are expected to provide a portion of the contingency reserves.¹⁶ The component of the flexible capacity need methodology that reflects the higher of the most severe single contingency or 3.5 percent of the forecasted peak load for each month does take some contingency reserves into account; but it does not consider the extent to which those contingency reserves are met by resources procured as flexible resource adequacy capacity. If such capacity is committed to provide contingency reserves, then it is not available as flexible resource adequacy capacity. The size of the overlap cannot be determined until the proposed tariff amendments are implemented and the CAISO acquires actual monthly data about the flexible capacity resource commitment. The forecast adjustment will allow the CAISO to calibrate the annual flexible capacity need determination, *up or down*, so that it aligns with actual experience and ensures that there is sufficient flexible capacity both to address the flexible capacity need and maintain the required contingency reserves. This is the basis of the forecast adjustment, not the “more is better approach” asserted by CMUA.¹⁷ Six Cities and CMUA both acknowledge that the forecast adjustment can be positive or negative, but only focus on the positive aspect of the proposal. It is not simply a “one way street” for the CAISO to increase the flexible capacity need. To the

¹⁵ Six Cities Comments and Protest at 3-4; CMUA Protest at 6-7.

¹⁶ Transmittal Letter at 25.

¹⁷ CMUA Protest at 6.

extent actual data shows that more flexible capacity is needed to maintain reliability, the forecast adjustment will allow that to be addressed through load serving entity procurement, rather than through CAISO reliance on CAISO backstop procurement authority. As noted in the transmittal letter, the forecast adjustment can be used to lower the calculation of the flexible capacity need and avoid excess procurement.

Further, while CMUA objects to inclusion of the forecast adjustment as unnecessary, the goal CMUA sets for determining the flexible capacity need requires the use of a forecast adjustment. Specifically, CMUA states that an “appropriate metric for determining the overall flexible obligation should be accuracy.”¹⁸ Further, CMUA states, “Section 40.10.1.1 ... should provide the CAISO adequate comfort that it will be able to work through issues with the LRAs in advance of the need determination and get the determination *right*.”¹⁹ Given the mathematical calculations provided for determining the three net-load ramp and the 3.5 percent of expected peak load, the only other tool that the CAISO could use to achieve the accuracy described by CMUA would be the adjustment factor.

In addition, Six Cities and CMUA question the need for the forecast adjustment in light of the WECC standard that will become effective on October 1, 2014, which will reduce the contingency reserve requirement from approximately 7 percent to 3 percent of integrated load plus 3 percent of integrated generation.²⁰ The CAISO’s proposed adjustment factor is sufficiently adaptable to account for the change to BAL-002.

¹⁸ *Id.* at 6.

¹⁹ *Id.* at 8.

²⁰ Six Cities Comment and Protest at 4; CMUA Protest at 6-7.

Specifically, the objective cap on the adjustment factor is tied to “forecasted monthly peak Operating Reserves.” It is not a fixed number or percentage. Thus, it still functions within the context of a revised BAL-002 standard. Further, in its transmittal letter, the CAISO provided a detailed description of the challenges that exist from having flexible capacity being able to provide only ramping or reserves, but not both.²¹ Six Cities’ argument does not obviate the very real reliability concerns that may arise if the CAISO is not able to consider these factors in determining flexible capacity needs.

Six Cities and CMUA also object to the forecast adjustment because proposed Section 40.10.2.1(c) does not address how the CAISO will allocate responsibility for the changed amount of flexible capacity. They claim that the provision provides the CAISO with unreasonably broad discretion to modify the flexible resource adequacy capacity requirements for load serving entities and does not include details that would allow the Commission to determine whether the resulting allocation tracks cost causation principles.²²

The CAISO did not intend to provide itself with the discretion Six Cities and CMUA perceive regarding the forecast adjustment allocation. Rather, the CAISO intended that the forecast adjustment would also be allocated in accordance with proposed Section 40.10.2.1(b), so that the methodology for determining the adjustment and its allocation are consistent. Under proposed Section 40.10.1.4, the forecast adjustment is designed to capture a systemic difference between the higher of the most severe single contingency or 3.5 percent of forecasted peak load for each month, which

²¹ CAISO Transmittal Letter at 24.

²² Six Cities Comments and Protest at 5; CMUA Protest at 7.

is the second component of the need calculation, and the historic amount of operating reserves met by flexible capacity. The proposal allocates the second component under Section 40.10.2.1(b). The CAISO intended to apply this same calculation methodology to the adjustment because it is derived from a comparison with the second component.

The CAISO, however, has re-examined the language in proposed Sections 40.10.2.1(b) and (c) and has concluded not only that this intent is not clear, but also that Section 40.10.2.1(c) could be read to provide the CAISO with such discretion. In its filed proposal, the CAISO did not intend that it would have discretion regarding allocation of the forecast adjustment. If directed by the Commission, the CAISO will revise this section to better reflect the intended allocation by specifying that any forecast adjustment is applied to the total flexible capacity requirement and allocated in accordance with proposed Section 40.10.2.1(b).

The CPUC urges the Commission to reject the cap on the forecast adjustment in proposed Section 40.10.1.4(c) on the basis that: (1) the cap was not subject to stakeholder input or Board approval, (2) the Commission cannot conclude that the cap is reasonable without data on how much it could allow the CAISO to increase the flexible capacity need, (3) approval of the cap could effectively moot the CPUC's opportunity to independently consider the issue in a resource adequacy proceeding, and (4) rejection of the cap will not impact the CAISO's ability to conduct a flexible capacity needs assessment that includes an error term.²³ None of the reasons provided by the CPUC warrants rejection of the proposed cap on the level of the forecast adjustment or demonstrate that the proposal is not just and reasonable.

²³ CPUC Protest at 11-20.

The CPUC specifically states that FERC's rejection should be limited to the proposed cap and that it does not object to the inclusion of the forecast adjustment in the flexible capacity needs calculation.²⁴ The CPUC also "unequivocally supports developing a method to cap the maximum additional flexible capacity the CAISO may add by including an error term or forecast adjustment." Yet the result of rejecting the proposed cap, would be no applicable cap to the adjustment factor and no limitation on the CAISO's discretion in determining the forecast adjustment during the initial phases of the flexible resource adequacy capacity program. Rejecting the proposed cap would increase the CAISO's discretion contrary to the wishes of the large number of stakeholders that urged the CAISO to limit its discretion to calculate the forecast adjustment by capping the level of any adjustment.

As discussed above, the CAISO discussed the forecast adjustment and cap during the flexible resource adequacy criteria and must-offer obligation stakeholder initiative, and sought input from stakeholders on how they should be developed. The CAISO committed to conduct an open stakeholder process to vet study assumptions and draft study results, including the need for a non-zero adjustment factor. However, some stakeholders still requested a firm cap through the tariff development meetings.

Although the CPUC additionally argues that "[r]ushing to impose a cap on the error term developed after the conclusion of the CAISO stakeholder process is not necessary or practical at this time,"²⁵ the reality is that the CAISO included the cap during the stakeholder process on the tariff language in direct response to stakeholder

²⁴ CPUC Protest at 2.

²⁵ CPUC Protest at 11.

requests for a firm limitation on the CAISO's discretion to adjust the flexible capacity need. The CAISO developed the proposed objective measurement that would limit the CAISO's discretion with respect to the adjustment factor. The CAISO believes that the proposed cap is a reasonable limitation on the adjustment factor and designed to work in conjunction with the proposed stakeholder process outlined in proposed Section 40.10.1.1, as discussed above. There is an important interaction between contingency reserves and flexible capacity that could result in the CAISO having to choose between load following, for example, and spinning reserves. As discussed above, while the proposed flexible capacity formula already considers some contingency reserves, it is important to account for uncertainty in that assumed amount due to the overlap between flexible resource adequacy capacity and capacity committed as contingency reserves. As noted in the transmittal letter, overcounting the overlap could lead to excess procurement costs, while undercounting could lead to exceptional dispatches and backstop costs.²⁶ As noted above, at this time, this overlap is likely to cause the greatest need for additional flexible capacity that would be included in the adjustment factor. Therefore, the CAISO's proposed cap provides a reasonable limitation on the adjustment factor.

The CPUC's contention that the Commission cannot determine the reasonableness of the cap without data to show the extent to which it could increase the flexible capacity need overlooks the fact that actual data on this point does not exist and cannot exist until the CAISO gains actual experience with a resource adequacy flexible capacity program. However, that does not make the CAISO's proposal for a cap unjust

²⁶ CAISO Transmittal Letter at 24.

and unreasonable, or preclude the Commission from approving the tariff amendment. The CPUC's position would preclude the Commission from making a decision on any fundamentally new policy because there is no data.

The CAISO has proposed a cap that is based on objective criteria and, combined with the stakeholder process in proposed Section 40.10.1.1, provides reasonable limits on the CAISO's discretion until greater experience has been gained. The CPUC acknowledges that the CAISO's proposal "might be a reasonable approach to capping the error term."²⁷ Under such circumstances, it is appropriate to use the proposed cap while gaining additional data. If this proposed cap does not provide the CAISO with the necessary ability to establish accurate flexible capacity needs, then the CAISO will file a tariff change at FERC requesting modifications to this authority.

Further, speculation that the CPUC may want to consider the issue of a cap on the forecast adjustment in a future resource adequacy proceeding is not a legitimate basis for rejecting the CAISO's proposed cap in this proceeding. That would leave no cap in place, contrary to the request of most stakeholders.

The quantity of flexible capacity needed is, like local capacity needs, a reliability question. The CAISO has experience with and knowledge of operating conditions on its system and the extent to which flexible capacity resources will be providing operating reserves, and the impacts of that overlap on system reliability. As detailed in the transmittal letter, the CAISO is uniquely qualified to quantify this need.²⁸ The CAISO is committed to determining the level of its forecast adjustment in consultation with the

²⁷ CPUC Protest at 11.

²⁸ CAISO Transmittal Letter at 45.

CPUC and other local regulatory authorities, and as part of the stakeholder process on the flexible capacity needs assessment to ensure alignment of the identified flexible capacity needs with local regulatory authority procurement targets. As noted above, the CAISO is responsible for determining its flexible capacity needs and the extent to which it may have to engage in backstop procurement. The CPUC does not challenge that role, and the Commission has previously determined that matters pertaining to the CAISO's backstop role are Commission-jurisdictional not state jurisdictional.²⁹

The CAISO is responsible for reliability on an integrated system that includes both load serving entities subject to CPUC jurisdiction and not subject to CPUC jurisdiction. Thus, the CAISO is uniquely situated to determine the level of any necessary forecast adjustment on the CAISO controlled grid in a given month. The CAISO should be permitted to calibrate the accuracy of the flexible capacity need through the forecast adjustment and to backstop up to the total need it has identified. The CPUC does not attempt to demonstrate why the CAISO's specific methodology for calculating the cap, or the individual components of that methodology, are substantively unjust or unreasonable.

B. Flexible Resource Adequacy Showing Requirement

In its protest, the CPUC recommends that the Commission direct the CAISO to delete proposed Section 40.10.5.1(c)(2), which it reads as requiring load serving entities to meet procurement requirements within each flexible category. The CPUC claims that the provision: (1) "conflicts with other tariff sections and the filing's intent to limit

²⁹ *Cal. Indep. Sys. Operator Corp.*, 125 FERC ¶ 61,053 (October 16, 2008); *Cal. Indep. Sys. Operator Corp.*, 134 FERC ¶ 61,211 P. 13 (February 16, 2012).

CAISO's enforcement of procurement within flexible capacity categories to a backstop-only role"; (2) "is not necessary for [the] CAISO to exercise backstop procurement authority to cure a collective deficiency in a flexible capacity category"; and (3) "could create confusion or lead to conflicting procurement obligations for CPUC (or other LRA-Jurisdictional) LSEs regarding their procurement obligations."³⁰ The CAISO disagrees with these assertions.

As an initial matter, the CAISO did not intend for proposed Section 40.10.5.1(c)(2) to require -- and it does not require -- load serving entities to procure sufficient capacity to meet the flexible resource adequacy capacity requirement determined by the CAISO, or required by the load serving entity's local regulatory authority if the local regulatory authority has set such requirement, or to procure specified quantities of flexible capacity within each of the three flexible capacity categories. Rather, proposed Section 40.10.5 only requires load serving entities to submit informational "showings" to the CAISO. Each load serving entity will submit annual and monthly flexible resource adequacy capacity plans that (1) identify the resources on which it intends to rely to provide flexible resource adequacy capacity and (2) show how that flexible resource adequacy capacity is divided among the flexible capacity categories established by the CAISO or the local regulatory authority, as applicable.

The CAISO will use the information submitted under proposed Section 40.10.5.1(c)(2) to validate the monthly flexible resource adequacy plans for load serving entities in local regulatory authorities that rely solely on the CAISO flexible capacity

³⁰ CPUC Protest at 20-26.

provisions under proposed Section 40.10.5.3(a)(1) and in its initial evaluation of all of the monthly flexible resource plans for a cumulative deficiency under proposed Section 40.10.5.3(c)(2). Under proposed Section 40.10.5.3(a)(1), the CAISO will validate the annual and monthly flexible resource adequacy capacity plans of load serving entities whose local regulatory authority has not adopted flexible capacity requirements. As part of the validation, the CAISO will determine whether each load serving entity's plan shows the total monthly requirement within the minimum or maximum quantity, as applicable, for each flexible capacity category. Absent the information provided under proposed Section 40.10.5(c)(2), the CAISO cannot conduct such validation.

Under proposed Section 40.10.5.3(c)(2), the CAISO will evaluate the monthly flexible resource adequacy plans of all load serving entities to make an initial determination whether (1) the total amount of flexible resource adequacy capacity shown in the plans meets the monthly flexible capacity need determined by the CAISO or whether a cumulative deficiency may exist under Section 43.2.7(b)(1); or (2) the total amount of flexible resource adequacy capacity in the base ramping flexible capacity category shown in the plans meets the minimum monthly requirement for that category or whether a cumulative deficiency may exist under Section 43.2.7(b)(2). In the event the total amount of flexible resource adequacy capacity is less than the monthly flexible capacity need, or the total amount of flexible resource adequacy capacity in the base ramping category is less than the minimum monthly need identified in the annual flexible capacity needs assessment, the CAISO will notify each load serving entity whether it is at risk of incurring CAISO backstop procurement costs based on the flexible capacity it has procured (or not procured). In order for the CAISO to provide this notice to load

serving entities, each load serving entity must provide the information specified in proposed Section 40.10.5.1(c)(2). The purpose of the language in proposed Section 40.10.5.1(c)(2) is to allow the CAISO to collect the data necessary to provide that notice. For these reasons, the Commission should not reject proposed Section 40.10.5.1(c).

To the extent the Commission deems it appropriate to clear up any potential confusion or conflict, the Commission can direct the CAISO, on compliance, to revise proposed Section 40.10.5.1(c)(2) to clarify that the provision only imposes an information submission requirement on load serving entities and not a procurement requirement within each flexible capacity category, as the CPUC believes. Specifically the CAISO would revise the section as follows:

~~Demonstrate~~ Include information for purposes of the validation under Section 40.10.5.3(a) and the evaluation for cumulative deficiency under Section 40.10.5.3(c) that shows the MW of Flexible RA Capacity the Load Serving Entity met-designates based on the total monthly requirement determined by the CAISO within the minimum or maximum quantity, as applicable, for each Flexible Capacity Category; or only if the Local Regulatory Authority has established its own flexible capacity requirement, ~~show~~ shows the MW of Flexible RA Capacity that the Load Serving Entity has met-designates based on the total monthly requirement determined by the Local Regulatory Authority within the minimum or maximum quantity for each Flexible Capacity Category required by the Local Regulatory Authority, if applicable;

These revisions should eliminate any concern on the part of the CPUC that proposed Section 40.10.5.1(c)(2) potentially conflicts with proposed Section 40.10.2, which reads “[n]othing in this Section 40 obligates any individual Load Serving Entity to demonstrate that it has procured Flexible Capacity Resources to satisfy a minimum or maximum quantity needed, as applicable, within each Flexible Capacity Category.”

The revised language also eliminates any potential confusion regarding load

serving entity procurement obligations. The CPUC expresses concern that proposed Section 40.10.5.1(c)(2) creates confusion because it requires load serving entities to demonstrate that they have “met” procurement requirements within flexible capacity categories. The CAISO’s proposed revised language eliminates the word “met” from the section. No other party objects to proposed Section 40.10.5.1(c)(2) or argues that it creates confusion.

The CPUC also suggests that proposed Section 40.10.5.1(c)(2) might cause confusion in the event the CPUC changes its flexible capacity resource adequacy requirements in the future. As explained in the transmittal letter, the CAISO is responsible for maintaining reliability and must therefore be responsible for determining the standards for identifying cumulative deficiencies of flexible capacity and determining the need for backstop procurement.³¹ No party disputes this. Speculation about potential future changes requirements cannot stand as a barrier to the CAISO fulfilling its reliability and backstop responsibilities. The CAISO has and will continue to closely coordinate and collaborate with the CPUC to maximize alignment between CPUC procurement requirements and CAISO reliability requirements. To the extent circumstances change in the future and require the CAISO to revise its tariff, the CAISO can make a Section 205 filing.

Although the CPUC acknowledges that the CAISO has a backstop role of “enforcing procurement requirements within each Flexible Capacity Category” and needs information to assess whether a cumulative deficiency exists in any of the flexible

³¹ CAISO Transmittal Letter at 45.

capacity categories,³² it believes that the information load serving entities will submit under proposed Section 40.10.5.1(c)(2) is unnecessary because the CAISO will already receive sufficient information under proposed Section 40.10.5.1(c)(3) to determine if there is a cumulative deficiency in any flexible capacity category. That is incorrect. As just discussed, the information required by proposed Section 40.10.5.1(c)(2), will show the MW of flexible resource adequacy capacity the load serving entity designates based on the total monthly requirement, within the minimum or maximum quantity for each flexible capacity category, as established by the CAISO or the local regulatory authority, whichever is applicable. On the other hand, the information required by proposed Section 40.10.5.1(c)(3) is limited to the identification and MW commitment of each resource that the load serving entity will rely on to provide flexible resource adequacy capacity during the month. These data sets are not comparable and, as explained below, the information provided pursuant to proposed Section 40.10.5.1(c)(3) would be insufficient for the CAISO to assess whether a collective deficiency exists and if so, how to allocate the costs associated with any required backstop procurement.

The CAISO needs the information specified in proposed Section 40.10.5.1(c)(2) to determine if there is a cumulative deficiency and to allocate any backstop procurement costs. As discussed above, if the CAISO's initial evaluation of the monthly plans under proposed Section 40.10.5.3(c)(2) determines that there is a cumulative deficiency, it will notify each load serving entity of the risk of backstop. If the deficiency is not resolved, and the CAISO determines that a cumulative deficiency exists that requires backstop procurement under Section 43.2.7(b)(2), then the CAISO will use the

³² CPUC Protest at 21, 23-24.

information provided under proposed Section 40.10.5.1(c)(2) as part of its analysis to identify each load serving entity that (1) is subject to a local regulatory authority with a deficiency, and (2) did not meet the monthly requirement within the minimum and maximum quantity, as applicable for each flexible capacity category, based on the local regulatory authority's methodology for allocating the flexible capacity need to its jurisdictional load serving entities. Having only the resource name and flexible capacity MW commitment, which load serving entities submit pursuant to proposed Section 40.10.5.1(c)(3), would not provide the CAISO with sufficient information to make this determination.

The CPUC notes that the CAISO is not requesting authority to allocate the flexible capacity category needs to local regulatory authorities in proposed Section 40.10.2, which covers the allocation of the flexible capacity need. The CPUC also argues that the proposal approved by the CAISO Board of Governors limits the CAISO's authority to enforce procurement within the flexible capacity categories only to situations where a flexible capacity deficiency exists on system-wide basis and not to situations where individual load serving entities are deficient but there is no aggregate system wide deficiency. This argument overlooks proposed Section 40.10.1.5, to which the CPUC does not object. That section makes clear that a local regulatory authority's "allocable share" of the flexible capacity need includes the allocation of the flexible capacity categories. Specifically, proposed Section 40.10.1.5 states that the CAISO will provide the results of the flexible capacity category need determination as part of the flexible capacity needs assessment, which will then be the subject the stakeholder process proposed in Section 40.10.1.1. Thus, it is clear that the CAISO will, provide

local regulatory authorities with their allocable share of the flexible capacity categories.

C. Eligibility of Imports to Provide Flexible Capacity

In the transmittal letter, the CAISO explained that its proposal to exclude imports other than pseudo-ties or dynamically scheduled import resources from providing flexible resource adequacy capacity is necessary because its ability to meet the flexible capacity need requires that the CAISO be able to dispatch the capacity on a five-minute basis at this time. The CAISO stressed that this proposal is transitional in nature, and it committed to re-evaluate the effectiveness of the flexible capacity requirements for resource adequacy year 2016. This will include and consider whether enhancements are needed to meet system flexibility needs or to provide opportunities for resources that are not dispatchable on a five-minute basis to provide a portion of the flexible capacity needs.³³

Powerex asserts that the CAISO's proposal is unduly discriminatory.³⁴ Although Powerex recognizes that undue discrimination is dissimilar treatment of similarly situated customers, and that 15-minute static imports are differently situated from 5-minute dispatchable resources, it contends that the CAISO has not shown that the factual differences justify the specific rate differences.³⁵

The justification for the different treatment is simply that, although the 15-minute static import could potentially meet some portion, but not all, of the CAISO's ramping

³³ CAISO Transmittal Letter at 38-39.

³⁴ Powerex Protest at 8-14.

³⁵ *Id.* at 8-9, citing *Cities of Bethany v. Fed. Energy Reg. Comm'n*, 727 F.2d 1131, 1139 (D.C. Cir. 1984) and *City of Frankfort v. Fed. Energy Reg. Comm'n*, 678 F.2d at 702 (quoting *Pub. Serv. Co. of Indiana, Inc. v. Fed. Energy Reg. Comm'n*, 575 F.2d 1204, 1212 (7th Cir. 1978)).

needs, the CAISO has not yet been able to complete the necessary analysis to determine how much. Thus, if the CAISO were to rely too heavily on 15-minute static schedules and were not able to meet five -minute ramping needs, the CAISO would be forced to rely on exceptional dispatch or backstop procurement. Not only would that increase total flexible capacity procurement costs, it would result in load serving entities unnecessarily paying twice to meet the system flexible capacity needs, once for the ineffective static schedule resource and again for the exceptional dispatch or CAISO-procured backstop resource. That risk and the current uncertainty about the extent to which 15-minute static imports can meet the CAISO's flexible capacity needs justify the exclusion of 15-minute static imports as a transitional measure. To the extent imports do not present these issues, such as pseudo-ties and dynamic schedules, there is no obstacle to those imports providing flexible resource adequacy capacity at this time.

Powerex argues that the largest 15-minute net-load ramp was approximately 20 percent of the largest three-hour net-load ramp and that the CAISO therefore can meet at least 80 percent of the flexible resource requirement (which is based on a three-hour net-load ramp) using resources that take more than 15 minutes to respond to dispatch instructions.³⁶ Although the CAISO's proposed flexible capacity requirement is indeed based on a three-hour net load ramp, it is also intended to cover net load variations that can occur between five-minute intervals. The analysis on which Powerex relies did not take into account the five-minute net load ramps within the 15-minute ramp, and therefore does not provide the CAISO with the necessary information regarding the degree to which it can rely on 15-minute static imports.

³⁶ *Id.*

The appropriate analysis, which the CAISO will conduct, will determine the minimum amount of five-minute dispatchable resources needed to meet the five-minute net load variations. This will be based on an analysis of the difference between fifteen-minute granularity of net load variations and five-minute granularity of net load variations. It will include an evaluation of: (1) continuous ramping needs, which will inform the CAISO of how long and at what rate the system would need to be able to maintain a continuous ramp to meet the maximum needs; (2) load following needs; (3) ramp rate needs, which compare the load following needs to the 15-minute and five-minute ramp rate needs; and (4) minimum load burden, which is the amount of minimum load online for the ramping needs.

Powerex's effort to cast doubt on the CAISO's need for resources to be available for five-minute dispatch by suggesting there is no such requirement for internal resources³⁷ is misguided. Contrary to Powerex's assertions, internal flexible resources must be capable of responding to five-minute dispatches. The CAISO's optimization process dispatches all internal bids on a five-minute basis. Therefore, a resource that bids into the market must be capable of receiving five-minute dispatches. Operational limits may affect the degree to which the CAISO can move the resource at a particular time, but the five-minute optimization takes that into account. In contrast, the nature of 15-minute static imports is such that the CAISO's market system cannot dispatch those imports other than on a 15-minute basis.

Finally, Powerex argues that precluding 15-minute static imports from providing flexible resource adequacy capacity will increase costs and restrict market liquidity.

³⁷ *Id.* at 9-10.

Significantly, none of the load-serving entities that would bear any such cost has objected to the interim exclusion. Indeed, CPUC jurisdictional load serving entities cannot procure flexible resource adequacy capacity from 15-minute static resources because the CPUC precludes it.³⁸ Thus, even without the CAISO's interim exclusion, resources with 15-minute static schedules would have minimal, if any, opportunity to provide resource adequacy flexible capacity. As a result, any purported economic impact of the CAISO's proposed tariff limitations is expected to be minimal or non-existent. Once the CAISO has completed its analysis, it intends to work with the CPUC and other local regulatory authorities to ensure the ability of 15-minute static imports to participate in the provision of flexible resource adequacy capacity. The CAISO has every incentive to do so, because the broad inclusion of such imports will decrease costs and increase liquidity.

D. Eligibility of Resources for EFC Determination

Under proposed Section 40.10.4, the CAISO will calculate the effective flexible capacity value for each resource that submitted at least one economic bid for energy in the real-time market on at least 10 days in the previous calendar year, or in the most recent 12 months for which data is available. CMUA,³⁹ NCPA⁴⁰ and SVP⁴¹ express concern that the "prior bid" criterion will unnecessarily limit the eligibility of resources to provide flexible capacity and the amount of flexible capacity that will be available to the CAISO. SVP also expresses concern that, as a load-following MSS without a history of

³⁸ CAISO Transmittal Letter at 39.

³⁹ CMUA Protest at 8-9.

⁴⁰ NCPA Comments at 4-5.

⁴¹ SVP Comments at 5-8.

regularly submitting economic bids, the “prior bid” criterion could prevent it from obtaining an effective flexible capacity value for intermittent resources outside of its MSS portfolio or for resources with flexible capacity that exceeds SVP’s requirements, which could be made available to provide flexible resource adequacy capacity.⁴²

These concerns are unfounded. Proposed Section 40.10.4.2 provides an alternative mechanism for resources that do not meet the threshold “prior bid” criteria, were omitted from the CAISO’s draft list of effective flexible capacity values or seek a corrected value, to request that the CAISO add or change the value for that resource. The process for submitting the request, and for CAISO review it, will be addressed in the Business Practice Manual. Thus, the CAISO’s proposal does not preclude resources that have never submitted an economic bid, or submitted less than the threshold of ten bids in the prior year, from obtaining an effective flexible capacity value and providing resource adequacy flexible capacity.

With regard to SVP’s contention that the process for a resource to obtain an effective flexible capacity value is vague,⁴³ the CAISO intends to include in the Business Practice Manual additional description of this process and the information that a scheduling coordinator should submit with its request. This degree of detail is not necessary for the tariff and is consistent with the CAISO’s treatment of other procedural steps and information submission requirements.

E. Market Based Flexible Capacity Solution

WPTF recognizes that the CAISO is addressing performance incentives as part

⁴² *Id.* at 6.

⁴³ *Id.* at 7-8.

of its reliability services initiative, and plans to present its proposal to the CAISO Board of Governors in the first quarter of 2015. It also recognizes that the current proposal is an interim mechanism and that the CAISO must provide an alternative to the current capacity procurement mechanism when it expires in 2016. Nonetheless, WPTF suggests that the Commission order the CAISO to accelerate its current timeline for implementing market-based reforms and revised performance incentives, inclusive of flexible resource adequacy capacity, so they are submitted by the first quarter of 2015.

As the Commission is aware, the CAISO is moving forward on both these fronts. The CAISO's reliability services initiative has produced an issue paper and, following stakeholder comments, two revised straw proposals.⁴⁴ In addition, the CAISO has already instituted a stakeholder process, issued a straw proposal, and received comments on a replacement for the capacity procurement mechanism -- more than 18 months before its expiration.⁴⁵ The issues in both stakeholder initiatives are numerous and controversial, and stakeholders are polarized on the issues. The CAISO's plan to submit a proposal to the CAISO Board of Governors in the first quarter of 2015 is the earliest reasonable time the CAISO can complete these initiatives in light of the complexity and controversies. The need for flexible capacity, however, is not the only challenge that the CAISO faces. The CAISO cannot accelerate this timetable without sacrificing other important stakeholder initiatives to which it is committed.

WPTF also ignores that, pursuant to the uncontested settlement approved by the

⁴⁴ The documents and comments for the [reliability services initiative](#) are available on the CAISO website.

⁴⁵ The documents and comments for the [capacity procurement mechanism replacement](#) are available on the CAISO website.

Commission, the capacity procurement mechanism does not expire until February 2016.⁴⁶ Thus, the Commission cannot impose an earlier effective date for the capacity procurement mechanism replacement before February 2016 without unwinding the settlement. The CAISO's timeline should allow for a timely replacement of the existing capacity procurement mechanism.

The CAISO notes that the transitional nature of the proposed flexible resource adequacy capacity requirement allows the CAISO sufficient time to receive and deliberate on stakeholder input in order to ensure that these important initiatives result in optimal solutions and be implemented in a timely manner. The Commission should continue to respect these processes.

F. Ancillary Services Must Offer Obligation for Use-Limited Resources

SWP is concerned with the requirement that resources designated as flexible capacity resources must offer economic bids for both energy and ancillary services for all their flexible capacity in the CAISO markets. SWP contends that this requirement is problematic for use-limited resources such as hydroelectric resources, because the use of ancillary services bids in addition to energy bids would make it impossible to predict how often such bids will translate into actual energy usage.⁴⁷ SWP contends that allowing a limited exception to the ancillary service must-offer requirement for use-limited resources would not adversely affect CAISO's markets because use-limited resources providing flexible capacity make up a small fraction of CAISO's ancillary

⁴⁶ *Cal. Indep. Sys. Operator Corp.*, 134 FERC ¶ 61,211 P. 13 (February 16, 2012). The Offer of Settlement accepted in this order was uncontested. WPTF was one of the listed parties in the Offer of Settlement in support of, or not opposed to, the proposed settlement.

⁴⁷ SWP Comments at 5.

services needs.⁴⁸

The CAISO has given further consideration to SWP's explanation and concluded that allowing a limited exception to the ancillary services must-offer requirement for use-limited resources would not severely undermine the effectiveness of the CAISO's flexible resource adequacy capacity proposal. Accordingly, the CAISO would not object to the Commission directing it to provide such an exception on compliance.

G. Use-Limited Resource Combinations

Six Cities asserts that the CAISO should permit load serving entities to combine multiple resources to provide peak and super-peak flexible capacity. The CAISO has two concerns with this proposal.

First, both resources from lower-quality flexible capacity categories that are combined to provide a higher-quality capacity category must be operationally capable of meeting the eligibility requirements for that higher-quality product, including the must offer obligation. Combining two peak-ramping resources to provide base-ramping flexible capacity could meet this requirement because the must offer obligations for the peak-ramping and the base-ramping flexible capacity categories are similar in that they require resources to be available seven days a week. However, Six Cities' proposed combination of two super-peak flexible capacity resources, however, would not be operationally capable of meeting the eligibility requirements of either the base-ramping or peak-ramping flexible capacity category. The key difference is the capability of the two types of resources to meet the must offer obligation. The combination of two super-peak flexible capacity category resources would only be capable of being available five

⁴⁸ *Id.* at 8.

days a week, whereas the must offer obligation for the base-ramping and peak-ramping flexible capacity categories is seven days a week. Six Cities' proposed combination of two resources that fall outside of the flexible capacity categories to meet the eligibility requirements of the super-peak ramping flexible capacity category is a non sequitur. The flexible capacity categories were designed to be broad enough to allow all types of resources the opportunity to provide flexible resource adequacy capacity. To the CAISO's knowledge, there are very few resource types, and perhaps none, that would fail to meet the eligibility requirements of at least the super-peak flexible capacity category.

Six Cities also asserts that flexible capacity resource combinations should only have a must offer obligation for a single resource in the combination. This is unworkable and would not ensure that the resources, as a combination, would meet the requirements of the category in which they are providing flexible resource adequacy capacity. The resources satisfy the obligations of the base category only because they are combined and both treated as one resource. If only one resource has a must offer obligation, then the resources would not be bidding or operating as a combined resource, and the CAISO would not be assured that a single resource in the combination could meet the flexible capacity need.

H. EFC Calculation for Energy Storage Resources

In 2010, the CAISO proposed, and FERC approved, the non-generator resource model, which allows the CAISO to optimize an energy storage resource as a single resource that is able to provide both positive and negative generation while continuously

transitioning between the two options.⁴⁹ Under proposed Section 40.10.4.1(d), the effective flexible capacity value for an energy storage resource that provides flexible resource adequacy capacity but not regulation energy management will be its MW output range over three hours of charge/discharge while constantly ramping, and for an energy resource that provides both flexible resource adequacy capacity and regulation energy management, it will be its 15-minute energy output capability.

In its comments, PG&E asserts that “the Commission should require an additional change to allow for a short transition period as a storage resource changes back and forth between charging and discharging storage.”⁵⁰ PG&E’s proposal is problematic for two reasons. First, there is no currently defined CAISO product that would facilitate such an accounting. As noted above, the non-generator resource model requires the ability to move seamlessly between charge and discharge. PG&E’s proposal would require the development of an entirely new product that is well beyond the scope of this filing and the underlying stakeholder process.

Second, PG&E’s proposal raises potential reliability issues that the CAISO has not yet been able to resolve. Specifically, the CAISO has not had the opportunity to assess the potential reliability impacts of treating storage load that is not dispatched under the non-generator resource model as flexible capacity. Accordingly, it is premature to adopt provisions for non-generator resource storage resources that require transition times without first understanding the operational and reliability impacts. PG&E has not provided any support for its proposal, or other information that

⁴⁹ *Cal. Indep. Sys. Operator Corp.*, 132 FERC ¶ 61,211 (September 10, 2010).

⁵⁰ PG&E comments at 10.

refutes the existence of the reliability questions that the CAISO has identified.

As the CAISO has previously indicated, its proposal is transitional in nature, and the CAISO will be conducting additional studies. Based on those studies, the CAISO will further refine the resource adequacy flexible capacity provisions as appropriate. The CAISO recognizes this issue as one that requires consideration and has included it in the reliability services stakeholder initiative for resolution. The CAISO requires additional time to study the reliability challenges and obtain stakeholder input it can propose to accommodate additional resources. The CAISO notes that PG&E made a similar argument in the CPUC resource adequacy proceeding. The CPUC agreed with the CAISO on this matter and declined to include the charging capabilities of resources that cannot transition smoothly between charge and discharge in the calculation of the resource's flexible capacity.⁵¹

I. EFC Calculation for CHP Resources

CAC/EPUC assert that the CAISO's proposed tariff language in Section 40.10.4.1(f) is ambiguous.⁵² Upon further review of this provision, the CAISO believes that the revisions suggested by CAC/EPUC are consistent with the intent of the CAISO's proposal and improve the clarity of the calculation that the CAISO will perform. Accordingly, if directed by the Commission on compliance, the CAISO will modify the text of proposed Section 40.10.4.1(f)(ii) to read as follows:

The Effective Flexible Capacity value of a Combined Heat and Power Resource will be the lesser of (i) the resource's Net Qualifying Capacity, or

⁵¹ CPUC Decision 14-06-050, Adopting Local Procurement and Flexible Capacity Obligations for 2015, and Further Refining the Resource Adequacy Program, Rulemaking 11-10-023 (June 26, 2014).

⁵² CAC/EPUC Protest at 4-6.

(ii) the MW difference between the CHP resource's maximum output and its minimum operating level, such quantity not to exceed the quantity of generating capacity capable of being delivered over a three-hour period.

J. Allocation of Three-Hour Net Load Ramp

Proposed Section 40.10.2.1(a) provides that the CAISO will calculate each Local Regulatory Authority's allocable share of the flexible capacity need as --

the average of the sum of its jurisdictional Load Serving Entities' change in load, minus the change in wind output, minus the change in solar PV output, minus the change in solar thermal output during the five highest three-hour net-load changes in the month.

In its comments, SVP asks that additional detail be included in the tariff about how the CAISO will develop the one-minute load data used to determine the contribution to the change in load. The CAISO will include in the Business Practice Manual a detailed description of how the CAISO will use one-minute system load data to determine the flexible capacity need and ten-minute settlement data to determine the allocation of the change in load component.⁵³ The CAISO disagrees with SVP that this level of detail is necessary in tariff.

K. Miscellaneous Changes

WPTF and CAC/EPUC suggest that the definition of "Flexible RA Capacity" be

⁵³ The calculation of the contribution to change in load is detailed in the [Revised Draft Final Proposal](#) at 20-23. The CAISO's flexible capacity needs assessment for 2014 also includes a detailed description of how each local regulatory authority's change in load contribution is determined. [Final 2014 Flexible Capacity Needs Assessment](#) at 4-7 and 14-19. Specifically, with respect to change in load, the assessment states: "Then, using the same methodology used for determining the maximum 3-hour continuous net-load ramp described above, the ISO calculated the maximum three-hour net load ramps for 2013 and applied the Δ load calculation methodology described above. The ISO used settlements data to determine the LRA's contribution the Δ load component. This data is generated in 10-minute increments. This number may be the same for some LSEs over the entire hour. The ISO smoothed these observations by using a 60-minute rolling average of the load data. This allowed the ISO to simulate a continuous ramp using actual settled load data." *Id.* at 16.

revised to eliminate a circuitous reference to the term.⁵⁴ The CAISO agrees that a definition of “Flexible RA Capacity” structured similar to the definition of “Resource Adequacy Capacity” would be clearer. The CAISO accordingly recommends that the definition of “Flexible RA Capacity” be modified on compliance to read as follows –

The Flexible Capacity of a resource listed on an LSE Flexible RA Capacity Plan and a Resource Flexible RA Capacity Plan.

Proposed Section 40.10.1.4(a) refers to Section 40.10.3(3) in error. There is no Section 40.10.3(3). The reference should be corrected on compliance to be Section 40.10.1.3(3).

III. CONCLUSION

For the foregoing reasons and those provided in the transmittal letter, the CAISO respectfully requests that the Commission accept the flexible resource adequacy capacity amendment without modification, except for the changes proposed by the CAISO in this Answer.

Respectfully submitted,

⁵⁴ WPTF Comments at 5-6; CAC/EPUC Protest at 6.

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Dated: September 5, 2014

CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon the parties listed on the official service list in the captioned proceeding, 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, CA, this 5th day of September, 2014.

/s/ Sarah Garcia
Sarah Garcia