

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Oversee  
The Resource Adequacy Program, Consider  
Program Refinements, and Establish Annual  
Local Procurement Obligations.

Rulemaking 11-10-023  
(Filed October 20, 2011)

**COMMENTS OF THE  
CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES  
ON RESOURCE ADEQUACY FLEXIBLE CAPACITY PROCUREMENT**

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SARA STECK MYERS  
Attorney for the  
Center for Energy Efficiency and  
Renewable Technologies

122 – 28<sup>th</sup> Avenue  
San Francisco, CA 94121  
Telephone: (415) 387-1904  
Facsimile: (415) 387-4708  
E-mail: [ssmyers@att.net](mailto:ssmyers@att.net)

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The Center for Energy Efficiency and Renewable Technologies (CEERT) respectfully submits these Comments on the Resource Adequacy (RA) Flexible Capacity Procurement, including proposals that have been distributed and been the subject of Workshops and/or Comment in Phase 2 of this proceeding. These Comments are timely filed and served pursuant to the Commission’s Rules of Practice and Procedure, the ALJ’s Ruling Resetting Schedule for Comments on Phase 2 Resource Adequacy Issues and Scheduling a Prehearing Conference (PHC) issued on March 11, 2013 (“March 11 ALJ’s Ruling”), and the ALJ’s rulings and instructions to parties on these Comments provided at the Phase 2 PHC held on March 20, 2013.

**I.  
INTRODUCTION**

The issue of how to “define ‘flexibility’ for Resource Adequacy purposes and identify the types of flexible resources needed to maintain reliability”<sup>1</sup> has been before the Commission in this proceeding for over a year. The Commission found, however, that initial proposals for “flexible capacity procurement” offered last year by the Commission’s Energy Division and the California Independent System Operator (CAISO) were not “sufficiently detailed” or “ready for

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<sup>1</sup> D.12-06-025, at p. 2.

implementation” to permit their adoption at the time of the Commission’s June 2012 Resource Adequacy (RA) Decision (D.) 12-06-025.<sup>2</sup>

Since that time, other proposals have been made by these and other parties, one has been addressed through Opening Comments, and several have been presented, revised, and addressed at Workshops held on January 23 and March 20, 2013. In a Prehearing Conference (PHC) also held on March 20, assigned ALJ Gamson defined the “record” to date on this issue to include the Workshops; a “Joint Parties’ Proposal,” submitted by the CAISO jointly with Southern California Edison Company (SCE), and San Diego Gas and Electric Company (SDG&E) and first circulated with a Phase 2 Scoping Memo issued on December 6, 2012; comments on the Joint Parties’ Proposal filed on December 26, 2012; and an Energy Division Revised Flexible Capacity Procurement Proposal (“Energy Division Revised Proposal”). Additional proposals, such as those presented at the March 20 Workshop by Pacific Gas and Electric Company (PG&E) and Distributed Energy Consumer Advocacy (DECA) and any further revisions to the Joint Parties’ Proposal or Energy Division Revised Proposal would only become part of the record if submitted with the Comments due today.<sup>3</sup>

At the March 20 PHC, ALJ Gamson also provided further detail on his guidance offered at the January 23 Workshop regarding the input from parties that the Commission would need on these flexible capacity procurement proposals in order to address this issue in the upcoming June 2013 RA decision. In addition, ALJ Gamson encouraged parties to “provide specific findings of facts, conclusions of law and ordering paragraphs that would allow whatever you believe should be adopted to be adopted by the Commission.”<sup>4</sup> Parties were also permitted to include in their comments their responses to the Motion by The Utility Reform Network (TURN) and Sierra

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<sup>2</sup> D.12-06-025, at p. 2.

<sup>3</sup> Prehearing Conference (PHC) Reporter’s Transcript (RT) at 13-14 (ALJ Gamson).

<sup>4</sup> PHC RT at 12 (ALJ Gamson).

Club California (Sierra Club) (TURN/Sierra Club) for Evidentiary Hearings filed on March 7, 2013, and the TURN/Sierra Club Amended Request for Evidentiary Hearings filed on March 28, 2013.<sup>5</sup>

Based on ALJ Gamson's statements recited in the March 11 ALJ's Ruling and his guidance offered at the March 20 PHC, the requested input from parties for these Comments can be summarized as follows:

- Need and record support for a decision on "flexible capacity procurement issues" this year (*i.e.*, *whether any proposal should be adopted in a 2013 decision for the 2014 RA year, the 2015 RA year, or "later"*).<sup>6</sup>
- Need for a "policy" and/or an "implementation decision" (*i.e.*, *whether a "policy" should be adopted in 2013 for 2014 and later, but "specific implementation detail" should be adopted "for 2015 and later"*).<sup>7</sup>
- Merits of adopting any of the pending flexible capacity procurement proposals in whole, in part, or with revisions or "something completely different" in the June 2013 RA (*i.e.*, *whether one of the pending proposals should be adopted "word for word" (i.e., "formulas") or "in concept;" whether one should be adopted, but with specific revisions; whether there are there any jurisdictional limitations on the Commission adopting one of the proposals; or whether "something in between" or "something completely different" should be adopted*).<sup>8</sup>

CEERT, which has actively participated on the issue of flexible capacity procurement in this proceeding over the past year, including Comments on the Joint Parties' Proposal filed on December 26, 2012, responds to these topics in the comments that follow. CEERT's specific recommendations are summarized in Section VI below and are supported by Proposed Findings of Fact, Proposed Conclusions of Law, and Proposed Ordering Paragraphs, included herein as Appendix A.

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<sup>5</sup> PHC RT at 54 (ALJ Gamson).

<sup>6</sup> March 11 ALJ's Ruling, at p. 2; PHC RT at 21 (ALJ Gamson).

<sup>7</sup> March 11 ALJ's Ruling, at p. 2; PHC RT at 12-13 (ALJ Gamson).

<sup>8</sup> March 11 ALJ's Ruling, at p. 2; PHC RT at 11 (ALJ Gamson).

**II.**  
**THE ISSUE OF A “NEED” FOR A JUNE 2013 RA DECISION ADOPTING ANY PENDING FLEXIBLE CAPACITY PROCUREMENT PROPOSAL FOR THE 2014 RA YEAR IS AMONG THE DISPUTED MATERIAL FACTS.**

It is CEERT’s position that the TURN/Sierra Club Amended Request for Evidentiary Hearing *does support* the conclusion that there are in fact disputed material facts at issue in addressing flexible capacity procurement that require an evidentiary record to resolve. Critical among them is the issue of whether “dramatic increases in flexible capacity needs” exist or have been demonstrated to require the adoption of any of the specific pending proposals for flexible capacity procurement in June 2013 for application in RA year 2014. It is CEERT’s position that resolution of this issue is “material” to that decision and rests on resolution of the many “disputed facts” identified by TURN/Sierra Club in their Amended Request for Evidentiary Hearings.<sup>9</sup>

Specifically, an immediate need for flexible capacity procurement rests on “assumptions” regarding “the ability of existing resources and mechanisms to address operational flexibility needs for the foreseeable future” that are in dispute.<sup>10</sup> CEERT concurs with TURN/Sierra Club that the CAISO has overstated the demand and significantly understated the supply of flexible capacity in 2014 and that, in turn, the current record is not sufficient to support a reliability need to procure flexible capacity in 2014.

**III.**  
**ABSENT NEEDED EVIDENTIARY HEARINGS, THE JUNE 2013 RA DECISION SHOULD FOCUS ON ESTABLISHING A ROADMAP FOR ADDRESSING FLEXIBLE CAPACITY RESOURCE ISSUES THROUGH 2017.**

Put directly, resolution of the issue of need for flexible capacity resources – whether in 2014 or beyond – requires evidentiary hearings. However, CEERT is mindful of, and would

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<sup>9</sup> TURN/Sierra Club Amended Request for Evidentiary Hearings, at pp. 4-6.

<sup>10</sup> *Id.*, pp. 3-5.

certainly agree with, ALJ Gamson's conclusion that there is little or no time for full evidentiary hearings to be held before the June 2013 RA Decision.<sup>11</sup>

The question then exists what next steps should or can be taken in the June 2013 RA Decision to address or advance consideration of this issue in a manner that fairly recognizes the potential need for and value of "flexible" resources in the coming years. CEERT believes that, because a need for flexible resources in the next 3 years *may be* established, the highest value of the June 2013 RA Decision is to set out a roadmap to address how best to identify and procure flexible capacity resources in a manner that is consistent with the Commission's Loading Order of "preferred resources" (energy efficiency, demand response, and renewable generation). Such an approach would recognize the value of affording a transition to procurement that anticipates changing needs of the grid going forward and, in turn, necessarily sets new RA precedent and rules.

Thus, as part of that transition, a starting point for the June 2013 RA Decision should be to authorize the investor-owned utilities (IOUs) to procure only *some* limited "flexible capacity" through reliance on an *interim* procurement mechanism, which would be in effect for one RA year only (e.g., 2014) and could only apply after that time upon a decision by the Commission supported by a full evaluation of its results. Such a "pilot" approach is the only one supported by the current record.

In this regard, while the Joint Parties' "flexible capacity proposal" is qualified as being "interim," this label is not embodied in any meaningful language in that proposal identifying an absolute end date for the mechanism, other than the request that it be applied for the 2014 RA

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<sup>11</sup> PHC RT at 28 (ALJ Gamson).

compliance year. Even more significantly, the Joint Parties' Proposal does not provide metrics or a schedule for evaluating the proposal to support its use beyond 2014.<sup>12</sup>

Instead of simply adopting any pending proposal in such an open-ended manner and, especially in the absence of needed record support for such procurement, CEERT urges the Commission to use its annual RA decisions from 2013 through 2017 to design, *refine, and test* an admittedly new, dramatically overhauled RA protocol to deal with the evolving nature of grid reliability. That approach requires the Commission, starting with the June 2013 RA Decision, to lay out the tasks to be accomplished during the next three to four years, set targets to achieve some portion of these objectives in 2014, and commit to a full, formal process of review and analysis, including evidentiary hearings, on the results of this cycle's efforts. Completion of each of these steps should serve as conditions precedent to authorizing any mechanism to be adopted or continue in place for the following RA years (2015 – 2017) or beyond.

The critical transition steps on RA procurement that need to be taken from today through at least the 2017 RA compliance year are summarized as follows below. While certain of these steps may need to be taken by other state or local agencies or the CAISO, the Commission can start this process by recognizing in its June 2013 RA Decision that these changes are needed not only to improve grid reliability, but to ensure procurement at reasonable cost consistent with the Commission's Loading Order:

1. *The Commission should require the development of operating protocols and performance metrics for Loading Order preferred resources, in particular, demand response (DR), and for storage, hydro, and other use limited resources in a manner that will allow preferred resources to provide flexible capacity to the grid on an equivalent basis with conventional fossil resources.*

In D.13-02-015 in its Long Term Procurement Plan (LTPP) Rulemaking (R.) 12-03-014, the Commission confirmed the capability, merits, and environmental benefits of long-term

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<sup>12</sup> Phase 2 Scoping Memo (December 6, 2012), at p. 3; Attachment A (Joint Parties' Proposal), at pp. 3, 26.



reliance on Loading Order preferred resources and energy storage in meeting local capacity requirements (LCR).<sup>13</sup> In doing so, the Commission also recognized the need to avoid a conflict with the State’s environmental goals by unnecessary, long term commitments to fossil resources. This outcome was supported by a robust evidentiary record with testimony from a wide spectrum of stakeholders, including ratepayer advocates, industry, and environmentalists. In this regard, the Commission in D.13-02-015 confirmed that its obligation to “balance” its “reliability mandate with” its “other statutory and policy considerations” of “reasonableness of rates and a commitment to a clean environment” (i.e., the Loading Order) requires increasing reliance on Loading Order preferred resources.<sup>14</sup>

To that end, the June 2013 RA Decision represents the next opportunity to further the goals and direction embraced by D.13-02-015. In fact, given that no immediate need for flexible capacity procurement in the next year has been established, this time can best be used through “testing” the effectiveness of these resources to meet this need by actual procurement and ex post evaluation and measurement even *before* these critical resources are actually required for reliability.

2. *The Commission should require the evaluation of all procurement mechanisms and develop supply curves based on real prices for all types of flexible capacity resources.*

On February 26, 2013, this Commission joined the CAISO and the California Energy Commission (CEC) in hosting a public stakeholder RA Summit, focused, in particular, on how best to meet long term grid reliability needs. Among many of the comments made by participating Commissioners and Board Members, CPUC Commissioner Ferron lamented the lack of hard data available to guide effective decisions on meeting long-term RA needs, but stated that transparency in current RA contracts is a first step in rectifying that situation.

On this point, CEERT agrees. CEERT questions why RA contract terms, conditions and prices continue to be shrouded in secrecy and are not disclosed in convenient and timely form, not just to stakeholders, but more importantly to Commission decision-makers who are faced with the difficult decision of imposing the costs of such procurement on California ratepayers. Unlike energy procurement generally that may be measured against a “market

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<sup>13</sup> D.13-02-015, at pp. 2, 81-83.

<sup>14</sup> D.13-02-015, at pp. 35-36.

price,” there is no “natural market,” with underlying supply and demand curves based on free market principles, for this entirely administratively-determined “product,” the value of which can change based on a single order that may or may not be coordinated or consistent with other Commission decisions or policies. It is virtually impossible to have even a constructive conversation about, for example, the relative merits of centralized versus bilateral markets without real world data to guide the discussion.

To achieve this transparency, while protecting confidentiality, CEERT believes that the Commission in its June 2013 RA Decision can direct that all bids submitted to the IOUs to meet RA and/or LTPP procurement needs, including any replacement power to address the ongoing outage at the San Onofre Nuclear Generating Station (SONGS), should be provided under seal to the CEC. The CEC, in cooperation with this Commission, would then publish these bids in a summary report that would provide a supply curve of flexibility options ranging from zero incremental cost, dispatchable hydro resources to full replacement cost construction of new, purpose-built generation resources. This information would help guide policy in this and subsequent RA proceedings. If this step proves either impractical or untimely, then the Commission should simply publish all relevant winning bids, unredacted, in their entirety – a routine practice for municipal utilities making similar procurement decisions.

3. *In collaboration with the CAISO and CEC, the Commission should commit to the evaluation of the feasibility and cost-effectiveness of retrofits to improve flexibility of that portion of the current fleet of natural gas plants that were designed, permitted, and built for baseload operation to lower minimum load, reduce start time, increase ramp rate, and reduce “forbidden zones” that inhibit dispatchability.*

Most if not all of the recently constructed fleet of combined cycle plants were designed and built specifically for minimum heat rate and minimum NOx emissions at constant full load and are not properly equipped for the load following duty they currently provide – much less the even more variable “flexibility” duty they may be asked to perform in the future.

Relatively simple and cost effective retrofit packages are available from the major turbine manufacturers to partially address this critical issue. Owners that invest in these upgrades need to see a path to recover this incremental investment. Generators who cannot or do not wish to improve in these critical areas need to be “encouraged” to retire these projects and replace them with resources that are truly flexible.

4. *The Commission should work with and/or encourage the CAISO to revise CAISO tariffs to increase inherent flexibility of the current resource mix by significantly reducing self-scheduling, expanding the energy imbalance market beyond the recent announcement with PacifiCorp to include Phoenix, Las Vegas, and the Pacific Northwest as well as the other Balancing Authorities in California, and by removing disincentives to self-supply flexibility to the grid by “organically” following load without explicit dispatch instructions from the CAISO.*

Many of the underlying causes of the system’s lack of flexibility in the real time CAISO dispatch stack are self-inflicted wounds from a previous time when “market flexibility” led to a very different and destructive type of behavior. Restrictive rules were put in place to prevent the exercise of market power. These rules have had the unintended consequence of limiting the ability of the market to provide flexible responses to changing needs. The stigma and financial penalties associated with “chasing price” need to be removed and replaced with encouragement to go off schedule and increase output or reduce demand when prices are rising (the grid is short) and reduce output or increase demand when prices are falling (the grid is long). This common sense prescription is followed in every other centrally managed market in the United States and the results are dramatically lower prices and improved resiliency.

Also of critical importance is ensuring that resources that are physically capable of providing flexibility to the grid actually do provide this flexibility in real time through elimination or at least significant reduction in the practice of “self scheduling,” which can include a decision not to adjust generation output in response to balancing needs of the grid. This “strategic self-scheduling” is today’s version of capacity withholding that was used during the Energy Crisis of the last decade to manipulate market prices.

CEERT recognizes that not all of these steps can be taken by this Commission alone. However, where the needed direction goes beyond the Commission’s jurisdictional authority, CEERT urges the Commission to work collaboratively with the CAISO and the CEC to achieve each of these outcomes. The power of this inter-agency cooperation was revealed at the February 26 RA Summit, and the momentum from that collaboration must be maintained.

Further, this Commission is being asked to authorize procurement of “flexibility” at ratepayer expense to meet a calculated “need” that could be significantly reduced at much lower cost through reform of the above market practices. Therefore, progress in these areas is highly relevant to the Commission’s obligation to maintaining reliability while fully considering “reasonableness of rates” and the Commission and this state’s “commitment to a clean environment.”<sup>15</sup>

**IV.  
IF A NEED IS FOUND, NEITHER THE JOINT PARTIES’ PROPOSAL  
OR THE ENERGY DIVISION REVISED PROPOSAL SHOULD BE  
ADOPTED “WORD FOR WORD” IN THE JUNE 2013 RA DECISION.**

CEERT has fully reviewed the flexible capacity procurement proposals made by the Joint Parties and the Energy Division, as revised, within the context of the additional input and presentations provided by both at the March 20 Workshop. Other than the decision by Energy Division to incorporate PG&E’s proposal to exempt use-limited hydro resources from the requirement to submit economic bids in all seventeen hourly markets from 6 AM to 10 PM, CEERT cannot find any other meaningful distinction between the Joint Parties’ Proposal and the Energy Division Revised Proposal.

However, this one distinction of exempting only one single use-limited resource illustrates the fundamental flaw in *both* proposals. The failure of the Joint Parties Proposal to include a resource (hydro) that has reliably and cost effectively provided “flexibility” to California’s grid for over a century only underscores the highly and inappropriately restrictive nature of that proposal. This circumstance also highlights the weakness of both proposals in *assuming* that *all* flexible needs of the grid *must* come from a specific subset of fossil resources only.

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<sup>15</sup> D.13-02-015, at pp. 35-36.

Other examples of exclusion of historically significant sources of flexibility from both proposals exist as well. Thus, both proposals exclude the diurnal and seasonal exchanges of capacity between California and the Pacific Northwest that have provided “RA value” and flexibility to both parties for over fifty years. Similarly, and inappropriately, these proposals exclude the economy energy exchanges with the desert Southwest, which have been occurring for almost as long with similar benefits. Finally, no basis exists to completely exclude Loading Order preferred resources, along with energy storage, in their entirety, as both proposals do.

In fact, it was a disappointment to CEERT that the Energy Division did not continue to advance its originally proposed Maximum Cumulative Capacity (MCC) bucket structure, which CEERT supported as consistent with the policy framework for the RA program and as capable of providing “the proper allocation of resources to the CAISO in order to reliably serve load.”<sup>16</sup> Use of the various MCC buckets recognized that flexibility to follow load always has been, is now, and certainly will be cost-effectively supplied by resources other than those that qualify using the restrictive definitions of the current Joint Parties and Energy Division proposals.

The serious shortcomings in the Joint Parties’ Proposal and the Energy Division Revised Proposal mean that neither proposal can be adopted “word for word” and should not be adopted at all by the Commission in its June 2013 RA Decision without revision and without a concrete commitment to *limit* authorization of any mechanism adopted based on either model to an *interim* basis with required ex post evaluation. CEERT, therefore, recommends that any adopted mechanism encourage incremental performance improvements by all resources and include the revisions identified in the following section.

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<sup>16</sup> CEERT Comments on Energy Division (ED) Workshop Report (April 11, 2012), at p. 2.

**V.**  
**REVISIONS AND CONDITIONS ARE REQUIRED IN BOTH THE  
JOINT PARTIES' PROPOSAL AND THE ENERGY DIVISION REVISED  
PROPOSAL IF EITHER IS ADOPTED FOR APPLICATION IN 2014.**

As stated above, the Joint Parties and Energy Division flexible capacity procurement proposals will result in excluding significant historical and emerging policy driven sources of flexibility, while requiring 100% of the calculated flexibility need from the subset of existing fossil resources that can meet the restrictive proposal definitions. This circumstance will yield one of the following results: First, based on common sense and likely application of FERC tariff provisions, the CAISO will obtain flexibility from cost-effective *excluded* resources in real time, which, in combination with adoption of its proposed mechanism, will lead to massive over-procurement of “flexible capacity” from fossil resources and, in turn, excessive costs being imposed on ratepayers. Second, alternatively, the CAISO could choose to obtain flexibility in real time from only those resources actually procured against the restrictive definition in the chosen proposal.

As to the shortcomings of this second “option,” the CAISO at the March 20 Workshop referred to recent operating experience during the light load days of March where there were numerous instances of negative energy pricing midday as evidence that the infamous “duck chart” phenomena was already occurring and, as a result, action had be taken to accept the Joint Party Proposal *this year*. Unfortunately, the CAISO never presented any data on a lack of flexibility in real time as evidenced by a depleted real time dispatch stack – only evidence of over-generation in the hours leading up to the afternoon ramp during numerous light load days.

While this “problem” needs to be solved, if the Joint Parties or Energy Division proposals were adopted “word for word” and the CAISO were to obtain flexibility to meet the afternoon ramp on those days *exclusively* from resources procured by the solicitations pursuant to those

proposals, the over-generation problem would not be solved but made much worse. Most of the fossil resources that meet the strict proposal definitions for “dispatchability” come with the baggage of long start times and high minimum load levels. In order to serve their load following flexibility function during the afternoon ramp, they would have to be committed to minimum load levels during the hours of over-generation prior to the commencement of that ramp – thus compounding the negative pricing events caused by over-generation. There are, of course, other much more cost effective ways to solve the over-generation problem – starting with using economy energy and capacity exchanges with neighboring Balancing Authorities, pre-loading DR actions, or charging storage for later dispatch.<sup>17</sup>

From CEERT’s perspective, the “fundamental flaw” of inappropriately excluding resources that can provide flexibility in both the Joint Parties and Energy Division proposals *must be remedied before either can be adopted in any form*. The simplest revision to cure this deficiency at the present time to permit even “interim” approval is to change the “equation of need” in both proposals.

Specifically, CEERT recommends changing this equation to provide that, if the Joint Parties Proposal is adopted, it should be revised to provide that only 50% of the gross “Flexibility Need” identified in the Joint Parties’ Proposal should be procured year ahead using the restrictive fossil-only definitions of the Joint Parties’ Proposal. The remaining 50% of that “need” should then be procured from exchanges with other Balancing Authorities and use-limited and other preferred resources that do not meet the “dispatchability” definitions of the Joint Party Proposal or obtained “organically” from other resources that cannot comply with the strict definition.

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<sup>17</sup> An example would be pre-cooling chilled water storage or ice manufacturing during hours that would otherwise exhibit over-generation.

Under the Energy Division Revised Proposal, use-limited hydro is added to the qualifying resources eligible to be procured and, therefore, the percentage of flexibility need can and should be larger to preserve the appropriate balance. If the Energy Division Revised Proposal is accepted with CEERT’s proposed modification, then two thirds of the gross flexibility need would be procured year ahead by the somewhat less restrictive definitions in the Energy Division Revised Proposal, and one-third of the need would be procured from use limited preferred resources or presumed to be supplied by imports/exports or “organically” from the market.

Specific to the method for calculating the monthly flexible capacity procurement need, the Joint Parties’ Proposal recommends using the following formula, to which the Energy Division Revised Proposal does not appear to take exception:

$$\text{Flexibility Need}_{\text{MTHy}} = \text{Max}[(3\text{RR}_{\text{HRx}})_{\text{MTHy}}] + \text{Max}(\text{MSSC}, 3.5\% * \text{E}(\text{PL}_{\text{MTHy}})) + \epsilon$$

Where,

- $\text{Max}[(3\text{RR}_{\text{HRx}})_{\text{MTHy}}]$  = Largest three hour contiguous ramp starting in hour x for month y
- $\text{E}(\text{PL})$  = Expected peak load
- $\text{MTHy}$  = Month y
- $\text{MSSC}$  = Most Severe Single Contingency
- $\epsilon$  = Annually adjustable error term to account for uncertainties such as load following<sup>18</sup>

CEERT does not believe that this formula should be used to calculate this need under either of the proposed proposals *unless* this equation *is changed* as follows as indicated in bold:

$$\text{Flexibility Need}_{\text{MTHy}} = \{\text{Max}[(3\text{RR}_{\text{HRx}})_{\text{MTHy}}] + \text{Max}(\text{MSSC}, 3.5\% * \text{E}(\text{PL}_{\text{MTHy}}))\} \times \epsilon$$

Where,

- $\text{Max}[(3\text{RR}_{\text{HRx}})_{\text{MTHy}}]$  = Largest three hour contiguous ramp starting in hour x for month y
- $\text{E}(\text{PL})$  = Expected peak load
- $\text{MTHy}$  = Month y
- $\text{MSSC}$  = Most Severe Single Contingency
- **Epsilon is the fraction of gross Flexibility Need to be procured using the protocols in the Joint Parties’ Proposal.**

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<sup>18</sup> Joint Parties’ Proposal, at p. 7.



Thus, CEERT's proposed modification for this formula is to make the "error term" (the Greek letter epsilon) multiplicative rather than additive. This revised formula should be used if either the Joint Parties' Proposal or Energy Division Revised Proposal is adopted.

CEERT further recommends that, for the 2014 RA year ahead showing, epsilon be set at 0.5 if the Joint Party Proposal is adopted or set at 0.66 if the Energy Division Revised Proposal is adopted. It should be noted, that these accommodations would have been more transparent and easier to explain if the Energy Division had stayed with its original proposal to retain the concept of multiple MCC buckets to accommodate different "flavors" of flexibility under the same procurement.

However, given Energy Division's abandonment of that approach, the current Energy Division Revised Proposal for the 2014 RA year should only be adopted for the 2014 RA year *if* it has been revised to include CEERT's proposed modification to the epsilon term for the year ahead showing. Should there be persuasive evidence of an impending shortage of "flexible capacity," caused by this lower procurement of fossil resources, the shortfall can always be made up during the true up between the year ahead and month ahead RA showings.

Nevertheless, if the Commission chooses to adopt one of these proposals, CEERT does recommend that the Energy Division Revised Proposal be adopted as a starting point, but only if revised and subject to the conditions recommended by CEERT above. This preference is supported by the facts that the Energy Division Revised Proposal at least includes PG&E's hydro proposal and, as noted by ALJ Gamson, potentially avoids jurisdictional issues that may arise from application of the Joint Parties' Proposal.<sup>19</sup>

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<sup>19</sup> PHC RT at 10-12 (ALJ Gamson).

Again, however, in addition to the revisions stated above, it is also imperative that, for either proposal, the Commission must make any adopted proposal *time-limited*. If these proposals were intended to be “interim,” while more data and, more importantly, an evidentiary record is developed to support flexible capacity procurement beyond 2014, these proposals, which do not have the benefit of that record support, can only be adopted on a limited, conditional basis. The Commission must further commit to an evaluation of the success of these proposals in reflecting and improving the capability of preferred resources to meet flexibility needs before permitting these mechanisms to have continued application beyond 2014.

**VI.  
CONCLUSION:  
SUMMARY OF CEERT RECOMMENDATIONS**

CEERT’s recommendations for the June 2013 RA Decision on flexible capacity procurement issues are summarized as follows:

1. The Commission, in consultation with the CAISO and the CEC, should establish metrics and protocols for Demand Response, Storage and other preferred resources to participate in RA procurement on a comparable basis with dispatchable fossil resources.
2. The Commission should adopt, on an interim basis only for 2014, the Energy Division Revised Proposal, modified to include CEERT’s recommended modifications and conditions.
3. Specifically, the Commission should require the Energy Division Revised Proposal to be modified to determine the flexible capacity need for a given month using the formula recommended in the Joint Parties’ Proposal *revised* with the single modification to the use of the “error term” (epsilon) in the “Equation of Need” to be multiplicative rather than additive.
4. The Commission should further revise the Energy Division Revised Proposal to set epsilon for the 2014 RA year ahead showing at 0.66, so that two thirds of the gross

“flexibility need” will be procured by the strict definition of “dispatchability” in the Energy Division Revised Proposal.

5. The Commission should conduct the 2014 RA procurement and year ahead showing on an accelerated timeline to be completed by end of summer 2013. The “enhancements” for this year’s RA procurement would include:
  - a. For existing fossil resources, the RA payment would be authorized for only the 2014 RA year and meant to cover the value/cost of meeting the Must Offer Obligation in the Energy Division Revised Proposal.
  - b. An additional payment not to exceed five years would be authorized for resources that meet the dispatchability definitions in the Energy Division Revised Proposal and, in addition, commit to a cost effective capital investment designed to either lower start up time, reduce minimum load level, increase ramp rate, relax use limited constraints or some combination of the above. The additional payment would be designed to provide an appropriate rate of return on that incremental investment.
6. The Commission should work with the CEC to publish supply curves for “flexible capacity” based on results of that procurement and other relevant information gathered by the end of summer 2013.
7. The Commission should direct that evidentiary hearings will be held in the Fall 2013 to establish a record on flexible capacity requirements for the next RA year flexible capacity requirements for the next RA year, to adopt attributes and capability of preferred resources and storage to meet those identified flexible capacity needs, and to provide further guidance on any required revisions to flexible capacity procurement mechanisms.
8. The Commission should provide a venue (i.e., Workshop) to develop metrics for evaluating the “success” of any adopted flexible capacity procurement mechanism, including cost-effectiveness, and a report from the CAISO on progress in fixing market deficiencies – such as, strategic self-scheduling that limit flexibility, implementing FERC Order 764 fifteen-minute scheduling, and rolling out the new EIM (Energy Imbalance Market) initiative to enhance flexibility and interchange with other Balancing Authorities. This record would then be available to inform further Commission actions

such as true-up of year ahead to month ahead RA showings for 2014, the Guidance Document for the next round of Demand Response Program authorizations, and the 2015 and beyond RA rulemakings.

Consistent with the direction of ALJ Gamson, these recommendations are also embodied in the Proposed Findings of Fact, Conclusions of Law, and Ordering Paragraphs in Appendix A hereto. CEERT respectfully requests that its recommendations and proposed findings, conclusions, and orders be adopted by the Commission in its June 2013 RA Decision.

Respectfully submitted,

April 5, 2013

/s/ SARA STECK MYERS

Sara Steck Myers  
Attorney for CEERT

SARA STECK MYERS  
Attorney at Law  
122 – 28<sup>th</sup> Avenue  
San Francisco, CA 94121  
(415) 387-1904 (Telephone)  
(415) 387-4708 (FAX)  
[ssmyers@att.net](mailto:ssmyers@att.net) (Email)

## APPENDIX A

### PROPOSED FINDINGS OF FACT, PROPOSED CONCLUSIONS OF LAW, AND PROPOSED ORDERING PARAGRAPHS ON FLEXIBLE CAPACITY PROCUREMENT

The Center for Energy Efficiency and Renewable Technologies (CEERT) recommends that the Commission include the following Proposed Findings of Fact, Proposed Conclusions of Law, and Proposed Ordering Paragraphs in its decision on proposals and issues related to Flexible Capacity Procurement in its June 2013 Final Decision on Resource Adequacy Local Procurement Obligations for 2014.

#### **PROPOSED FINDINGS OF FACT:**

1. TURN/Sierra Club Amended Request for Evidentiary Hearing identified issues of disputed material facts regarding timing and assumptions relied upon by the Joint Parties and, in turn, Energy Division in offering their respective flexible capacity procurement proposals.
2. Among the disputed material facts is whether dramatic increases in flexible capacity needs exist or have been demonstrated to require adoption of any of the pending proposals for flexible capacity procurement in this annual Resource Adequacy decision for application in the 2014 RA year.
3. There is insufficient time before the required issuance of the June 2013 RA Decision to hold a full evidentiary hearing to resolve the outstanding disputed material facts regarding the need to authorize flexible capacity procurement in 2014.
4. In the absence of evidentiary hearings, the record to date, consisting of the flexible capacity procurement proposals, two Workshops, and responsive comments, does permit policy guidance and limited, interim authorization of flexible capacity procurement in 2014.
5. In balancing the Commission's obligation to maintain reliability at reasonable rates consistent with the commitment to a clean environment and the Loading Order of preferred resources, guidance can be provided for addressing the issue of flexible capacity needs and procurement over the next 3 RA cycles from 2014 through 2017.

6. The Energy Division Revised Proposal is a reasonable starting point for a limited, interim authorization for flexible capacity procurement in 2014 subject to specific revisions and conditions precedent, including the following:

- a. The formula used to calculate the flexible capacity need for a given month can be based on the formula recommended in the Joint Parties' Proposal *revised* with the single modification to the use of the "error term" (epsilon) in the "Equation of Need" to be multiplicative rather than additive pursuant to the following revised formula:

$$\text{Flexibility Need}_{\text{MTHy}} = \{\text{Max}[(3\text{RR}_{\text{HRx}})_{\text{MTHy}}] + \text{Max}(\text{MSSC}, 3.5\% * \text{E}(\text{PL}_{\text{MTHy}}))\} \times \epsilon$$

Where,

- $\text{Max}[(3\text{RR}_{\text{HRx}})_{\text{MTHy}}]$  = Largest three hour contiguous ramp starting in hour x for month y
- $\text{E}(\text{PL})$  = Expected peak load
- MTHy = Month y
- MSSC = Most Severe Single Contingency
- Epsilon is the fraction of gross Flexibility Need to be procured using the protocols in the Joint Parties' Proposal.

- b. The proposal must be revised to set epsilon for the 2014 RA year ahead showing of 0.66 and to create an end date for reliance on this procurement model for the 2014 RA year only.

7. It is not reasonable to authorize or extend reliance on the Energy Division Revised Proposal beyond the 2014 RA year unless and until the results of that proposal have been evaluated; the proposal has been revised, as necessary; and the Commission has authorized its continued use beyond that time frame.

8. It is reasonable for the 2014 RA procurement and year ahead showing to be conducted on an accelerated timeline to be completed by the end of summer 2013, subject to the following requirements:

- a. For existing fossil resources, authorization of the RA payment is limited to only the 2014 RA year and covers the value/cost of meeting the Must Offer Obligation in the Energy Division Revised Proposal.
- b. An additional payment not to exceed five years is authorized for resources that meet the dispatchability definitions in the Energy Division Revised Proposal and, in addition, commit to a cost effective capital investment designed to either lower start up time,

reduce minimum load level, increase ramp rate, relax use limited constraints or some combination of the above, with that additional payment incorporating an appropriate rate of return on that incremental investment.

9. It is reasonable, timely, and consistent with the Loading Order for the Commission in consultation with the CAISO and the CEC, to establish metrics and protocols for Demand Response, Storage and other preferred resources to participate in RA procurement on a comparable basis with dispatchable fossil resources.

10. There is a need for the Commission to work with the CEC to publish supply curves for “flexible capacity” based on results of that procurement and other relevant information gathered by the end of summer 2013.

11. Evidentiary hearings are required to be held in the Fall 2013 to establish a record on flexible capacity requirements for the next RA year, to adopt attributes and capability of preferred resources and storage to meet those identified flexible capacity needs, and to provide further guidance on any required revisions to flexible capacity procurement mechanisms.

12. Metrics must be developed to evaluate the effectiveness, including cost-effectiveness, of the adopted flexible capacity procurement mechanism.

13. The Commission and stakeholders will benefit from a report from the CAISO on progress in fixing market deficiencies – such as, strategic self-scheduling that limit flexibility, implementing FERC Order 764 fifteen-minute scheduling, and rolling out the new EIM (Energy Imbalance Market) initiative to enhance flexibility and interchange with other Balancing Authorities, which report can assist the Commission in reviewing changes from year ahead to month ahead RA showings for 2014, the Guidance Document for the next round of Demand Response Program authorizations, and RA cycles beginning in 2015.

**PROPOSED CONCLUSIONS OF LAW:**

1. Continued inter-agency cooperation between this Commission, the CAISO, and the CEC on resource adequacy issues and procurement required to meet RA needs should be encouraged and continued in the near- and long-term.

2. TURN/Sierra Club Amended Request for Evidentiary Hearing identified issues of disputed material facts regarding timing and assumptions relied upon by the Joint Parties and, in turn, Energy Division in offering their respective flexible capacity procurement proposals has merit and should be granted.

3. Evidentiary hearings should be held before a mechanism for flexible capacity procurement can be put in place on a permanent or long term basis.

4. The record in this proceeding is sufficient for the Commission, in meeting its obligation to maintain reliability at least cost to ratepayers and in consideration of a clean environment, to authorize flexible capacity procurement on an interim basis for the 2014 RA Year only.

5. Flexible capacity procurement should not be authorized except on an interim basis for the 2014 RA year and should not be authorized for further RA cycles unless and until an evidentiary record on the assumptions to be used in identifying the need, resources, and timing for such procurement is completed, revisions or changed proposals based on that record have been considered, the interim adopted proposal for 2014 RA year has been evaluated, and a mechanism has been adopted by Commission decision for application in the 2015 RA Year and beyond.

6. The Energy Division Revised Proposal should be adopted on an interim basis subject to the conditions identified in Conclusion of Law 5 and revised to include the Joint Parties' Proposal for calculating monthly flexible capacity need as revised to modify the use of the "error term" (epsilon) in the "Equation of Need" to be multiplicative, rather than additive; to set epsilon for the 2014 RA year ahead showing of 0.66; and to create an end date for reliance on this procurement model for the 2014 RA year only.

7. For existing fossil resources, authorization of the RA payment should be limited to only the 2014 RA year and cover the value/cost of meeting the Must Offer Obligation in the Energy Division Revised Proposal.

8. An additional payment not to exceed five years should be authorized for resources that meet the dispatchability definitions in the Energy Division Revised Proposal and, in addition, commit to a cost effective capital investment designed to either lower start up time, reduce minimum load level, increase ramp rate, relax use limited constraints or some combination of the



above, with that additional payment incorporating an appropriate rate of return on that incremental investment.

9. The Commission in consultation with the CAISO and the CEC, should establish metrics and protocols for Demand Response, Storage and other preferred resources to participate in RA procurement on a comparable basis with dispatchable fossil resources.

10. The Commission should work with the CEC to publish supply curves for “flexible capacity” based on results of that procurement and other relevant information gathered by the end of summer 2013.

11. Evidentiary hearings should be held in the Fall 2013 to establish a record on flexible capacity requirements for the next RA year, to adopt attributes and capability of preferred resources and storage to meet those identified flexible capacity needs, and to provide further guidance on any required revisions to flexible capacity procurement mechanisms.

12. A report from the CAISO on progress in fixing market deficiencies – such as, strategic self-scheduling that limit flexibility, implementing FERC Order 764 fifteen-minute scheduling, and rolling out the new EIM (Energy Imbalance Market) initiative to enhance flexibility and interchange with other Balancing Authorities would be beneficial for the Commission in its review of changes from year ahead to month ahead RA showings for 2014, the Guidance Document for the next round of Demand Response Program authorizations, and RA cycles beginning in 2015.

**PROPOSED ORDERING PARAGRAPHS:**

1. The Energy Division Revised Proposal for flexible capacity procurement shall be adopted for the 2014 RA Year on an interim basis and subject to the following revisions and conditions:

- a. The Energy Division Revised Proposal shall be revised to include the Joint Parties’ Proposal for calculating monthly flexible capacity need as revised to modify the use of the “error term” (epsilon) in the “Equation of Need” to be multiplicative, rather than additive; to set epsilon for the 2014 RA year ahead showing of 0.66; and to create an end date for reliance on this procurement model for the 2014 RA year only.

b. The Energy Division Revised proposal shall not be in effect beyond the 2014 RA year unless and until an evidentiary record on the assumptions to be used in identifying the need, resources, and timing for flexible capacity procurement is completed, revisions or changed proposals based on that record have been considered, the interim adopted proposal for 2014 RA year has been evaluated, and a mechanism has been adopted by Commission decision for application in the 2015 RA Year and beyond.

2. For existing fossil resources, authorization of the RA payment shall be limited to only the 2014 RA year and cover the value/cost of meeting the Must Offer Obligation in the Energy Division Revised Proposal.

3. An additional payment not to exceed five years shall be authorized for resources that meet the dispatchability definitions in the Energy Division Revised Proposal and, in addition, commit to a cost effective capital investment designed to either lower start up time, reduce minimum load level, increase ramp rate, relax use limited constraints or some combination of the above, with that additional payment incorporating an appropriate rate of return on that incremental investment.

4. The Commission in consultation with the CAISO and the CEC, shall establish metrics and protocols for Demand Response, Storage and other preferred resources to participate in RA procurement on a comparable basis with dispatchable fossil resources.

5. The Commission shall work with the CEC to publish supply curves for “flexible capacity” based on results of that procurement and other relevant information gathered by the end of summer 2013.

6. The Motion and Amended Request for Evidentiary Hearings filed by TURN/Sierra Club shall be granted subject to the following conditions: Evidentiary hearings shall be held in the Fall 2013 to establish a record on flexible capacity requirements for the next RA year, to adopt attributes and capability of preferred resources and storage to meet those identified flexible capacity needs, and to provide further guidance on any required revisions to flexible capacity procurement mechanisms.

7. The Commission shall work with the CAISO to encourage a report from the CAISO on progress in fixing market deficiencies – such as, strategic self-scheduling that limit flexibility,

implementing FERC Order 764 fifteen-minute scheduling, and rolling out the new EIM (Energy Imbalance Market) initiative to enhance flexibility and interchange with other Balancing Authorities would be beneficial for the Commission in its review of changes from year ahead to month ahead RA showings for 2014, the Guidance Document for the next round of Demand Response Program authorizations, and RA cycles beginning in 2015.