STATE OF CALIFORNIA EDMUND G. BROWN JR., *Governor*

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

F I L E D
05-28-13
04:25 PM

May 28, 2013

Agenda ID #12157
Ratesetting

TO PARTIES OF RECORD IN RULEMAKING 11-10-023:

This is the proposed decision of Administrative Law Judge (ALJ) David M. Gamson. It will not appear on the Commission's agenda sooner than 30 days from the date it is mailed. The Commission may act then, or it may postpone action until later.

When the Commission acts on the proposed decision, it may adopt all or part of it as written, amend or modify it, or set it aside and prepare its own decision. Only when the Commission acts does the decision become binding on the parties.

Parties to the proceeding may file comments on the proposed decision as provided in Article 14 of the Commission's Rules of Practice and Procedure (Rules), accessible on the Commission's website at www.cpuc.ca.gov. Pursuant to Rule 14.3, opening comments shall not exceed 25 pages.

Comments must be filed pursuant to Rule 1.13 either electronically or in hard copy. Comments should be served on parties to this proceeding in accordance with Rules 1.9 and 1.10. Electronic and hard copies of comments should be sent to ALJ Gamson at dmg@cpuc.ca.gov and the assigned Commissioner. The current service list for this proceeding is available on the Commission's website at www.cpuc.ca.gov.

/s/ TIMOTHY J. SULLIVAN for
Karen V. Clopton, Chief
Administrative Law Judge

KVC:acr/jv1

Attachment

Decision **PROPOSED DECISION OF ALJ GAMSON** (Mailed 5/28/2013)

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)

DECISION ADOPTING LOCAL PROCUREMENT OBLIGATIONS FOR 2014, A FLEXIBLE CAPACITY FRAMEWORK, AND FURTHER REFINING THE RESOURCE ADEQUACY PROGRAM

DECISION ADOPTING LOCAL PROCUREMENT OBLIGATIONS FOR 2014, A FLEXIBLE CAPACITY FRAMEWORK, AND FURTHER REFINING THE RESOURCE ADEQUACY PROGRAM 1
1. Summary 2
2. Background 2
3. Local RA for 2014 5
3.1. 2014 Local Capacity Requirements Study 6
3.2. Continuation of the Local RA Program 10
4. Flexible Capacity Framework 10
4.1. The Joint Parties' Proposal 12
4.2. The Energy Division Proposal 18
4.3. Parties' Positions (other than Joint Parties) Regarding Flexible Capacity Framework Policy 17
4.4. Discussion 24
4.4.1. Sierra Club/TURN Request for Evidentiary Hearings 30
4.4.2. Adoption of a Flexible Capacity Framework 36
4.4.3. Specific Modifications to Joint Parties' Proposal 44
4.4.3.1. Hydro resources 44
4.4.3.2. Other Use-Limited Resources 47
4.4.3.3. Preferred Resources 48
4.4.3.4. Sales of Inflexible Capacity 52
4.4.3.5. Market-based Mechanisms 53
4.5. Implementation and Next Steps 54
5. Distributed Generation 58
6. Rounding Convention 59
7. Resources Under Construction 60
8. Comments on Proposed Decision 61
9. Assignment of Proceeding 62
Findings of Fact 62
Conclusions of Law 65
ORDER 67

DECISION ADOPTING LOCAL PROCUREMENT OBLIGATIONS FOR 2014, A FLEXIBLE CAPACITY FRAMEWORK, AND FURTHER REFINING THE RESOURCE ADEQUACY PROGRAM

1. Summary

This decision establishes local capacity procurement obligations for 2014 applicable to Commission-jurisdictional electric load serving entities. These procurement obligations are based on an annual study of local capacity requirements performed by the California Independent System Operator (ISO) for 2014 which seeks to ensure that each part of the California grid, including those parts with transmission constraints, has access to sufficient generating capacity to meet the local need. The total local "capacity requirements" determined by the ISO for all local areas combined increased slightly from the prior year; the increase is from 25,769 Megawatts (MW) in 2013 to 27,307 MW in 2014. The "existing capacity" that is needed to meet the ISO capacity requirement increased from 25,189 MW in 2013 to 26,053 MW in 2014. Since less capacity exists than is required, all existing capacity must be acquired. These determinations of capacity assumed that two San Onofre Nuclear Generating Station generators, which have encountered problems in their new steam turbines, will be offline for 2014. This assumption offers a conservative approach, which is the best practice when planning to ensure the reliability of power.

In this decision, we also adopt an interim "flexible capacity" framework as an additional component of local capacity requirements. "Flexible need" is defined as the greatest 3-hour continuous amount of ramping power needed in each month by the California ISO to manage grid reliability. Resources will be

considered as "flexible capacity" if they can sustain or increase output during the hours of the ramping period of "flexible need."

We determine, however, that there is no compelling need to adopt a flexible capacity requirement for the 2014 Resource Adequacy (RA) year, as the likely increased ratepayer costs of such a requirement are not justified given that the ISO has not shown a likelihood of a shortage of flexible capacity for next year. The ISO, however, has shown a reasonable likelihood that there will be a need for additional flexible capacity for 2015 through 2017, due to a combination of plant closures and additional less-flexible capacity, and we set those requirements in proceedings over the next year. We will also revisit this flexible capacity requirement for 2018 and beyond.

To help determine flexible capacity need in 2015 through 2017, we impose reporting requirements over the next year in advance of 2015 implementation of a flexible capacity requirement. Among other things, we require Local Serving Entities (LSEs) to submit updated 2014 RA filings that provide information on the available flexible capacity in each LSE's portfolio as a basis for determining 2015 flexible capacity requirements. In the upcoming year, there will be workshops and further proceedings to refine the flexible capacity requirement to go into effect in 2015. The inquiry will consider how to best provide so a wide range of use-limited, preferred, and other resources can qualify to meet flexible capacity needs.

Is proceeding is closed.

2. Background

Pub, Util. Code Section 380 (as amended by Stats. 2008, ch. 558, Sec. 13, effective January 1, 2009)[1] requires that "the Commission, in consultation with the California Independent System Operator[2], shall establish resource adequacy [RA] requirements for all load serving entities." The statute establishes a number of objectives for the Commission to achieve with the program, including development of new generating capacity and retention of existing generating capacity, equitable allocation of the cost of generating capacity, and minimization of enforcement requirements and costs. Section 380 (j) defines "load serving entities" for purposes of this section as "an electrical corporation, electric service provider, or community choice aggregator."

Based on the statutory language, the Commission's Resource Adequacy (RA) program and its requirements apply to all load serving entities (LSEs) under our jurisdiction. Certain small or multi-jurisdictional LSEs are subject to different RA requirements which are more appropriate to their situations than those described in this order.

This proceeding was divided into two phases. Phase One considered local capacity procurement obligations for 2013 applicable to Commission-jurisdictional electric LSEs and several proposed RA program refinements, resulting in Decision (D.) 12-06-025.

An *Assigned Commissioner's Ruling and Scoping Memo* (Scoping Memo), issued on December 6, 2012, identified the issues to be considered in Phase Two

---

[1] All subsequent statutory references are to the Pub. Util. Code unless stated otherwise.

[2] The California Independent System Operator is abbreviated herein as either ISO or ISO.

of this proceeding as well as the procedure and schedule for their consideration. Today's decision in Phase Two determines local capacity procurement obligations for 2014 applicable to Commission-jurisdictional electric LSEs and sets further RA program refinements. The major refinement adopted is the establishment of a flexible capacity program as part of the RA requirement.

The Commission's Energy Division facilitated workshops on RA program refinement issues[3] on January 23 and March 20, 2013. A summary of the January workshop was transcribed and is on the record. Those issues from the Scoping Memo not resolved herein remain in the scope of the proceeding, which continues.

A Request for Evidentiary Hearings was filed by Sierra Club and TURN on March 7, 2013.[4] On March 20, 2013, a Prehearing Conference was held to consider the Request, among other matters. Per the instructions of the Administrative Law Judge (ALJ), an Amended Request was filed on March 28, 2013. Parties were authorized to file comments on all Phase Two issues and on the Amended Request on April 5, 2013, with replies on April 15, 2013. The Amended Request is denied, as discussed below.

Comments on the Phase Two issues were filed by Alliance for Retail Energy Markets (AReM); Brookfield Renewable Energy Partners LP; Calpine Corporation (Calpine); California Independent System Operator (ISO); California Energy Storage Alliance (CESA); California Large Energy Consumers Association (CLECA); California Wind Energy Association (CalWEA); Center for

---

[3] Excluding the 2014 local capacity requirements.

[4] This was the final date for filing such a request, as determined in the Phase Two Scoping Memo.

Energy Efficiency and Renewable Technologies (CEERT); City and County of San Francisco (CCSF); Clean Coalition; Distributed Energy Consumer Advocates (DECA); Division of Ratepayer Advocates (DRA); EnerNOC, Inc. (EnerNOC); Independent Energy Producers Association (IEP); Large-Scale Solar Association (LSA); Marin Energy Authority (MEA); Montauk Energy; NRG Energy, Inc. (NRG); Ormat Technologies (Ormat); Pacific Gas and Electric Company (PG&E); Sierra Club; Shell Energy North America (US), L.P. (Shell); Southern California Edison Company (SCE); San Diego Gas & Electric Company (SDG&E); The Utility Reform Network (TURN); Vote Solar; and Western Power Trading Forum Impose reporting requirements (WPTF).

3. Local RA for 2014

This decision first adopts the amount of local RA needed to meet capacity needs in 2014.

3.1. 2014 Local Capacity Requirements Study

D.06-06-064 determined that a study of Local Capacity Requirements (LCR) performed by the ISO would form the basis for this Commission's local RA program. The ISO conducts its LCR study annually, and this Commission resets local procurement obligations each year based on the ISO's LCR determinations. Following a stakeholder process, the ISO posted its "2014 Local Capacity Technical Analysis, Final Report and Study Results" (2014 LCR Study) on its website, served notice of the report's availability, and filed it with the Commission on May 1, 2013. No comments were filed on the ISO Study.

The ISO states that the assumptions, processes, and criteria used for the 2014 LCR Study were discussed and recommended in a stakeholder meeting, and that, on balance, they mirror those used in the 2007 through 2013 LCR studies. The ISO identified and studied capacity needs for the same ten local

areas as in previous studies: Humboldt, North Coast/North Bay, Sierra, Greater Bay, Greater Fresno, Big Creek/Ventura, Los Angeles (LA) Basin, Stockton, Kern, and San Diego-Imperial Valley.

D.06-06-064 determined that the reliability level associated with Option 2 as defined in the 2007 LCR study should be applied as the basis for local procurement obligations for that year. The Commission stated that "[w]hile we expect to apply Option 2 in future years in the absence of compelling information demonstrating that the risks of a lesser reliability level can reasonably be assumed, we nevertheless leave for further consideration in this proceeding the appropriate reliability level for Local [resource adequacy requirements] for 2008 and beyond." (D.06-06-064 at 21.) Each of the RA LCR decisions in the last five years adopted Option 2 as recommended by the ISO for 2008 through 2013 local procurement obligations. There is no evidence or recommendation before us suggesting that assumption of the reduced reliability associated with Option 1 is reasonable for 2014. We therefore affirm the continued application of Option 2 to establish local procurement obligations for 2014.

For 2014, the ISO has performed an additional analysis which was not done in previous years. For the 2014 LCR results for LA Basin and San Diego local areas, the ISO analyzed three different scenarios for the availability of the SONGS units during 2014: 1) two SONGS units are available, 2) one SONGS unit is available at 70% power, and 3) no SONGS units are available. At this time the ISO considers that the most likely scenario for 2014 is the "no SONGS" scenario.

The ISO states that it will continue to monitor the situation and may change this assumption before the 2014 LCR allocations are released to LSEs.[5]

We will adopt the ISO's recommended "no SONGS" scenario.[6] This scenario is the most conservative scenario, and thus the most consistent with the policy of ensuring reliability. We are adopting this scenario solely for 2014 RA purposes; we are not intending to make any statement about the likelihood of any SONGS units operating in 2014.

Overall, in the "no SONGS" scenario, the ISO reports that LCR needs have increased by more than 1,500 MW or about 6% from 2013 to 2014. The LCR needs have decreased in the following areas: North Coast/North Bay and Valley Electric Association (due to downward trend for load) and in Humboldt and Kern (due to downward trend for load and due to capacity made available by new transmission projects). The LCR needs have increased in Sierra, Bay Area, Fresno, and LA Basin due to load growth; Stockton due to load growth and delay in development of transmission projects. The San Diego LCR needs have slightly increased due to load growth and significantly increased due to the absence of SONGS.[7]

---

[5] ISO Local Capacity Technical Analysis Final Report and Study Results, filed May 1, 2013, at 83.

[6] No Party filed comments on the ISO's final LCR study or commented on 2014 scenarios for SONGS availability

[7] ISO Local Capacity Technical Analysis Final Report and Study Results, filed May 1, 2013, at 3.

2014 Local Capacity Requirements									
	Qualifying Capacity			2014 LCR Need Based on Category B			2014 LCR Need Based on Category C with Operating Procedure		
Local Area Name	**QF/ Muni (MW)**	**Market (MW)**	**Total (MW)**	**Existing Capacity Needed**	**Deficiency**	**Total (MW)**	**Existing Capacity Needed****	**Deficiency**	**Total (MW)**
Humboldt	70	173	243	145	0	**145**	195	0	**195**
North Coast / North Bay	150	771	921	623	0	**623**	623	0	**623**
Sierra	1288	762	2050	1414	0	**1414**	1803	285*	**2088**
Stockton	212	392	604	354	25*	**379**	446	255*	**701**
Greater Bay	1336	6280	7616	3747	0	**3747**	4423	215*	**4638**
Greater Fresno	318	2510`	2828	1857	0	**1857**	1857	0	**1857**
Kern	613	64	677	421	14*	**435**	421	41*	**462**
LA Basin	2242	9547	11789	10063	0	**10063**	10430	0	**10430**
Big Creek/ Ventura	1112	4206	5318	2156	0	2156	2250	0	**2250**
San Diego-Imperial Valley	200	4506	4706	3605	167*	**3772**	3605	458*	**4063**
Total	**7541**	**29211**	**36752**	**24385**	**206**	**24591**	**26053**	**1254**	**27307**

2013 Local Capacity Requirements									
	Qualifying Capacity			2013 LCR Need Based on Category B			2013 LCR Need Based on Category C with Operating Procedure		
Local Area Name	**QF/ Muni (MW)**	**Market (MW)**	**Total (MW)**	**Existing Capacity Needed**	**Deficiency**	**Total (MW)**	**Existing Capacity Needed****	**Deficiency**	**Total (MW)**
Humboldt	55	162	217	143	0	**143**	190	22*	**212**
North Coast / North Bay	130	739	869	629	0	**629**	629	0	**629**
Sierra	1274	765	2039	1408	0	**1408**	1712	218*	**1930**
Stockton	216	404	620	242	0	**242**	413	154*	**567**
Greater Bay	1368	6296	7664	3479	0	**3479**	4502	0	**4502**
Greater Fresno	314	2503	2817	1786	0	**1786**	1786	0	**1786**
Kern	684	0	684	295	0	**295**	483	42*	**525**
LA Basin	4452	8675	13127	10295	0	**10295**	10295	0	**10295**
Big Creek/ Ventura	1179	4097	5276	2161	0	**2161**	2241	0	**2241**
San Diego-I mperial Valley	158	3991	4149	2938	0	**2938**	2938	144*	**3082**
Total	**9830**	**27632**	**37462**	**23376**	**0**	**23376**	**25189**	**580**	**25769**

* ISO note: No local area is "overall deficient." Resource deficiency values result from a few deficient sub-areas; and since there are no resources that can mitigate this deficiency, the numbers are carried forward into the total area needs. Resource deficient sub-area implies that in order to comply with the criteria, at summer peak, load may be shed immediately after the first contingency

** ISO note: Since "deficiency" cannot be mitigated by any available resource, the "Existing Capacity Needed" will be split among LSEs on a load share ratio during the assignment of local area resource responsibility

We determine that the ISO's final 2014 LCR Study with the "no SONGS" scenario should be approved as the basis for establishing local procurement obligations for 2014 applicable to Commission-jurisdictional LSEs.

3.2. Continuation of the Local RA Program

The RA program includes both "system" and "local" RA requirements. Each LSE must procure sufficient RA capacity resources to meet both obligations. "System" RA requirements are calculated based on an LSE's "system" peak load

plus a 15% planning reserve margin. "Local" RA requirements are calculated based on the ISO's Local Capacity Technical Analysis, and are allocated to each individual Commission-jurisdictional LSE by the Commission. Each LSE must then procure sufficient RA capacity resources in each Local Area to meet their obligations.

D.06-06-064 adopted a framework for local RA and established local procurement obligations for 2007 only. D.07-06-029, D.08-06-031, D.09-06-028, D.10-06-036, D.11-06-022, and D.12-06-025 established local procurement obligations for 2008, 2009, 2010, 2011, 2012, and 2013, respectively.

The local RA program and associated regulatory requirements adopted in those decisions shall be continued in effect for 2014 and thereafter until changed, subject to the 2014 LCRs and procurement obligations adopted by this decision.

In previous decisions, we delegated ministerial aspects of RA program administration to the Commission's Energy Division. Once again, Energy Division should implement the local RA program for 2014 in accordance with the adopted policies.

4. Flexible Capacity Framework

The RA proceedings to date have focused upon providing for reliability needs for the upcoming compliance year, in order to ensure that the Commission's efforts to ensure reliable grid operation succeed. To that end, we adopt local capacity requirements each year with technical input from the ISO. For example, in this year's decision we adopt local capacity requirements for 2014. The RA proceedings have also been a forum to refine the RA program; for example, in past years the RA proceeding has improved ways of determining which and how resources count for local reliability purposes or to provide a penalty system for non-compliance with RA requirements.

In consultation with the ISO and with other stakeholders, we recognize that there may be a need for more specificity in procurement for RA purposes. We can accomplish this through defining "flexibility," so that LSEs can procure resources to meet RA needs in ways which more precisely meet changing reliability needs.

Reliability needs are changing over time because of a number of factors. First, recent State Water Resources Control Board rules now require once-through cooling (OTC) plants to shut down or significantly change their operations before the previously-expected retirement dates for these plans. This rule change necessitates contracting for resources to replace potential lost capacity in the local areas, which are presently dependent on these OTC plants for local reliability. Per the ISO, this is particularly true in the LA Basin, Big Creek/Ventura, and San Diego areas.

Second, the increased flexibility requirements due to the state's 33% Renewable Portfolio Standard (RPS) might change the reliability characteristics of the grid over the next several years. Some renewable resources have different operating characteristics than many traditional non-fossil based resources—for example, wind or solar resources are typically more intermittent in nature and subsequently they have less operational predictability and flexibility than gas-fired power plants. Going forward, we expect that our continued standard of high reliability of the grid will require a more complex and flexible fleet of generating resources as the amount of generation that is non-dispatchable increases and begins to challenge ISO grid management. The changing supply due to OTC restrictions and the increased penetration of non-dispatchable generation will necessitate changes to the way that the residual flexible and dispatchable generation is bid and operated by the ISO.

In D.12-06-025, we discussed the record in Phase One of this proceeding, where the ISO raised the issue of the need for flexible capacity to maintain grid reliability over a number of years. The ISO contended that without multi-year capacity contracts, existing flexible resources may not receive sufficient revenues from the energy and ancillary service markets to remain economically viable. They further contended that there is an operational need for the flexibility that conventional resources (i.e., gas-fired plants) provide, especially during critical ramping periods. Therefore, the ISO sought modifications to the Commission's programs to ensure that these flexible resources remain economically viable and available in order to maintain system reliability and to minimize the need for procurement through the ISO backstop procurement mechanism. The ISO also stated that if retirement of all planned OTC resources were to occur, insufficient flexibility will occur potentially as early as 2018.

In Phase Two, the ISO reiterates that it is imperative to ensure that sufficient flexible capacity is maintained on the system and is obligated to be available to the ISO to meet what will be an urgent need for flexible capacity in the very near future. Specifically, the ISO presents data (discussed at the March 20, 2013 workshop) that the flexibility capacity need is largest in off-peak months, and will need to make up a greater percentage of the RA fleet in off-peak months. Further, ISO data shows that flexible capacity needs increase by about 800-1000 MW year over year in non-peak months, with this increase almost exclusively caused by 3-hour ramp arising from existing load net of increasing solar generation, not caused by overall increase in peak load.

According to ISO data, the most extreme ramps grow over time, causing increased ramping needs.[8]

In this proceeding, we will focus on defining which flexible attributes can or should be included for RA resources one year out. There are two full proposals in the record to address the changing flexible attribute needs for local reliability. We address each in turn.

4.1. The Joint Parties' Proposal

D.12-06-025 directed parties to define "flexibility" and develop implementation details of incorporating flexible capacity in the 2014 RA program.

On October 29, 2012 the ISO, SCE, and SDG&E informally issued "Resource Adequacy and Flexible Capacity Procurement Joint Parties' Proposal" (Joint Parties' Proposal) to the service list. The Joint Parties' Proposal was attached in the Phase Two Scoping Memo. Parties filed initial comments on this proposal on December 26, 2012. The Joint Parties presented their proposal at the January 23, 2013 workshop, and an outline of the proposal was placed in the record in the transcription of the workshop. The Joint Parties' Proposal was also discussed at the March workshop. Parties were given the opportunity to comment on April 5, 2013 and to reply on April 15, 2013.

[8] ISO April 5, 2013 Comments, Attachment 2, Slide 16.

The Joint Parties' Proposal consists of several recommendations for implementing a flexible capacity procurement framework:

- The Commission should establish an interim three year (2014 - 2017) flexible capacity program integrated into the existing RA program and modeled after the ISO's existing annual local capacity needs assessment obligation. The ISO will study and notify local regulatory authorities (both Commission and non-Commission jurisdictional entities) of its flexible capacity needs for the upcoming RA compliance year, and the Commission will set a flexible capacity procurement obligation for its jurisdictional LSEs.
- "Flexible capacity need" is defined as the quantity of flexible capacity identified needed by the ISO to meet ramping and contingency reserves. The flexible capacity need for a given month is calculated by adding together the highest three hour continuous ramp in each month (in other words, the largest change in demand over a three hour period in each month) and a contingency factor. The contingency factor is the greater of the loss of the most severe single contingency (often, the Diablo Canyon nuclear power plant), or 3.5% of expected peak load for that month. There would also be an error factor calculated in the future. The flexible capacity need is also shown in the following formula:

  NeedMTHy= Max[(3RRHRx)MTHy]+ Max(MSSC, 3.5%*E(PLMTHy)) + ε

  Where,
  - MTHy = Month y
  - Max[(3RRHRx)MTHy] = Largest three hour continuous ramp starting in hour x for month y
  - E(PLMTHy)) = Expected peak load in Month y
  - MSSC = Most Severe Single Contingency
  - Max (MSSC, 3.5%*E(PLMTHy)) = maximum of the two

  ε = Annually adjustable error term to account for uncertainties such as load following.
- For resources, "flexibility" means the resource must be able to

ramp up or sustain output for 3 hours.

- In addition to the must-offer obligations that currently apply to RA resources, a must-offer obligation for flexible resources would require ISO-jurisdictional RA resources to submit economic bids into the ISO's real-market between 5AM and 10PM.[9]
- For procurement purposes, the flexible capacity of a resource must remain "bundled" with the generic capacity for a specific megawatt; therefore, flexible capability of that megawatt of capacity cannot be sold to another LSE as a separate product.
- The proposal recommends adopting a "Differentiated Capacity Option" for counting how a resource's flexible capacity quantity would satisfy a flexible capacity procurement obligation. The Differentiated Capacity Option requires that a resource keep its generic and flexible capacity bundled. However, capacity that is inflexible (such as megawatts associated with Pmin[10]) must be sold as generic capacity, not flexible capacity. Any flexible capacity must-offer obligation would only apply to the flexible portion of the capacity.
- The proposal also contains counting conventions for various resources, e.g., thermal resources, multi-stage generation, use-limited resources. Counting conventions are used to determine the Effective Flexible Capacity (EFC) of resources relative to a resource's Net Qualifying Capacity (NQC).

---

[9] It is important to note that this must-offer requirement would not go into effect until an ISO must-offer obligation tariff for flexible resources becomes effective. This is not expected to occur before 2015.

[10] Pmin is the minimum operating level for a power plant. Pmax is the maximum operating level for a power plant.

In its comments on the Workshop and Energy Division Proposal, filed April 5, 2013, the ISO proposes the following flexible capacity requirements for 2014:

Month	Flexible Capacity Requirement (MW)
Jan	9406
Feb	8857
Mar	8622
Apr	7528
May	6508
Jun	6883
Jul	6959
Aug	7793
Sep	7136
Oct	8115
Nov	9108

To implement the Joint Parties' Proposal, the ISO requests that the Commission modify the RA program in order to implement a flexible capacity requirement for the 2014 resource adequacy compliance year. Specifically, the ISO calls for the Commission to:

- establish flexible capacity procurement obligations for all Commission-jurisdictional load serving entities for 2014;
- accept the methodology the ISO used to determine the monthly flexible capacity requirement, and allocate the monthly obligation to its jurisdictional LSEsbased on the ISO's calculation of their contribution to peak load ratio share;
- adopt the flexible capacity requirement for 2014 as calculated and proposed by the ISO in this proceeding;
- adopt the differentiated capacity proposed by the Joint Parties and Energy Division;

- adopt the "bundling" principle linking flexible and generic capacity and explicitly state that a resource's effective flexible capacity cannot exceed its net qualifying capacity;
- adopt the formulas and criteria for counting the effective flexible capacity of resources (except hydro) toward meeting flexible capacity procurement obligations as set forth in the Joint Parties Proposal;
- adopt the PG&E proposal for qualifying and counting hydro resources' effective flexible capacity toward meeting flexible capacity procurement obligations;[11] and
- require each Commission-jurisdictional load serving entity to make a 90% year-ahead and 100% month-ahead showing of flexible capacity for each month of the compliance year.[12]

4.2. The Energy Division Proposal

The Energy Division presented a proposal for discussion at the January 23, 2013 Workshop, which was included in the record as an attachment to the workshop transcript. An ALJ Ruling on March 11, 2013 included a revised Energy Division proposal, which was discussed at the March workshop. Parties were given the opportunity to comment on the Energy Division revised proposal in the April 5 and 15 comments and replies.

The Energy Division's revised proposal is mostly complementary to the Joint Proposal and focuses on implementation details of the flexible capacity procurement framework in the RA program that were not addressed in the Joint Proposal (is this true. If so, it explain complementary.].

---

[11] On this point the ISO differs in its comments from the Joint Parties' Proposal.

[12] ISO April 5, 2013 Comments at 2 – 3.

The Energy Division revised proposal presents the following implementation framework for flexible capacity procurement in the RA program:

- By May of each year the ISO will issue flexible capacity study together with the LCR study, which lists flexible capacity need for each month of the year ahead. Stakeholders will vet the studies and submit comments. Each June, the Commission will adopt final study results, which consists of aggregate monthly flexible obligations along with the LCR.
- An LSE's flexible procurement obligation is calculated as follows (consistent with how system and local RA obligations are allocated):

  LSE monthly flexible capacity procurement obligation = [(LSE monthly coincident peak load)/ (ISO monthly coincident peak load)]* Aggregate monthly system flexibility requirements.
- Twice in each year, LSEs would receive reallocations of their flexible procurement obligations, on the same timeline as the reallocations of local RA obligations. Staff will adjust the flexible procurement obligations based on load migration twice a year similar to the local RA true up.
- Beginning in 2014, all qualified flexible resources should submit bids in the market between 5 AM and 10 PM for the flexible portion of their capacity. Beginning in the 2015 compliance year, Energy Division expects that the ISO will have a tariff in place such that a resource procured and listed in the flexible "bucket" would be subject to new ISO tariff provisions.
- The Differentiated Capacity Option [either fine or cite to definition] should be used for counting how a resource's flexible capacity quantity would satisfy a flexible capacity procurement obligation.
- The proposal supports PG&E's approach to establishing eligibility of qualified flexible resources and the counting convention to count flexibility within a hydro resource. A

hydro resource will qualify as flexible if it has the physical storage capability to provide energy equivalent to PMax for 6 hours. The proposed EFC should not exceed the NQC or the PMax of the resource. LSEs would nominate some measure of the EFC in the annual and monthly Flex RA showings at lower values, based on actual water conditions. The Flex RA NQC values would be static; the specific capacity counted in showings by LSEs could differ monthly.

- A generator may choose not to sell the flexible portion and instead sell the resource's entire capacity as generic capacity. However, should a generator decide to sell any flexible capacity from its resource then it must sell the entire capacity as generic capacity.

The Energy Division revised proposal foresees continued evaluation of penalty and enforcement issues associated with flexible capacity procurement during this proceeding. No enforcement options are proposed in 2014.

4.3. Parties' Positions (other than Joint Parties) Regarding Flexible Capacity Framework Policy

This section summarizes parties' positions regarding the policy question of whether the Commission should adopt a flexible capacity framework at this time. Parties' comments regarding certain details of any framework that is adopted are discussed in another section. In general, parties' comments fall into three categories:

1) Adopt a flexible capacity requirement now, to be effective for the 2014 RA year (this position is taken by each of the Joint Parties and PG&E);
2) Adopt a flexible capacity framework now, to be effective in the 2015 RA year, and use the next year to work out certain details (this position is taken by most other commenters); and

3) Do not adopt a flexible capacity requirement or framework at this time (this position is taken by MEA and EnerNOC).

PG&E recommends that the Commission should adopt the JointParties' Proposal for 2014, as modified by the Energy Division Proposal and two further modifications. First, the adopted framework should include non-hydro use-limited resources within the category of facilities that are eligible to offer flexible RA capacity. Second, the adopted framework should not adopt the Energy Division-proposed explicit contractual obligation to provide flexibility, which PG&E contends is unneeded because flexible RA resources will have to meet the flexible RA Must Offer Obligation (MOO) requirements in the ISO tariff. PG&E recommends that the flexible component of the RA program should be adopted for implementation for the 2014 procurement year.[13]

DRA supports adoption of a flexible capacity procurement framework similar to the two proposals. However, DRA opposes mandatory flexible capacity procurement obligations for each LSE in 2014 because DRA contends it would be premature to impose such an obligation before establishing a definite need for flexibility and rules for full resource participation, and because ratepayers should not pay for capacity that is not yet needed.[14] DRA states that March 20, 2013 ISO workshop data indicated that flexible capacity availability in 2014 exceeds projected needs even in extreme cases through 2016, and exceeds projected needs by more than 10,000 MW even without reflecting the ability of

[13] PG&E April 5, 2013 Comments at v.

[14] DRA April 5, 2013 Comments at 1 – 2.

any demand response resources to contribute towards flexible capacity needs.[15] DRA recommends that the Commission direct LSEs to submit amended 2014 RA Filings that provide information on the available flexible capacity in each LSE's respective portfolios, to obtain critical information that will better inform a future flexible capacity mechanism.

TURN opposes adoption of either proposal for the 2014 RA compliance year. TURN has two principal concerns: 1) the record before the Commission regarding key aspects of the proposals is inadequate; and 2) no need has been shown that requires implementation of a flexible capacity forward procurement requirement for the RA compliance year of 2014. As a result, TURN calls for addressing these issues through a more rigorous record-development process to allow adoption of such a proposal, if the necessary showing is made, for the RA compliance year of 2015.[16]

MEA believes there is no need to modify the RA program to include a forward capacity requirement for 2014 because ISO data shows that the stock of existing resources with flexible ancillary service capabilities exceeds the maximum ISO projected need for such flexibility in 2014-2016 by over 15,000 MW.[17] MEA also contends that the Joint Parties' and Energy Division proposals would increase consumer costs with no system benefit.[18] MEA calls for the ISO to explore market-based solutions in its energy or ancillary services products to solve its flexibility concerns by encouraging offers from capable

---

[15] DRA April 5, 2013 Comments at 7 – 8.

[16] TURN April 5, 2013 Comments at 1 - 2.

[17] MEA April 5, 2013 Comments at 2 - 3.

[18] MEA April 5, 2013 comments at 5.

resources, rather than altering the RA capacity procurement regulatory framework.

CCSF contends it is unnecessary for the Commission to adopt flexible capacity procurement requirements for LSEs for the 2014 RA compliance year, because there are a number of issues necessary to implement a new flexible capacity requirement for next year. These include: treatment of existing capacity contracts with generators that have flexible capacity to sell; treatment of use-limited resources; and rules for instances of non-compliance. CCSF claims ISO data indicates that there would be no adverse impact to reliability by waiting to impose a requirement until the 2015 RA compliance year.[19] Finally, CCSF agrees with PG&E's proposal regarding how flexible hydro resources should be required to submit economic bids.[20]

CEERT criticizes both proposals in assuming that all flexible needs of the grid must come from only a specific subset of fossil resources.[21] CEERT believes that (if a need is established) the Commission should address how best to identify and procure flexible capacity resources in a manner consistent with the Commission's Loading Order.[22]

Vote Solar and Sierra Club[23] contend there is no need for a flexible capacity procurement program in 2014, and instituting an interim program in 2014

---

[19] CCSF April 5, 2013 Comments at 1-2.

[20] CCSF April 5, 2013 Comments at 3.

[21] With the exception of the Energy Division proposal regarding hydro resources.

[22] CEERT April 5, 2013 Comments at 5.

[23] Vote Solar and Sierra Club filed joint comments on December 26, 2012 and separate comments on April 5, 2013.

provides, at best, only speculative benefits. They claim that the Commission lacks necessary information about the costs of implementing a flexible capacity program, which they estimate could in theory cost in the billions of dollars.[24] Vote Solar argues the Commission should not adopt a flexible capacity program until it is satisfied that the design and operation of the flexible capacity program will expand rather than limit the development, implementation and participation of more preferred resources.

NRG states that ISO data shows it is unlikely that the need for flexibility would constrain, or even affect, RA procurement for 2014. However, NRG points out that the ISO projects a significantly different net load shape for 2015 – one in which the need for flexibility sharply increases. NRG supports implementing flexibility requirements into the RA program on a trial basis for RA compliance year 2014 to allow all parties to gain experience with these requirements.[25]

CalWEA supports procuring flexibility needs as part of the RA program, and does not oppose a limited implementation of the program in 2014. CalWEA has serious reservations whether the proposals presented to date provide reasonable, rigorous calculations of the quantities of flexible resources that are needed and that will be available from existing resources, including preferred resources such as wind, solar, and demand response.[26]

[recheck list of commenters – LSA was not included] LSA is concerned that neither proposal is sufficiently developed to allow the Commission to make an

---

[24] Vote Solar and Sierra Club December 26, 2012 Comments at 10.

[25] NRG April 5, 2013 Comments at 2-3.

implementation decision in June 2013. LSA's main concern is that the Commission could move ahead with the implementation of a poorly designed program, which may not attract the desired resources and could be very difficult to unwind and correct. LSA states that the ISO's updated data shows that projected ramping needs are reduced in the shoulder months both for 2014 and in the following years.[27] LSA contends a key gap in both proposals is an overly restrictive definition of what qualifies as a flexible resource, and that a metric is needed that will allow preferred resources (including solar) to participate.[28]

EnerNOC claims the flexible capacity resources available to the ISO, excluding those with limitations, are still in excess of the ramping needs identified in 2014. EnerNOC does not support adoption of an annual flexible capacity requirement at this time, as adequate amounts of flexible capacity already exist and are available to the ISO through the RA requirement for most months of the year through 2016, with only a marginal need for flexible capacity between November and March of 2015 and 2016.[29] Additionally, EnerNOC takes exception to the rigid definition of "flexibility" and other requirements imposed by both proposals that would limit eligibility to specific generation types and exclude demand response. EnerNOC contends that this flaw requires that the Commission reject both proposals.[30]

---

[26] CalWEA April 5, 2013 Comments at 2.

[27] LSA April 5, 2013 Comments at 2 – 3.

[28] LSA April 5, 2013 Comments at 4.

[29] EnerNOC April 5, 2013 Comments at 9 – 10.

[30] EnerNOC April 5, 2013 Comments at 3 - 4.

Shell opposes adoption of a flexible capacity procurement obligation for RA compliance year 2014. Shell recommends that the Commission in the next year determine the need for flexible capacity resources, the type of program that should be adopted to ensure the availability of flexible capacity resources, the definition of a flexible capacity product, and enforcement protocols.[31]

CLECA contends that ISO data does not support a finding of need in 2014. CLECA poses several key questions that it contends must be answered before the Commission adopts a flexibility requirement. First, when is the additional flexibility needed? Second, do the proposals appropriately address the full and appropriate array of resources that can provide flexibility? Third, what is the best way to pay for procuring the needed flexibility—is it through a capacity payment, energy and ancillary services payments, or both? Fourth, what are the challenges of initiating a flexible capacity requirement for RA compliance year 2014?[32]

IEP recommends that the Commission implement a flexible capacity reporting program, rather than imposing a flexible capacity requirement at this time. IEP sees 2014 as a trial run for the flexible capacity program, with a basic framework in place, but no penalties imposed on LSEs or resources for failures to meet obligations associated with the program. IEP suggests the ISO calculate the flexible capacity needs for 2014 and allocate an appropriate share of that need to each LSE. After completing their initial procurement of System and Local RA capacity for 2014, IEP recommends LSEs report to the Energy Division the

---

[31] Shell April 5, 2013 Comments at 1 – 2.

[32] CLECA April 5, 2013 Comments at 3.

amount of EFC associated with the Local and System RA capacity they procure to meet their 2014 RA obligations, compared to the flexible procurement obligation allocated to them by the ISO.[33]

Like IEP, WPTF recommends implementing flexibility requirements in 2014 without a must-offer obligation and without a specific compliance obligation, with 2014 as a "trial run" program year. WPTF recommends the ISO and Commission provide market participants with the overall level of the 2014 flexible requirements, an allocation of those requirements to the LSEs, and the amount of Net Qualifying Capacity from existing resources that can meet the flexible requirements. For the trial run, individual LSEs' 2014 RA compliance would be predicated upon meeting the system and local requirements as in past years. When LSEs submit their 2014 RA compliance showings, those showings would be analyzed to see if the 2014 procurement actually met the flexible requirements. For the 2014 trial run, there would be no specific must-offer obligation imposed on suppliers, nor any sanctions or other penalties imposed on LSEs whose RA portfolios do not meet their flexible requirement allocation.[34]

CESA calls for the both flexible RA capacity procurement proposals to be rejected because they both unreasonably discriminate against participation by preferred resources and energy storage resources. Instead, CESA advocates for a framework to be established to determine how flexible RA capacity procurement obligations should be met by LSEs. This framework should explicitly address and incorporate preferred resources and all forms of limited resources, which

---

[33] IEP April 5, 2013 Comments at 3 – 4.

[34] WPTF April 5, 2103 Comments at 3 – 4.

include all forms of energy storage resources. CESA calls for a future flexible RA capacity procurement program that allows for the full nondiscriminatory participation of preferred resources and energy storage resources.[35]

Calpine supports the implementation of flexible capacity procurement requirements and related modifications to the RA program to preserve the availability of resources that possess the operational flexibility needed to satisfy future reliability requirements and integrate intermittent renewable generation. However, in their current form, Calpine claims both proposals lack adequate resource counting rules and uniform enhanced must-offer obligations for all resources. To address these deficiencies, Calpine recommends the proposals should be modified to: 1) eliminate resource counting conventions that arbitrarily differentiate resources based on cold start times; 2) adjust the methodology for calculating flexibility to account for the fact that combined cycle gas turbines rarely start cold; 3) discount the flexible capacity value of resources that (i) are incapable of starting within the timeframe covered by the ISO Short-Term Unit Commitments, or (ii) are generally uneconomic to operate; and 4) include an enhanced must-offer obligation that applies uniformly to all use limited resources.[36]

Clean Coalition recommends that the Commission not impose a flexible capacity requirement before 2015. Instead, it recommends that the Commission ensure as a matter of policy that preferred resources are fully recognized for their ability to contribute to system needs, including flexible or scheduled ramping,

---

[35] CESA April 5, 2013 Comments at 3.

[36] Calpine April 5, 2013 Comments at 2.

including the potential to use these resources in combination without requiring *a priori* aggregation of such resources. Further, Clean Coalition advocates the approach to inclusion of use limited resources developed by PG&E for obtaining flexible capacity from hydro resources, for all such resources as appropriate.[37]

DECA opposes adoption of a flexible capacity requirement at this time. DECA recommends the Commission take the hearing request filed by Sierra Club/TURN (discussed in detail below), combined with issues related to demand response and RA, as a foundation for an inquiry in the 2015 RA compliance year OIR to begin as soon as possible. DECA recommends this proceeding also address the role of distributed generation deliverability, curtailment, the modification of existing RPS contracts, storage, and the integration of RA changes with procurement practices for a June, 2014 Commission decision.[38] DECA also recommends further consideration of its "Full Credit" proposal that envisions a more balanced look at the role of emerging and traditional resource on the electrical grid, which DECA intends to more fully lay out later in this proceeding.[39]

Ormat contends that both proposals would allocate the flexible capacity obligation based on each LSE's load share, without initially accounting for the LSE's net impact on the need for flexible capacity. As a result, LSEs that meet their RPS obligations with base-load resources (that do not contribute to intermittent resource ramps) are treated the same as LSEs that use intermittent resources to meet their obligation. Ormat contends this creates a strong

---

[37] Clean Coalition April 5, 2013 Comments at 2.

[38] DECA April 5, 2013 Comments at 3 – 4.

disincentive for procuring more stable and predictable renewable resources, should those resources be priced higher, that reduce flexibility requirements and associated costs. Ormat contends it is very important that the cost of flexible capacity, versus system capacity, be reported to the Commission so it can be incorporated into RPS procurement decisions.[40]

4.4. Discussion

4.4.1. Sierra Club/TURN Request for Evidentiary Hearings

In their Amended Request filed March 28, 2013, Sierra Club/TURN contend that evidentiary hearings are required to provide a complete record and resolve remaining factual issues prior to Commission consideration of a proposed flexible capacity procurement regime. Specifically, Sierra Club/TURN claim that the Joint Parties' Proposal included a graph (known as the "duck graph" or "duck curve" for its shape) that purports to show dramatic increases in flexible capacity needs with increased penetration of intermittent renewable resources, and thus serves as a basis for the Joint Parties' Proposal. Sierra Club/TURN contends that there is no data to support the "duck graph." After workshops, Sierra Club/TURN report that some concerns are now resolved; however, they claim significant material factual disputes remain with regard to the flexible capability of existing resources and mechanisms to address operational flexibility for the foreseeable future.

In particular, Sierra Club/TURN cite the following specific facts which they claim are material and still require evidentiary hearings:

---

[39] DECA April 5, 2013 Comments at 13 – 17.

[40] Ormat April 5, 2013 Comments at 5.

- The ISO assumption that only dispatchable RA can be considered operationally available;
- Reductions in EFC due to OTC retirements in 2013;
- Reductions in EFC due to self-scheduling;
- Reductions from hydro; and
- Availability of imports for flexibility.

CEERT supports the Amended Request. Specifically, CEERT contends 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. CEERT concurs with Sierra Club/TURN that the ISO 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.

CLECA agrees with Sierra Club/TURN regarding areas of material disputed fact in this proceeding. CLECA argues that the information presented in support of a flexible capacity procurement requirement for compliance year 2014 has been limited and continuously changing; moreover, it is based on a series of assumptions that have not been subject to sufficient testing. CLECA admits that evidentiary hearings may not be ideal for further elucidating the need for and availability of flexible capacity for the next several years; however, CLECA believes the hearing process may provide sufficient clarity so that a settlement agreement may be reached with participation from far more parties that the proponents of the proposals.[41]

---

[41] CLECA April 5, 2013 Comments at 16.

MEA agrees with Sierra Club/TURN that evidentiary hearings are required to provide a complete record and resolve remaining factual disputes prior to Commission consideration of a proposed flexible capacity procurement regime. MEA contends the ISO has repeatedly revised the calculations and assumptions underlying the facts presented to justify the need for flexible capacity requirement and expedited consideration. Because the primary justification presented for such a material change to the existing RA program turns on these factual questions, MEA believes evidentiary hearings are needed to, at minimum, fully scrutinize and evaluate the veracity of the data the Commission must rely upon when determining whether a flexible capacity requirement should be adopted as part of the 2014 RA requirement.[42]

The ISO opposes the Amended Request. The ISO argues that there is nothing in the formal evidentiary hearing process that will lead to a better record or better result than what has already been presented and accomplished through workshops and written comments in this rulemaking proceeding. In the ISO's view, the Commission's paper hearing process provides parties the same opportunity to build a solid record, advance their respective proposals, and challenge the proposals of other parties as an evidentiary hearing, but through a forum that is better suited for comprehensive discussion and development of policy issues than a formal evidentiary hearing.

The ISO also argues that Sierra Club/TURN failed to meet the threshold for evidentiary hearings established in the Order Instituting Rulemaking (OIR) and the Phase Two Scoping Memo. The ISO details its contention that each of

---

[42] MEA, April 12, 2013 Response to Sierra Club/TURN Amended Motion at 1 – 2.

the alleged disputed material facts Sierra Club/TURN identify in support of their claim are unsupported and do not stand up under scrutiny. The ISO argues each alleged material disputed fact is instead based on misunderstandings of the ISO's flexibility assessment, raises issues with calculations that go beyond the resource adequacy compliance year under consideration in this proceeding, and/or couches policy arguments as factual disputes.

PG&E opposes the Sierra Club/TURN Amended Request as a prerequisite to the adoption of any flexible RA requirements. PG&E argues that the issues that Sierra Club/TURN identify are arguably disputed policy matters, but none represent a "material factual dispute."[43] Specifically, PG&E argues that neither the question of whether "existing mechanisms" (i.e., the current RA program, without modification) can continue to address operational flexibility requirements for the foreseeable future, nor the question of whether existing resources can address operational flexibility requirements are in significant dispute, at least for 2014.[44]

Calpine advocates rejection of the Amended Request because it believes workshops would provide a better process to constructively develop a more meaningful record than hearings.[45] WPTF also believes that the workshop approach outlined by Calpine will better serve to enhance the record, because workshops are usually more collegial, cooperative and less combative. Further, WPTF points out that if parties felt that at the conclusion of the workshop

---

[43] PG&E April 5, 2013 Comments at 15.

[44] PG&E April 5, 2013 Comments at 16.

[45] Calpine April 5, 2013 Comments at 8.

process that hearings are still needed, nothing would preclude them for making such a motion at that time.[46]

In the October 20, 2011 OIR in this matter, the Commission stated its expectation that the issues may be resolved through comments and workshops without the need for evidentiary hearings. The December 6, 2012 Phase Two Scoping Memo stated:

> At this time we do not foresee that evidentiary hearings are required to resolve Phase 2. This Ruling confirms the preliminary determination in the OIR that issues in Phase 2 of this proceeding may be resolved through a series of workshops and filed comments. It is incumbent upon any party arguing for evidentiary hearings to file a motion no later than March 7, 2013, that identifies specifically any disputed material issues of fact that the party asserts require evidentiary hearings.

As the ISO points out, since the inception of the resource adequacy program, the Commission has vetted all resource adequacy issues and received input from stakeholders on those issues through workshops and written comments. Over the years, the issues raised and proposals made have involved significant and complex changes to fundamental elements of the resource adequacy program, most of which were contested by the parties. Yet, despite the comprehensiveness of the proposed changes or their highly difficult nature, the Commission did not require evidentiary hearings for any of those matters.

It is true that the flexible capacity proposals before the Commission in this proceeding are not necessarily more complex or contentious than previous resource adequacy issues. Nevertheless, we are required to consider if

---

[46] WPTF April 15, 2013 Reply Comments at 6.

Sierra Club/TURN raises unique issues of material disputed facts which require evidentiary hearings.

We agree with the ISO that the issues raised by Sierra Club/TURN are not material and in dispute. The "duck graph" is a significant portion of the ISO's presentation, but we do not use it as the basis for our decision today. Nor will we make any findings of fact based on the other issue raised in the Amended Request. Nor will we hold evidentiary hearings simply to facilitate a settlement discussion; parties are always free to pursue this avenue on their own.

As discussed below, we do not adopt a flexible capacity requirement for RA year 2014 in this decision. In this decision we adopt a policy framework for incorporating flexible capacity needs as part of the local capacity requirements – the heart of the RA program—for LSEs. To the extent that we adopt a policy framework for inclusion of flexible capacity requirements as part of the RA local capacity requirement regime, we do not here determine levels of flexible capacity required to be procured by LSEs through the RA program for RA year 2015 and beyond. Instead, as discussed below, we generally determine that it is reasonable to incorporate flexible capacity into the RA program and adopt a specific definition of flexibility.

Because Sierra Club/TURN has not identified any disputed material issues of fact that warrant evidentiary hearings, we will deny the Amended Request. In the course of reviewing implementation of an interim flexible capacity framework for RA year 2015 and beyond, Sierra Club/TURN (and any other party) will have the opportunity to participate in fashioning refinements to the framework. A flexible capacity needs determination will be considered and determined in the Commission's expected June 2014 decision in this docket or its successor. As has occurred in every RA proceeding to date for each year's LCR

levels (without the need for evidentiary hearings), there will be notice to parties and opportunity to comment before the Commission adopts flexible capacity needs and requirements for RA years 2015 and beyond.

4.4.2. Adoption of a Flexible Capacity Framework

As we stated in D.12-06-025 at 17, no party disputes that grid operations and reliability may suffer without sufficient generation capable of being flexibly dispatched. We agreed in that decision that we need to define flexible attributes for local reliability purposes in order to ensure ongoing reliability in a changing load and supply environment.

Both the Joint Parties and Energy Division have presented worthwhile proposals intended to address the need for flexible capacity on the grid in order for the ISO to continue to operate the grid safely and reliably as increasing levels of generation from renewable, often intermittent, sources of power are operational and generating electricity. We appreciate that both proposals involved a significant effort to proactively address the potential for reliability concerns in the coming years.

In Phase One of this proceeding, both the ISO and Energy Division offered very different initial proposals for incorporating flexibility requirements into RA procurement for the 2013 RA compliance year. The initial ISO proposal focused on setting procurement targets for three types of flexibility--maximum ramp, load following and regulation. The initial Energy Division proposal focused on modifying the existing Maximum Cumulative Capacity (MCC) "buckets" to ensure that LSEs' procurement provided adequate flexibility.

The Commission did not adopt either approach for the 2013 RA compliance year. In D.12-06-025 at 19 -21, the Commission stated:

We agree with Energy Division, the ISO and all parties that there is no immediate need to impose flexibility requirements in 2013. However, we must take steps to ensure that the grid has sufficient flexible resources in the future. TURN echoes the sentiments of most parties in its comments: "(t)he Commission can reasonably defer implementing any flexible capacity requirement beyond the 2013 RA compliance year. However…the Commission should begin addressing possible flexible capacity needs and policies in the very near future with the goal of assessing if such requirements should be imposed for the 2014 RA compliance year."

We will immediately begin the effort to finalize a framework for filling flexible capacity needs in this proceeding. Our intent is to adopt a framework by or near the end of 2012, for implementation in the 2014 RA compliance year.

D. 12-06-025 continued:

At this time, we will provide direction to allow parties to build upon the efforts to date of the ISO and the Energy Division. We agree with SCE's comments on this point: "For a structure to remain commercially viable, we should strive to find the simplest definition of 'flexibility' possible that will provide the CAISO a reliable grid." SCE continues: "Otherwise, we risk making capacity procurement unnecessarily difficult and costly, and the marginal reliability benefits of a complex vs. simple definition of 'flexibility' will be too expensive to rationally justify."

With the goal of ensuring reliability without undue complexity in mind, parties should work towards clearly defining flexibility in terms of specific operational characteristics of generators that the Commission should consider when authorizing new generation. Specifically, parties should consider:

- whether flexibility should be defined variably in intervals or if a consistent definition is more appropriate;
- whether flexibility should be based on essential key characteristics or if a broad definition better serves the

> purpose; and whether flexibility should be defined as a choice between operational characteristics such as magnitude of need, speed of response and contractual availability.[47]

The Joint Parties and Energy Division made significant progress toward the goals articulated in D.12-06-025. Both approaches to incorporating flexibility into the RA program converged significantly in 2013. The Joint Parties' approach moved from three types of flexibility to a single type of flexibility. Energy Division moved from the modified MCC bucket approach to meeting flexibility needs to the approach proposed by the Joint Parties. Both Energy Division and the Joint Parties adopted the "Differentiated Capacity" approach to determining how much each of individual generating resource's capacity could count towards meeting flexibility needs.

Although the objectives of both proposals are similar, there are some differences in the approach proposed by the Joint Parties and Energy Division. One, the Energy Division proposal is not mandatory for 2014. Two, the Energy Division proposal includes PG&E's proposal for counting hydro resources as flexible capacity; this proposal has since been agreed to by the Joint Parties.

After consideration of comments, we will not adopt a flexible capacity requirement for the 2014 RA year. As CalWEA notes,[48] the ISO's presentations show that it is only during the January to March months of 2014 that the need for flexibility based on a 3-hour ramping requirement might approach the quantity of such flexible resources that are expected to be available to the ISO, under what

---

[47] A footnote or cite needed (I think it is the same as the last cite.)

[48] CalWEA April 5, 2013 Comments at 3.

appears to be a worst-case scenario for their availability. Even this need might be reduced or eliminated by rescheduling the maintenance schedules of flexible resources, or by taking a second look at the ISO's adjustments that reduce the expected amount of effective flexible capacity. As NRG and CalWEA point out, the ISO shows approximately the same flexibility need for 2014 as for 2013, with no flexibility requirement in place for 2013.

The ISO acknowledges that it "is not asserting that there is insufficient flexible capacity in the ISO Balancing Authority Area in 2014"[49] and that Figure 6 of its March 20, 2013 presentation "shows sufficient effective flexible capacity available to meet the flexible capacity requirement in 2014."[50] No party provides countervailing data to show that there is a need for flexible capacity in 2014. We find that the record shows there is not a clear need for additional flexible resources in 2014; indeed, there is likely no need for additional flexible resources in that timeframe.

There are other reasons to pause before imposing a flexible capacity requirement. Shell contends that if the Commission were to issue a decision on a flexible capacity procurement mandate in June 2013, based on the existing record, the resulting program would be incomplete, creating uncertainty and confusion among LSEs and in the capacity market.[51] We agree with the comments of several parties that it is not reasonable to impose a new requirement on LSEs for flexible capacity in the 2014 RA year which would

---

[49] ISO April 5, 2013 Comments at 19.

[50] ISO April 5, 2013 Comments at 25.

[51] Shell April 5, 2013 Comments at 3.

increase ratepayer costs without a clear benefit. For all of these reasons, it is not in the public interest to adopt a flexible capacity requirement for RA year 2014.

Many parties have raised concerns about ISO's calculation of flexible capacity needs, alleging it either included overly conservative assumptions or excluded resources that could be useful in addressing or mitigating flexible capacity resource needs. For example, TURN believes it is not too optimistic to expect dispatchable EFC that does not have an RA contract to be available to provide flexibility to the system as needed; relaxing this assumption alone would add over 10,000 MW of EFC to the ISO's assessment of EFC available to meet flexibility needs in March.[52] Other parties allege that the ISO has inappropriately assumed a fairly high forced outage rate of 8%, no change in the scheduled maintenance of units as a result of changed operation, low pumped storage capacity availability, omission of planned capacity additions, no benefit from modifying energy scheduling from hourly to 15-minute schedules, exclusion of import capacity and implementation of FERC Order 764, 15-minute scheduling over the interties, and no benefits from control area cooperation and energy imbalance markets.

The ISO responds that parties have either misunderstood or misrepresented its data; instead of underestimating the amount of flexible capacity which should be available, the ISO contends that its flexible capacity deficiency assessment was a very simplified and conservative assessment. For example, the ISO believes that some parties have assumed that the ISO put forward a worst case scenario where 2,000 MW of flexible capacity would be

---

[52] TURN April 5, 2013 Comments at 6. TURN provides several other examples of "conservative" assumptions at 7.

self-scheduled in the real-time market, while in actuality its assessment more closely resembles a best case scenario than a worst case scenario. Additionally, the ISO states that it assumed only 500 MW of existing flexible capacity would be "crowded out" by 6,000 MW of new installed intermittent resources, another conservative assumption.[53]

Public Utilities Code Section 380(b) requires the Commission, "in establishing resource adequacy requirements," to consider the need, economics and costs of developing new generation or retaining existing generation. Specifically Section 380 (b)(1) requires the RA program to: "Facilitate development of new generating capacity and retention of existing generating capacity that is economic and needed." We have already determined that there is a reasonable likelihood that there will be a need for flexible capacity in RA year 2015 and beyond.

We need not make a determination at this time about whether the ISO's assumptions are conservative, optimistic or exactly correct. Our obligation is to ensure that the electrical system remains reliable under changing conditions, and to evaluate the most likely scenarios for resources to meet expected reliability needs.

The analysis the ISO presented at the March 20, 2013 workshop and referenced in its April 5, 2013 comments demonstrates the ramping requirement this is needed in order to meet the net load (load minus intermittent generation) on a daily basis. The ISO has clearly demonstrated that over the next several years changing system conditions, specifically increased levels of generation

[53] ISO April 15, 2013 Reply Comments at 5 – 6.

from intermittent sources of power, will cause an increasing requirement for flexible capacity to enable the ISO to reliably operate the grid. The ISO has shown that the existing regulatory framework does not provide the ISO assurances that adequate flexible capacity will be available to it in the future. This uncertainty is exacerbated by at least two additional factors: the possible retirement of a number of OTC generation units and the possible retirement of some merchant generation that may not be able to obtain sufficient revenues from the markets, as currently structured, to continue operations.

The current RA program does not address the extent to which flexible resources will be available to the ISO. LSE compliance with the current RA program, standing alone, will not provide the ISO with assurances that resources with the necessary flexibility attributes will be available to ensure reliable operation of the ISO grid.

The ISO has shown that flexible capacity needs are likely to increase year after year, as more inflexible resources come onto the system. As flexible capacity needs increase, the necessity for flexible resources increases. While we do not know exactly when flexible capacity needs may exceed currently-available flexible capacity resources (although this will almost certainly not occur in 2014), it is necessary to take proactive steps now to ensure that system needs are available to ensure safe and reliable service. Starting in 2015, we find there is a reasonable likelihood that additional flexible resources will be needed. The amount of flexible capacity needed for 2015 (and beyond) will be determined in future proceedings.

SCE provides the perspective of the Joint Parties regarding the cost of a new flexible capacity requirement:

> …the cost implications of either proposal are dependent upon the scarcity of the product. If there are an abundance of resources that qualify to provide flexibility with a relatively low need for such resources, the impact to the cost of capacity may be very low. As the need for the resources increases with increased penetration of intermittent resources driving a steeper net load curve as described by the CAISO, and if the build out of flexible resources creates scarcity, then we would expect prices to rise. Based on the discussions to date, SCE believes that in this interim proposal period, the demand and supply conditions for flexible resources will not create severely constrained scarcity and therefore should not have large impacts on the cost of capacity.[54]

Other parties believe the costs could be significant. However, no party is able to provide any reliable cost estimates.

Per Section 380, we consider costs in terms of the overall economics of a potential flexible capacity framework and requirement. The costs of an unreliable electrical system are incalculable, in the sense of damage to the economy. However, this does not mean that unlimited amounts should be spent to ensure reliability. Instead, we seek to impose the least costly structure to ensure reliability. The framework we adopt today is consistent with the requirements we have imposed through the RA program over the past several years (with periodical refinements). The flexible capacity framework will cause additional costs for ratepayers in direct relationship to the additional flexibility needs of the system. Therefore, ratepayers will receive commensurate benefits for the costs associated with the flexible capacity framework.

---

[54] SCE April 5, 2013 Comments at 5.

In order to address the likely flexible capacity need for 2015 and beyond, we will adopt an interim flexible capacity framework at this time. The most reasonable starting point for the framework is the Joint Parties' Proposal. This proposal is the most detailed in the record. It is also substantially similar to the Energy Division revised proposal. Of the parties recommending adoption of a flexible capacity framework (either for 2014 or 2015), the Joint Parties' Proposal is the basis for their recommendation, with certain modifications in some cases.

In general, we will adopt a flexible capacity framework based on the Joint Parties Proposal, as modified below, to start in 2015. The adopted framework is shown in detail in Appendix A. However, we do not adopt the specific words or terminology of the Joint Parties Proposal; instead of editing the exact language, we spell out the elements of the adopted framework as derived from the Joint Parties Proposal with necessary modifications. We discuss below what will occur between now and 2015 as we move toward implementation of the framework.

4.4.3. Specific Modifications to Joint Parties' Proposal

In order to provide a flexible capacity framework to be implemented starting in the 2015 RA year, we use the Joint Parties' Proposal as a starting point, with modifications. We have already discussed the change in implementation date for a mandatory program to 2015. In a later section, we will discuss implementation issues for 2014. Other topics for potential modification brought up by parties are discussed here.

4.4.3.1. Hydro resources

The Joint Parties' Proposal provides that a specific counting methodology for generic flexible capacity. This is expressed as the following formula:

<u>If start-up time greater than 90 minutes:</u>
EFC is limited to the MW range between Pmin and NQC as limited by ramp rate

EFC = minimum of (NQC-Pmin) or (180 min * RRavg)

Where:

NQC = Net Qualifying Capacity
Pmin = Minimum Capacity
SUT = Longest (cold) RDT start-up time in minutes
RRavg = average MW/min ramp rate between Pmin and NQC

<u>If start-up time less than or equal to 90 minutes:</u>
EFC is limited to the MW range between zero and NQC as limited by start-up time and ramp rate

EFC = minimum of (NQC) or (Pmin + (180 min – SUT) * RRavg)

Where:
NQC = Net Qualifying Capacity
Pmin = Minimum Capacity
SUT = Longest (cold) RDT start-up time in minutes
RRavg = average MW/min ramp rate between Pmin and NQC

Not all resources have the same use characteristics. Some can be used at all times (except for outages) while others have certain use limitations. There are different ways a resource can be use-limited. For example, hydro resources have limits on available energy, while peakers may have a limited number of starts. The use limitations of different resources may affect how or whether such resources can qualify as flexible capacity.

The above formula may not be suitable for various resources which have characteristics different from a generic natural gas-fired plant. To take this into account, the Joint Parties' Proposal provides for different formulae for plants with certain specific characteristics.

The Joint Parties' Proposal and PG&E differ over counting flexibility within a hydro resource. The Joint Proposal recommends the effective flexible

capacity of a hydro resource be calculated monthly. According to the proposal, the ISO establishes a baseline output for hydro resources using the average hydro output over the previous five years. The ISO would use energy bids and available capacity from the reference period (i.e., 5 years) to establish a PMin equivalent for each hydro resource. The upper end of a hydro resources flexible range would be the higher of the resource's 95th percent of the actual output or NQC.

PG&E proposes[55] that flexible hydro resources should be required to submit economic bids, within environmental constraints such as mandatory water deliveries and start up restrictions. PG&E proposed that the amount of flexible capacity available from a hydro resource should be based on prospective availability assessments of flexible capacity from the hydro resource owner/operator, as supported by annual and monthly availability plans provided to the ISO, not based on historical bids using an average reference.

In summary, the PG&E proposal, supported in Energy Division's revised proposal would have the following key elements of the proposed counting convention for hydro resources:

- A hydro resource will qualify as flexible if it has the physical storage capability to provide energy equivalent to PMax for 6 hours;
- The proposed EFC should not exceed the NQC or the PMax of the resource; and
- For the month-ahead showing, the resource owner is allowed to adjust the flexibility showing downward to account for

[55] PG&E's proposal on this point is referenced in the Energy Division revised proposal; see March 11, 2013 Ruling attachment at 5.

> hydrological conditions, water duty, and the state of the reservoir. This results in the further requirement that the LSE makes up any short fall in hydro flexibility from other resources.

No party opposes this modification to the Joint Parties' Proposal, including its proponents. This modification is a reasonable method for including hydro resources with flexible attributed into the flexible capacity framework. We will adopt this modification, as indicated in Appendix A.

4.4.3.2. Other Use-Limited Resources

Aside from hydro resources, there are a number of other resources which may need specially designed counting rules to participate effectively in a flexible capacity framework. The Joint Parties' Proposal provides counting rules for different types of resources. The Energy Division revised proposal suggests not adopting the Joint Parties' Proposal on this point, as there is time to develop rules regarding how use-limited flexible resources can be more economically dispatched while abiding by their use limitations.

SDG&E recommends further vetting and deliberations concerning eligibility criteria encouraging the provision of flexible capacity by suppliers representing energy-storage technologies, demand response, renewable resources, and use-limited.[56] PG&E recommends the Commission and the parties work to ensure that the flexible component of the RA program is structured so that it fully captures all of the flexibility attributes needed to operate the system reliably, and so that it does not unintentionally disadvantage available non-traditional resources (such as demand response, energy efficiency, and

[56] SDG&E April 5, 2013 Comments at 3 – 4.

storage) that may be able to help meet those flexibility requirements cost-effectively but with less GHG impact than traditional, fossil fuel-powered resources.[57]

SCE similarly recommends refinements to the interim flexible capacity procurement requirements should be further discussed in workshops later this year and resolved in time for implementation in the 2015 RA compliance cycle, including establishment of refined eligibility criteria and/or removal of participation barriers for qualified energy storage, demand response, and non-hydro use limited resources.[58]

We will prioritize this issue as a refinement to the adopted interim flexible capacity framework and work with parties to resolve the issue in a decision in June 2014.

4.4.3.3. Preferred Resources

SCE summarizes the ISO's position and the Joint Parties' Proposal regarding the flexible capacity treatment of preferred resources and non-conventional resources:

> As such, the CAISO and the Joint Parties have generally offered that any resource providing the reliability service should qualify to provide flexible RA. If non-emitting resources are capable of meeting the reliability need, then those resources could provide such capacity and, if then dispatched by the CAISO, would have a diminished impact on GHG when compared to a fossil fuel fired plant. As the technology and availability of low to zero emission resources develops, SCE recommends that such technology be evaluated

---

[57] PG&E April 5, 2013 Comments at 3 – 4.

[58] SCE April 5, 2013 Comments at 3

> for its ability to meet the reliability need for flexible ramping. If the resource meets such requirements, then it too should be allowed to provide such service.[59]

Several parties question or criticize the Joint Parties' Proposal as discriminating against or not allowing preferred resources to qualify as flexible capacity. For instance, Sierra Club states that "[d]espite the paramount importance of these concerns, the Proposals are highly dependent on fossil fuels to meet renewable integration needs and exclude demand response and energy storage."[60] CalWEA recommends that "[t]he Commission also should initiate a second phase of this proceeding to further refine both how to quantify the needed and available flexible capacity and how to expand the types of the resources which can provide flexibility to include the Loading Order's Preferred Resources (including wind)."[61] The Joint Parties agree that "flexible capacity capabilities of resources like distributed generation, demand response, and storage should ultimately count towards an LSE's flexible capacity procurement obligation."[62] In its opening comments, the ISO also agreed that "discussion

---

[59] SCE April 5, 2013 Comments at 5 – 6.

[60] Sierra Club April 5, 2013 Comments at 2. See also: CEERT April 5, 2013, Comments at at 6 - 8 and 13 - 16; DRA April 5, 2013 Comments at 9 – 10; IEP April 5, 2013 Comments at 8 – 10; WPTF April 5, 2013 Comments at 8 – 9; CESA April 5, 2013 Comments at 2 – 5; Calpine April 5, 2013 Comments at 2 – 3; Shell April 5, 2013 Comments at 7 - 8; Ormat April 5, 2013 Comments at 2 - 4; and Clean Coalition April 5, 2013 Comments at 5 - 8.

[61] CALWEA's April 15, 2013 Comments at 3.

[62] Joint Parties' Proposal at 24.

about preferred resources as flexible capacity will be ripe for further discussion in the next phase of the resource adequacy proceeding."[63]

CEERT believes that (if a need is established) the Commission should address how best to identify and procure flexible capacity resources in a manner consistent with the Commission's Loading Order.[64] This effort would have the following steps: 1) Develop operating protocols and performance metrics for demand response, storage, hydro, and other use limited resources so these resources can provide flexible capacity to the grid on an equivalent basis with conventional fossil resources; 2) Require the evaluation of all procurement mechanisms and develop supply curves based on real prices for all types of flexible capacity resources; 3) Evaluate the feasibility and cost-effectiveness of retrofits to improve flexibility of baseload natural gas plants to lower minimum load, reduce start time, increase ramp rate, and reduce "forbidden zones" that inhibit dispachability; and 4) Work to revise ISO tariffs to increase inherent flexibility of the current resource mix by significantly reducing self-scheduling, expanding the energy imbalance market, and removing disincentives to self-supply flexibility to the grid.[65]

SDG&E supports consideration of eligibility criteria encouraging the provision of flexible capacity by and from energy-storage technologies and demand-response programs during a 2014 implementation period. SDG&E explains that this would allow a test of the effectiveness of those resources in addressing the ISO's need for flexible resources as soon as possible and facilitate

---

[63] ISO April 5, 2013 Comments, section IV.C.

[64] CEERT April 5, 2013 Comments at 5.

the refinement of the standards and rules under which those resources might participate post-2014. As with the PG&E proposal for hydro resources, SDG&E believes other resources capable of meeting the ISO's operational needs should be eligible to provide flexible capacity in Compliance Year 2014, even while the discussion of the final comprehensive eligibility requirements suited to encouraging the participation of those resources.

SDG&E recommends, for Compliance Year 2014 only, the Commission permit a demand response or energy-storage resource with a current net qualifying capacity rating to be included in a load serving entity's monthly flexible-capacity demonstrations to the full extent of that resource's rating for the month relevant to any such demonstration. SDG&E also recommends that, for post-2014 compliance periods, the eligibility requirements and must-offer obligations applicable to demand-response and energy-storage resources will need to be more specifically defined and tailored to address the unique characteristics of discrete technologies or classes of potentially qualifying resources, along the lines of the adjustments proposed by PG&E and the Energy Division for hydroelectric resources.

We agree with parties who advocate for a mechanism to allow preferred resources to participate in the flexible capacity framework we approve today. The Joint Parties' Proposal reduces the ISO's need for flexible capacity to the essential eligibility standard that the resource must be capable of continuous ramping and sustaining energy output for a minimum of three consecutive hours during an operating day. We are aware that here are various resources –

---

[65] CEERT April 5, 2013 Comments at 5 – 10.

including preferred resources, but also other use-limited resources -- which are dispatchable in the sense that they are operationally capable of producing energy on demand on the one hand, but which cannot meet the strict terms of the eligibility requirements proposed under the Joint Parties' Proposal.

The Joint Parties' Proposal expressly states at 23:

> If preferred resources can provide flexible capacity consistent with the counting conventions in this interim flexible capacity proposal, then they should be eligible to count toward an LSE's flexible capacity procurement obligation.

We agree with SDG&E that there should be further discussion about modifying the counting and bidding rules, as necessary and in alignment with operational needs, for use-limited resources such as storage and demand response. We will consider these rules for the 2015 resource adequacy compliance year, possibly similar to the portion of the adopted framework for use-limited hydro resources.

4.4.3.4. Sales of Inflexible Capacity

IEP argues that generators should be allowed to sell the inflexible and flexible capacity in separate transactions and to different purchasers (recognizing that a MW of capacity may be sold only once), so long as the unit is able to meet the requirements of any System, Local, and flexible RA capacity that is sold. If capacity above a unit's Pmin is sold as flexible RA capacity that has a longer must-offer obligation than the inflexible capacity below the Pmin that is sold as System RA capacity, for example, a generator could meet both obligations by offering the combined capacity for the hours of the longer must-offer obligation. IEP contends that the decision to sell inflexible and flexible capacity associated with the same resource should be an economic and operational decision made by

the manager of the resource, not an unnecessary mandatory restriction imposed by the Commission.[66]

IEP's issue is not directly addressed in the two proposals, and is not opposed as a clarification. We agree with IEP and will adopt this clarification as part of the flexible capacity framework.

4.4.3.5. Market-based Mechanisms

Several parties are concerned that both proposals are not appropriately focused on providing market-based price signals that create incentives for the retention of existing and/or development of new resources to meet these needs efficiently and cost-effectively. As AReM argues, instead of focusing on the development of market mechanisms that will allow buyers and sellers of the needed resources to transact for those resources efficiently and cost effectively, both the current proposals layer more command and control rules in the RA program. AReM and other parties call for integration of flexible capacity requirements into current market mechanisms, such as the ISO's biddable ancillary service markets and energy imbalance market, and for the development of a centralized forward capacity market.[67]

We have already determined that the existing market mechanisms are insufficient to deal with flexible capacity needs. It may be possible to expand existing market mechanisms, or to develop new market mechanisms, to address this issue (as well as other capacity issues). Today's decision adopts an interim

---

[66] IEP April 15, 2013 Reply Comments at 6.

[67] AReM April 15, 2013 Reply Comments at 1 – 2. See also: Shell Energy April 5, 2013 Comments at 3 and 12; CalWEA April 5, 2103 Comments at 15; and MEA April 5, 2013 Comments at 1.

flexible capacity framework. As more work goes into consideration of centralized capacity markets and other market mechanisms, it may be appropriate to consider how to integrate a flexible capacity framework into such approaches, or whether to replace the adopted framework with other approaches.

4.5. Implementation and Next Steps

At this time, we adopt an overall interim framework consistent with the outline of both the Joint Parties' Proposal and the Energy Division proposals, with specific modifications as discussed herein. The adopted framework is a reasonable interim framework to ensure that overall reliability needs can be met effectively, given ongoing changes in the overall resource mix.

The flexible capacity framework we adopt today has sufficient detail to convince us that it can be implemented in RA year 2015. At the same time, we recognize that there are some further details which need to be worked out for this framework; we intend to finalize these details over the next year. By making a policy decision now with sufficient detail, market participants will be able to prepare for the flexible capacity requirement starting in RA year 2015.

Several parties suggest adopting a "trial run" in 2014 before a mandatory flexible capacity requirement starts in 2015. Such a trial run would include mandatory bidding of flexible resources to meet the flexible requirements for 2014, as proposed by the ISO. The purpose of the trial run would be to identify what flexible resources are available at critical times in each local reliability area, and to gain information about pricing in those situations.

The concept of a trial run has some appeal; however, there are practical problems with implementing such a program. First, not all generation is Commission-jurisdictional; until the ISO tariff includes a must-offer obligation

for all generators in this market (not expected until 2015), the Commission can require only generation owned or under contract with LSEs to bid in. This means that a significant amount of flexible generation (the exact percentage is not known) would not participate in the trial run. Second, there is no guarantee that all flexible generation owned or contracted with by LSEs would bid-in, both because there would be no penalties for non-participation and because some LSEs may hesitate to "show their cards" in a trial run. Therefore, it is very likely that a trial run would provide poor, incomplete or misleading information about both availability and pricing. Due to the uncertain value of such an effort, we will not adopt a trial run for 2014.

There are a number of activities which do need to occur in 2014 in advance of full implementation of a flexible capacity requirement. WPTF provides a good description of what needs to occur in the 2014 RA compliance year leading to implementation of the flexible capacity framework in the 2015 RA year[68]:

1) finalize the methodology for determining the flexibility requirements;
2) set rules (technology-indifferent, to the maximum extent possible) for how resources count towards meeting this requirement;
3) set methods to allocate the requirements that will be applicable to each LSE;
4) finalize any remaining issues associated with determining the amount of flexible capacity that can be provided by RA eligible generating units;

[68] WPTF April 5, 2013 Comments at 6.

5) develop compliance rules that are applicable in the event of inadequate flexible capacity available in the market and how LSE obligations will be adjusted to reflect this; and
6) establish administrative processes through which it can be determined whether the flexibility requirement is met, including rules dealing with non-compliance, cure periods and other administrative procedures.

Similarly, the ISO recommends the Commission identify two matters as issues to be addressed in the resource adequacy proceeding, which should start as soon as possible, for compliance year 2015. The first matter is establishing counting rules, criteria, and qualifications for use-limited resources like those with start-up or environmental restrictions, demand response, and storage devices. The second matter is to develop penalties and enforcement provisions applicable to jurisdictional load serving entities that are deficient in the flexible capacity procurement obligations.[69]

We agree that these are the appropriate tasks for the next year. We also agree with DRA[70] and TURN[71] that the LSEs should be required to amend their RA filings to include information about their effective flexible capacity in their current RA portfolio. We will require, starting with the 2014 RA compliance year, that each load serving entity shall make a year ahead and month-ahead showing of flexible capacity for each month of the compliance year. Each LSE shall also report all its qualified flexible resources in the annual and monthly RA filings.

---

[69] ISO April 5, 2013 Comments at 4.

[70] DRA April 5, 2013 Comments at 13 – 16.

[71] TURN April 5, 2013 Comments at 2.

Because there are a number of details remaining to be determined to fully implement the interim flexible capacity framework, it is necessary to start as soon as possible to finalize such details. For the next year, we will gather information, analyze such information, hold workshops to consider refinements to the adopted flexible capacity framework, and build a record for such refinement in our expected June 2014 decision in this docket or its successor.

Tasks to be completed for the June 2014 RA Decision include, but are not limited to:

1. Energy Division will analyze the information provided in the RA filings. The purpose of gathering information is to determine the availability of flexible resources now and over the next several years and the analysis of the operating characteristics of available flexible resources. This may help in understanding the benefits of potential upgrades and retrofits to maximize the availability of flexible capacity within the fleet. Energy Division and the ISO will analyze the bidding behavior of the units reported as flexible to understand the impact of flexible procurement on exceptional dispatch and study any constraints generators might be facing in submitting economic bids. These efforts may lead to proposals for Commission refinement of the flexible capacity procurement framework.
2. In workshops and comments, stakeholders will develop counting rules, eligibility criteria, and must-offer obligation for use-limited resources, preferred resources, combined cycle gas turbines, and energy storage resources for Commission consideration.
3. The Commission will determine a cap or a method to calculate the annually adjustable error term in the methodology used to calculate flexible capacity need.

The assigned Commissioner and ALJ should issue a Ruling as soon as possible to begin the formal aspect of this process.

5. Distributed Generation

In the January 23, 2013 workshop, Energy Division presented a proposed "Resource Adequacy Deliverability for Distributed Generation" initiative which offered a new pathway for distributed generation to qualify for RA value. This presentation was summarized in the transcript for that workshop at 46 – 48, and the presentation was attached to the transcript. The Energy Division proposal was developed in response to an Order of the Federal Energy Regulatory Commission (FERC) in Docket ER-12-2643-000, where the FERC approved an ISO tariff filing related to deliverability for distributed generation, with certain modifications.

Since the workshop, events appear to have overtaken the record. The ISO circulated a compliance proposal regarding the FERC Order on March 25 and proposed tariff language on April 2. After conducting stakeholder calls, receiving comments, and making appropriate modifications, the ISO has now filed tariffs with the FERC to respond to the FERC's modifications.

Montauk Energy states that it appears that the ISO's revised approach to allocation of distributed generation deliverability could be implemented without requiring any specific activity on the part of the Commission.[72] IEP also believes that events appear to have overtaken the Commission's consideration of deliverability for distributed generation. IEP has reviewed the ISO compliance proposal and finds that the ISO has developed a reasonable response to the FERC orders on deliverability for distributed generation.[73]

---

[72] Montauk Energy April 6, 2013 Comments at 5.

[73] IEP April 5, 2103 Comments at 13.

Given that FERC has not made a decision on this issue and impact of such decision remains to be seen, it is premature for the Commission to make any decisions on RA deliverability for distributed generation at this time.

6. Rounding Convention

Before adopting D.12-06-025, the rounding convention for local RA obligations provides that RA obligations were met by rounding to the closest megawatt. This convention was adopted in D.06-06-064 for local RA obligations and expanded to system RA obligations in D.07-06-029. Specifically, the requirement after D.07-06-029 was that LSEs should be exempted from procurement obligations of less than 1 MW in a particular local area. In addition, Resource Adequacy Requirement (RARs) of 0.5 and greater should be rounded up to the next highest MW and RARs of 0.49 or lower should be rounded down to the prior MW; provided, however, that this rounding convention does not supersede the local area exemption of less than 1 MW.[74]

In D.12-06-025, we determined that the "closest megawatt" rounding convention could lead to small discrepancies between the ISO's allocation of local RA obligations to LSEs and the Energy Division's review of whether these obligations were met. Consequently, this could cause the Energy Division and the ISO differing in their reviews of whether an LSE complied with its RA obligations or not.

To resolve this problem, D.12-06-025 adopted a new convention of rounding to 0.1 MWs that was closer to the ISO's convention. According to the Decision since this approach would lead to minimum discrepancies between

[74] D.06-06—064, Conclusion of Law 13 at 84.

Energy Division and ISO reviews, and would not require LSEs to create different RA showings for the CPUC and the ISO.

During the 2012 compliance year Energy Division found that the new rounding convention to 0.1 MW causes unanticipated problems, whereby small LSEs have difficulty procuring fractional MW amounts towards their RA obligations. At the January 23, 2013 workshop, Energy Division proposed to return to the previous rounding convention adopted in D.06-06-064 and D.07-06-029, which rounded to the next highest MW when at or over 0.5 MW, and down to the prior MW when 0.49 MW or below. SCE states that it does not oppose this proposal. PG&E supports this proposal.

We will adopt this proposal and return to the previous rounding convention. This counting convention includes the exemption from local RA procurement and showing for LSEs with local RA obligation less than 1 MW. The rounding convention applies only to System and Local RA obligations. The rounding convention will not apply to NQC countable for an individual resource. Instead the NQC of generating resources would continue to be calculated to the second decimal (hundredth of MW) level of precision.

7. Resources Under Construction

During the January 23, 2013 RA workshop, Energy Division presented a proposal modifying the process of how resources under construction were counted towards an LSE's year-ahead local RA obligation. The original method was established in D.08-06-031 and D.09-06-028. D.08-06-031 created a mechanism for an LSE to count a resource under construction towards local RA in its year-ahead filing, so long as the LSE committed another single resource to fill in the other months of the year. This policy was enacted provisionally for 2009 RA compliance year. In Section 4.2 of D.09-06-028, the Commission made

the policy permanent, and modified the rules to facilitate counting resources under construction. D.09-06-028 also allowed LSEs to use a combination of resources instead of just one until the new resource was online, because "(r)equiring that the substitute capacity come from a single resource in the local area would reduce the options available to the LSE for fulfilling its compliance obligation, which would further drive up costs."

Energy Division specifically proposed that LSEs should be able to count resources under construction toward meeting their year ahead local RA obligations without specifically naming the replacement capacity in the year -ahead filing. Instead, LSEs can specify the replacement capacity for the resource under construction in the month-ahead RA filings. This proposal gives LSEs more flexibility to change or arrange units especially in event of a delay in Commercial Online Date of the new resource. PG&E and SCE support Energy Division's proposal.

We adopt the Energy Division proposal where LSEs should be able to count resources under construction toward meeting their year ahead local RA obligations without specifically naming the replacement capacity in the year-ahead filing. Instead, the LSE must name the replacement capacity in the month-ahead RA filings. An LSE may substitute other units if the new unit does not come online as planned.

8. Comments on Proposed Decision

The proposed decision of the ALJ in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. Comments were filed on _____ and reply comments were filed on _____.

Assignment of Proceeding

Mark J. Ferron is the assigned Commissioner and David M. Gamson is the assigned ALJ in this proceeding.

Findings of Fact

1. The assumptions, processes, and criteria used for the ISO 2014 Local Capacity Requirements study were discussed and recommended in an ISO stakeholder meeting, and they generally mirror those used in the 2007 through 2013 Local Capacity Requirements studies.

2. The "no SONGS" scenario in the ISO 2014 Local Capacity Requirements study is the most conservative plausible scenario and is the most consistent with ensuring reliability.

3. In previous RA decisions, the Commission delegated ministerial aspects of program administration to the Energy Division.

4. There is a need for refinements to the RA program to further define elements of flexibility, as grid operations and reliability may suffer without sufficient generation capable of being flexibly dispatched.

5. The adoption of a flexible capacity requirement as part of the resource adequacy program will help ensure that flexible capacity is operationally available to the ISO to maintain grid reliability.

6. Proposals by Energy Division and the Joint Parties to address flexible capacity have, since first presented in Phase One of this proceeding, substantially merged in most major elements.

7. No Finding of Fact is made on the underlying calculations which form the basis for the ISO "duck graph," or on the "duck graph" itself.

8. Over the next several years, changing system conditions, specifically increased levels of generation from intermittent sources of power, will cause an

increasing requirement for flexible capacity to enable the ISO to reliably operate the grid.

9. There is sufficient flexible capacity in the ISO Balancing Authority Area in 2014. Continued operation of this flexible capacity in the future past 2015, however, is complicated by at least two additional factors: the possible retirement of a number of OTC generation units; and the possible retirement of some merchant generation that may not be able to obtain sufficient revenues from the markets, as currently structured, to continue operations.

10. Imposing a flexible capacity requirement would increase ratepayer costs by an unknown amount.

11. The ISO's projections for 2015 and beyond show a strong likelihood of need for flexible resources than for 2014, although the exact need cannot be determined at this time.

12. Filling the need for flexible capacity in order to ensure reliability provides an important benefit to ratepayers.

13. The Joint Parties' Proposal for a flexible capacity framework would result in only the procurement of the amount of flexible capacity necessary to fill actual flexible capacity needs, as determined by the Commission with input from the ISO.

14. The Joint Parties' Proposal will cause additional costs for ratepayers in direct relationship to the additional flexibility needs of the system.

15. The exact cost to ratepayers of a flexible capacity requirement will depend upon the flexible capacity need determined by the Commission in future years' proceedings.

16. Flexible capacity needs increase year over year in non-peak months, with this increase almost exclusively reflected by 3-hour ramp caused by intermittent generation, not increase in peak load or changing patterns of customer load.

17. The Joint Parties' Proposal provides a fully detailed flexible capacity framework.

18. The proposal of PG&E for the counting and treatment of hydro resources allows operators of flexible hydro resources to balance the operational needs for ramping during a day with hydrological and environmental constraints.

19. The use limitations of different resources may affect how or whether such resources can qualify as flexible capacity.

20. There are a number of details remaining to be determined to fully implement the Joint Parties' Proposal, as appropriately modified, for a mandatory flexible capacity framework starting in RA year 2015, including counting of use-limited resource and preferred resources.

21. The new rounding convention of 0.1 MW adopted by D.12-06-025 causes unanticipated problems, whereby small LSEs have difficulty obtaining such small MW amounts.

22. D.08-06-031 created a mechanism for an LSE to count a resource under construction towards local RA in its year-ahead filing, so long as the LSE committed another single resource to fill in the other months of the year. This policy was enacted provisionally for 2009 RA compliance year. D.09-06-028 made the policy permanent, and modified the rules to facilitate counting resources under construction. D.09-06-028 also allowed LSEs to use a combination of resources instead of just one until the new resource was online.

23. Energy Division's proposal that LSEs should be able to count resources under construction toward meeting their year ahead local RA obligations

without specifically naming the replacement capacity in the year ahead filing, but could specify the replacement capacity for the resource under construction in the month-ahead RA filings, gives LSEs more flexibility to change or arrange units especially in event of a delay in Commercial Online Date of the new resource.

Conclusions of Law

1. The ISO's 2014 Local Capacity Technical Analysis Final Report and Study Results should be approved as the basis for establishing local procurement obligations for 2014 applicable to Commission-jurisdictional LSEs, using the "no SONGS" scenario.

2. Because the current local RA program establishes procurement obligations for the following year, LSEs should be responsible for procurement only in a local area to the level of resources that exist in the area.

3. Energy Division should implement the local RA program for 2014 in accordance with the adopted policies in this and previous decisions.

4. It is necessary to define flexible attributes for local reliability purposes in order to ensure ongoing reliability in a changing load and supply environment.

5. The issues raised by Sierra Club/TURN in their Amended Request for Evidentiary Hearings are not material and in dispute.

6. It is not reasonable to impose a new requirement on LSEs for flexible capacity in the 2014 RA year as there is no demonstrated need.

7. There is a reasonable likelihood of a need for additional flexible capacity starting in 2015.

8. It is reasonable to cause increased ratepayer costs by imposing a flexible capacity requirement starting in 2015 because there will be commensurate or

greater benefits from improved reliability, once there is a demonstrated need for flexible capacity.

9. It is reasonable to adopt an interim flexible capacity framework at this time, which will lead to a flexible capacity requirement in the 2015 RA year. Specific flexible capacity requirements for each LSE for RA year 2015 should be determined through the RA proceeding in this docket or its successor in 2014.

10. The Joint Parties' Proposal should be adopted as the interim flexible capacity framework, with certain necessary modifications, and with further refinements to be determined by June 2014.

11. Flexible capacity should be defined, on an interim basis, as the quantity of flexible capacity identified needed by the ISO to meet ramping and contingency reserves. The flexible capacity need for a given month should be calculated by the following formula:

$$NeedMTHy = Max\ [(3RRHRx)MTHy] + Max(MSSC, 3.5\%*E(PLMTHy)) + \varepsilon$$

In this formula:

Max[(3RRHRx)MTHy] = Largest three hour continuous ramp starting in hour x for month y

E(PLMTHy) = Expected peak load in month y

MSSC = Most Severe Single Contingency

Max(MSSC, 3.5%*E(PLMTHy)) is the Maximum of MSCC or 3.5%* E(PLMTHy)

ε = Annually adjustable error term to account for uncertainties such as load following

12. Flexible capacity procurement obligations should be established for all Commission-jurisdictional load serving entities for 2015. The flexible capacity procurement obligations should be determined based on the Joint Parties'

Proposal and the revised Energy Division proposal, as modified and outlined in Appendix A.

13. The Joint Parties' Proposal should be used as a starting point, along with PG&E's proposal for counting of hydro resources, for a flexible capacity framework.

14. The use limitations of different resources may affect how or whether such resources can qualify as flexible capacity.

15. The Commission should use 2014 to gather data about LSEs' flexible resources (owned or under contract).

16. The Commission should use the time between now and June 2014 to refine a flexible capacity framework for mandatory implementation in RA year 2015.

17. The adopted flexible capacity requirement starting in 2015 should be interim through 2017 in order to determine the efficacy of the framework and consider additional flexibility requirements.

18. The Commission should return to the previous rounding convention (including the blanket exemption for LSEs that are allocated Local RA obligations under 1 MW per Local Area) that was adopted in D.06-06-064 and was in effect for the 2012 compliance year (i.e., before D.12-06-025).

19. Energy Division's proposal that LSEs should be able to count resources under construction toward meeting their year ahead local RA obligations without specifically naming the replacement capacity in the year ahead filing, but could specify the replacement capacity for the resource under construction in the month-ahead RA filings, is reasonable and should be adopted.

O R D E R

IT IS ORDERED that:

1. The California Independent System Operator's 2014 Local Capacity Technical Analysis Final Report and Study Results, filed May 1, 2013, is adopted as the basis for establishing local procurement obligations for 2014 applicable to Commission-jurisdictional Load Serving Entities as defined by Public Utilities Code Section 380(j).

2. The "Option 2/Category C" Local Capacity Requirements set forth in the California Independent System Operator's 2013 Local Capacity Technical Analysis Final Report and Study Results, filed May 1, 2013, with the "no San Onofre Nuclear Generating Station" unit scenario, are adopted as the basis for establishing local resource adequacy procurement obligations for Load Serving Entities subject to this Commission's resource adequacy program requirements. The Local Capacity Requirements for 2014 are as follows:

	2014 LCR Need Based on Category C with Operating Procedure		
Local Area Name	**Existing Capacity Needed****	**Deficiency**	**Total (MW)**
Humboldt	195	0	**195**
North Coast / North Bay	623	0	**623**
Sierra	1803	285*	**2088**
Stockton	446	255*	**701**
Greater Bay	4423	215*	**4638**
Greater Fresno	1857	0	**1857**
Kern	421	41*	**462**
LA Basin	10430	0	**10430**
Big Creek/ Ventura	2250	0	**2250**
San Diego	3605	458*	**4063**
Total	**26053**	**1254**	**27307**

3. The local resource adequacy program and associated requirements adopted in Decision (D.) 06-06-064 for compliance year 2007, and continued in effect by D.07-06-029, D.08-06-031, D.09-06-028, D.10-06-036, D.11-06-022, and

D.12-06-025 for compliance years 2008, 2009, 2010, 2011, 2012, and 2103, respectively, are continued in effect for compliance year 2013, subject to the modifications, refinements, and local capacity requirements adopted in ordering paragraphs 1,2,5,6,7 and 8 in this decision.

4. The March 28, 2013 Amended Request for Evidentiary Hearings of Sierra Club and TURN is denied.

5. The Resource Adequacy (RA) program is modified by adoption of a flexible capacity framework as shown in Appendix A for all Load Serving Entities, as defined by Public Utilities Code Section 380(j). The flexible capacity framework will be mandatory starting with RA compliance year 2015. The adopted framework shall be in effect through RA compliance year 2017.

6. Each Load Serving Entity (LSE), as defined by Public Utilities Code Section 380(j), shall make a year ahead and month-ahead showing of flexible capacity for each month of the compliance year. Each LSE shall report all its qualified flexible resources in its required annual and monthly Resource Adequacy filings.

7. The Resource Adequacy (RA) program is modified so that the rounding convention in effect before Decision 12-06-025, which rounded system and Local RA obligations to the next highest Megawatt when at or over 0.5 MW and down to the prior Megawatt when 0.49 MW or below, is once again in effect. Rounding shall apply to the system and Local RA obligation and not to the Net Qualifying Capacity countable for an individual resource.

8. The Resource Adequacy (RA) is modified so that Load Serving Entities, as defined by Public Utilities Code Section 380(j), can count resources under construction toward meeting their year ahead local RA obligations by specifying the replacement capacity for the resource under construction in the month-ahead RA filings.

9. Rulemaking 11-10-023 shall remain open.

This order is effective today.

Dated_____, at San Francisco, California.

APPENDIX A

A. Modified Resource Adequacy Filings for 2014

For the 2014 resource adequacy (RA) Compliance year Load serving entities (LSEs) are required to show the flexible resources in their fleet under the framework listed below.

- "Flexible capacity need" is defined as the quantity of flexible capacity identified as needed by the ISO to meet maximum three hour ramping and contingency reserves. The flexible capacity need for a given month is calculated by the following formula:

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

  Where,
  - $\text{Max}[(3RR_{HRx})_{MTHy}]$ = Largest three hour continuous ramp starting in hour x for month y (The ISO used the 2012 IOU RPS compliance filings to generate net load profiles for 2014-2016. The load data shape was based on 2012 actual load data and was adjusted to align the peak loads to the 1-in-2 load forecasts contained in the 2011 CEC Integrated Energy Policy Report.[75])
  - E(PL MTHy) = Expected peak load in month y
  - MSSC = Most Severe Single Contingency (Currently, the ISO MSSC is the loss of one of the Diablo Units.)
  - Max(MSSC, 3.5%*E(PLMTHy)) is the Maximum of MSCC or 3.5%* E(PLMTHy)
  - ε = Annually adjustable error term to account for uncertainties such as load following, in 2014 this value is zero [76]
- In 2014 the calculated flexibility need will be a non-binding flexible capacity procurement target for CPUC jurisdictional LSEs. LSEs shall make necessary procurement arrangements for the 2015

[75] ISO initial comments on workshop issues filed April 5, 2013.

[76] The error term will be determined for 2015.

compliance year when there will be a binding flexible capacity procurement amount.

- The 2014 flexible capacity procurement target for CPUC jurisdictional LSEs is adopted from the ISO comments to the Workshop and Energy Division Proposal, filed April 5, 2013.

2014 Cumulative Flexible Capacity Target	
Month	Flexible Capacity Requirement (MW)
Jan	9406
Feb	8857
Mar	8622
Apr	7528
May	6508
Jun	6883
Jul	6959
Aug	7793
Sep	7136
Oct	8115
Nov	9108
Dec	9892

- In order to be eligible for flexible procurement, a resource must be able to ramp and sustain energy output for a minimum of three hours. A hydro resource will qualify as flexible if it has the physical storage capability to provide energy equivalent to Pmax for six hours, where Pmax is
- Flexibility within a resource is counted by the Differentiated Counting Option. According to the "Differentiated Capacity Option", capacity that is inflexible, such as megawatts associated with Pmin, must be sold as generic capacity, not flexible capacity. Any flexible capacity must-offer obligation only applies to the flexible portion of the capacity. A megawatt of capacity can only be sold once as either generic or flexible.

- Specific counting conventions apply to determine the Effective Flexible Capacity (EFC) of resources relative to a resource's Net Qualifying Capacity (NQC). The counting conventions applicable in 2014 are listed below:

a. Generic Resources

If start-up time greater than 90 minutes:

EFC is limited to the MW range between Pmin and NQC as limited by ramp rate

EFC minimum of (NQC-Pmin) or (180 min * RRavg)

Where:

RRavg = average between Pmin and NQC.

If start-up time less than or equal to 90 minutes:

EFC is limited to the MW range between zero and NQC as limited by start-up time and ramp rate

EFC = minimum of (NQC) or (Pmin + (180 min – SUT) * RRavg)

Where:

SUT = Longest (cold) RDT start-up time in minutes.

Cold start-up time is the highest value in the startup time segments for the resource.

RRavg = average between Pmin and NQC.

b. Hydro Resources

The proposed EFC shall not exceed the NQC or the Pmax of the resource. LSEs can nominate some measure of the EFC in the annual and monthly RA showings at potentially different values than the EFC, based on actual water conditions. The RA NQC values are static; the specific capacity counted in showings by LSEs could differ monthly.

c. Other Counting Rule

For RA counting purpose, the resources must be on the EFC List issued by the ISO and must have an EFC value. The EFC of a resource shall never exceed the resource's NQC rating.

- An LSE's flexible procurement target[77] is calculated as follows, which is consistent with how system and local RA requirements are calculated.

LSE monthly flexible capacity procurement target= [(LSE monthly coincident peak load)/ (ISO monthly coincident peak load)]* Cumulative Flexible Capacity Target.

- Staff will send each LSE its flexible capacity target along with the system and local RA requirements in July.
- Each load serving entity shall make a year ahead and month-ahead showing of flexible capacity for each month of the compliance year. Each LSE shall report all its qualified flexible resources in the annual and monthly RA filings.
- An LSE can show a flexible resource as a system RA resource and a local RA resource if it qualifies as either.
- Utilities and LSEs (or their Scheduling Coordinators) shall, to the extent possible, submit economic bids into the day ahead and real time markets for the flexible resources reported in their monthly filings. In accordance with the proposed must-offer obligation(MOO) as outlined in the Joint Proposal for flexible resources in 2015, these resources must be available for 5 minute dispatch between the hours 5 AM and 10 PM every day. Hydro resources shall submit bids between 5 AM and 10 PM, limited by 6 hours of energy equivalence as proposed in the PG&E hydro adjustment. During 2014, the Energy Division and the ISO will work together to analyze the bidding behavior of the units reported as flexible until the ISO implements its tariff and bidding replacement rules for the MOO of Flexible Capacity resources.
- Each LSE's 2014 RA compliance will be unaffected from past years. No penalties shall be imposed in the 2014 RA compliance year in the event that an LSE did not meet its monthly flexibility target or committed an RA resource as flexible that did not subsequently submit an economic bid. However, LSEs are

[77] The LSEs will have flexibility procurement targets in 2014. From 2015 onwards, the LSEs will have flexible procurement obligations.

required to show all eligible flexible resources in their RA filings. The Energy Division reserves the right to refer a RA violation to CPSD if an LSE fails to comply with the requirement.

B. The Flexible Capacity Framework Starting with the 2015 RA compliance year

1. By May of each year the ISO will complete and file in the RA proceeding, a flexible capacity study together with the Local Capacity Requirements (LCR) study, which lists flexible capacity needs for each month of the following year. Stakeholders will vet the studies and submit comments to the CPUC. The annual RA decision will then adopt final study results, which consists of aggregate monthly flexible obligations along with the LCR.
2. An LSE's flexible procurement obligation is calculated as follows, consistent with how system and local RA requirements are allocated.

LSE monthly flexible capacity procurement obligation= [(LSE monthly coincident peak load)/ (ISO monthly coincident peak load)]* Cumulative Flexible Capacity Requirements

3. Flexible resources shall comply with the MOO as per the ISO tariff.
4. The sale of flexible capacity will entail an enhanced MOO and a potentially higher cost to a resource owner. Therefore, a resource owner will have discretion in the sale of generic and flexible capacity. A resource owner with a resource consisting of both "generic" capacity (below Pmin) and bundled "flexible" capacity, may elect to, or not to, sell the generic capacity prior to selling the bundled flexible capacity. Flexible capacity must be bid in accordance with the enhanced must-offer obligation for flexible resources according to ISO tariff.
5. A resource owner may elect to sell any portion of qualified flexible capacity as inflexible.
6. A resource owner may sell the flexible and inflexible capacity in separate transactions and to different purchasers. A megawatt may be sold only once as either flexible or inflexible.

(End of Appendix A)