

PUBLIC UTILITIES COMMISSION

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Ratesetting

TO PARTIES OF RECORD IN RULEMAKING 19-11-009:

This is the proposed decision of Administrative Law Judge Debbie Chiv. Until and unless the Commission hears the item and votes to approve it, the proposed decision has no legal effect. This item may be heard, at the earliest, at the Commission's June 24, 2021 Business Meeting. To confirm when the item will be heard, please see the Business Meeting agenda, which is posted on the Commission's website 10 days before each Business Meeting.

Parties of record may file comments on the proposed decision as provided in Rule 14.3 of the Commission's Rules of Practice and Procedure.

The Commission may hold a Ratesetting Deliberative Meeting to consider this item in closed session in advance of the Business Meeting at which the item will be heard. In such event, notice of the Ratesetting Deliberative Meeting will appear in the Daily Calendar, which is posted on the Commission's website. If a Ratesetting Deliberative Meeting is scheduled, ex parte communications are prohibited pursuant to Rule 8.2(c)(4).

/s ANNE E. SIMON
Anne E. Simon
Chief Administrative Law Judge

AES:lil

Attachment

Decision PROPOSED DECISION OF ALJ CHIV (Mailed 5/21/2021)

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Oversee
the Resource Adequacy Program,
Consider Program Refinements, and
Establish Forward Resource Adequacy
Procurement Obligations.

Rulemaking 19-11-009

**DECISION ADOPTING LOCAL CAPACITY OBLIGATIONS
FOR 2022-2024, FLEXIBLE CAPACITY OBLIGATIONS FOR 2022, AND
REFINEMENTS TO THE RESOURCE ADEQUACY PROGRAM**

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**DECISION ADOPTING LOCAL CAPACITY OBLIGATIONS
FOR 2022-2024, FLEXIBLE CAPACITY OBLIGATIONS FOR 2022, AND
REFINEMENTS TO THE RESOURCE ADEQUACY PROGRAM**

Summary

This decision adopts local capacity requirements for 2022-2024 and flexible capacity requirements for 2022 applicable to Commission-jurisdictional load-serving entities. This decision also adopts refinements to the Resource Adequacy program and addresses issues scoped as Track 3B.1 and Track 4.

This proceeding remains open.

1. Background

In November 2019, the Commission issued the Order Instituting Rulemaking to oversee the Resource Adequacy (RA) program, consider changes and refinements to the program, and establish forward RA procurement obligations applicable to Commission-jurisdictional load-serving entities (LSEs) beginning with the 2021 compliance year.

A Scoping Memo and Ruling (Scoping Memo) for this proceeding was issued on January 22, 2020. The Scoping Memo identified the issues to be addressed, and set forth a schedule and process for addressing those issues. In addition to identifying the issues in this proceeding, the Scoping Memo divided the issues into three tracks (Tracks 1, 2, and 3). On July 7, 2020, an Amended Scoping Memo was issued that divided Track 3 into Tracks 3A and 3B. To accommodate the numerous issues in Track 3B, Track 3B was later split into Tracks 3B.1 and 3B.2 via a December 11, 2020 Amended Scoping Memo. The December 11, 2020 Amended Scoping Memo thus reorganized the remaining issues into Track 3B.1, Track 3B.2, and Track 4.

Track 1 issues were addressed in Decision (D.) 20-06-028, issued on June 25, 2020. Track 2 issues were addressed in D.20-06-031, issued on June 30, 2020. Issues scoped as Track 3A were addressed in D.20-12-006, issued on December 4, 2020. This decision resolves issues scoped as Track 3B.1 and Track 4.

Track 3B.2 issues will be addressed in a separate decision forthcoming in this proceeding.

1.1. Procedural History of Track 3B

On August 7, 2020, Track 3B proposals¹ and comments on the Amended Scoping Memo were filed by: Alliance for Retail Energy Markets (AREM); American Wind Energy Association of California (AWEA-CA); California Community Choice Association (CalCCA); California Energy Storage Alliance (CESA); California Independent System Operator (CAISO); Center for Energy Efficiency and Renewable Technologies (CEERT); CPower, Enel X North America, Inc. (Enel X), and California Efficiency + Demand Management Council (CEDMC); Green Power Institute (GPI); Independent Energy Producers Association (IEP); Pacific Gas and Electric Company (PG&E); Protect Our Communities Foundation (PCF); Powerex Corp. (Powerex); San Diego Gas & Electric Company (SDG&E); Southern California Edison Company (SCE) and CalCCA (SCE/CalCCA); Southwestern Power Group II, LLC (SWPG); and Western Power Trading Forum (WPTF). Energy Division's Track 3B proposal was filed and served via an Administrative Law Judge's (ALJ) ruling.

¹ Proposals submitted prior to the splitting of Track 3B into Tracks 3B.1 and 3B.2 on December 11, 2021 are referred to as "Track 3B Proposals." Proposals and comments submitted thereafter are referenced based on their designated track.

A workshop on Track 3B proposals was held on November 18, 2020 and November 23, 2020. A joint agency workshop was held by the Commission, the California Energy Commission, and CAISO on November 24, 2020 to address capacity values for behind-the-meter hybrid resources.

Revised Track 3B.1 proposals were filed on January 28, 2021 by: American Clean Power – California (ACP); AReM; Brookfield Renewable Trading and Marketing LP (BRTM); California Wind Energy Association (CalWEA); CAISO; CEERT; CESA; GPI; CEDMC, CPower, Enel X, Leapfrog Power, Inc., and OhmConnect, Inc. (collectively, Joint Demand Response (DR) Parties); PG&E; Powerex; SCE; SDG&E; Solar Energy Industries Association, Large-Scale Solar Association, and Vote Solar (collectively, Solar Parties); SWPG; and WPTF. A workshop on Track 3B.1 proposals was held on February 25, 2021.

Comments on Track 3B.1 proposals were filed on March 12, 2021 by: ACP, AReM, Bonneville Power Administration (Bonneville), BRTM, CAISO, CalCCA, Calpine Corp. (Calpine), CalWEA, California Environmental Justice Alliance (CEJA) and Sierra Club (CEJA/Sierra Club), CEERT, CESA, California Large Energy Consumers Association (CLECA), Department of Market Monitoring of CAISO (DMM), Golden State Clean Energy (GSCE), GPI, Hydrostor, Inc. (Hydrostor), Joint DR Parties, LS Power Development LLC (LS Power), Middle River Power, LLC (MRP), Pattern Energy Group, LP (Pattern Energy), PCF, PG&E, Public Advocates Office (Cal Advocates), SCE, SDG&E, Solar Parties, SWPG, the Utility Reform Network (TURN), Vistra Corp. (Vistra), and WPTF.

Reply comments on Track 3B.1 proposals were filed on March 26, 2021 by: AReM, CAISO, Cal Advocates, CalCCA, Calpine, CEERT, CESA, CLECA, GPI, Hydrostor, Joint DR Parties, MRP, OhmConnect, Inc. (OhmConnect), PCF, PG&E, SCE, SDG&E, Solar Parties, and San Jose Clean Energy (SJCE).

1.2. Procedural History of Track 4

Track 4 proposals were filed on January 28, 2021 by BRTM, CAISO, Joint DR Parties, and a collective filing from the following parties: Sunrun Inc. (Sunrun), CESA, California Solar & Storage Association, Tesla, Inc., CEERT, Vote Solar, and Enel X (collectively, Joint Solar/Storage Parties). Energy Division's Track 4 proposal was filed and served by an ALJ ruling.

A workshop on Track 4 proposals was held on February 25, 2021. Comments on Track 4 proposals were filed on March 12, 2021 by: ACP, AReM, CAISO, Cal Advocates, CalCCA, Calpine, CalWEA, CEERT, CEJA/Sierra Club, CESA, CLECA, DMM, GSCE, Hydrostor, Joint DR Parties, LS Power, MRP, PG&E, SCE, SDG&E, Solar Parties, Vistra, and WPTF.

Reply comments were filed on March 26, 2021 by: CAISO, Cal Advocates, CalCCA, Calpine, CalWEA, CEERT, CESA, CLECA, Joint DR Parties, MRP, OhmConnect, PCF, PG&E, SCE, SDG&E, Solar Parties, and Sunrun.

On April 19, 2021, Energy Division submitted a Demand Response proposal that addressed issues relating to CAISO's Business Practice Manual Proposed Revision Request 1280 and demand response in a supply-side context. Energy Division's Demand Response proposal was filed and served by an ALJ ruling. Comments on Energy Division's Demand Response proposal were filed on April 29, 2021 by: CAISO, Cal Advocates, CalCCA, CLECA, Joint DR Parties, MRP, PCF, PG&E, SCE, and SDG&E. Reply comments were filed on May 4, 2021 by CAISO, CLECA, Joint DR Parties, PCF, PG&E, SCE, and SDG&E.

2. Issues Before the Commission

2.1. Scope of Track 3B.1

The scope of Track 3B.1, as adopted in the December 11, 2021 Amended Scoping Memo, is summarized below:

1. Incentives for LSEs that are deficient in year-ahead RA filings.
2. Refinements to the Maximum Cumulative Capacity buckets adopted in D.20-06-031.
3. Other time-sensitive issues identified by Energy Division or parties, which may include the August 7, 2020 proposals (other than issues designated as Track 3B.2).

2.2. Scope of Track 4

The scope of Track 4 is summarized below:

1. Adoption of the 2022-2024 Local Capacity Requirements (LCR).
 - a. Evaluation of CAISO's updated LCR reliability criteria. D.20-06-031 set forth a working group process to address various issues.
2. Adoption of the 2022 Flexible Capacity Requirements (FCR).
3. Adoption of the 2023 System RA Requirements.
4. Other Refinements to the RA program:
 - a. Capacity values for behind-the-meter hybrid storage/solar resources.
 - b. Demand Response Working Group Report on Load Impact Protocol and Qualifying Capacity recommendations.
 - c. Other time-sensitive issues identified by Energy Division or parties in proposals.

All proposals and comments submitted by parties were considered; however, given the large number of parties and issues in this proceeding, some proposals and comments may receive little or no discussion in this decision. Issues within the scope of the proceeding that are not addressed or only partially addressed in this decision may be addressed in a successor RA proceeding.

Issues scoped as part of Track 3B.2 will be addressed in a separate decision forthcoming in this proceeding.

3. 2022-2024 Local Capacity Requirements (LCR)

In D.06-06-064, the Commission established the local RA framework and adopted local procurement obligations for 2007. In D.06-06-064, the Commission determined that a study of LCR, performed by CAISO, would form the basis for the local RA program and determined that the local requirements should be based on a level of reliability described as “Option 2” in the CAISO’s LCR study report.² CAISO conducts its LCR study annually and the Commission resets local procurement obligations each year after a review and approval of CAISO’s recommendations. A series of subsequent decisions (most recently D.20-06-031) established local procurement obligations for 2008 through 2023. In D.19-02-022, multi-year local RA requirements were adopted for a three-year duration beginning with the 2020 compliance year. Local RA requirements are allocated to Commission-jurisdictional LSEs and each LSE must procure sufficient RA capacity resources in each local area to meet its obligations.

Each year from 2007 to 2019, CAISO used the Option 2 reliability criteria as the basis for the annual LCR study. However, in 2020, CAISO changed its LCR study methodology. In its Final 2021 Final Local Capacity Technical Study (Final

² D.06-06-064 at 17. Option 2 is described as:

Option 2 - Meet Performance Criteria Category C and Incorporate Suitable Operational Solutions - This option represents LCRs and deficiencies associated with “Performance Criteria-Category C” with operational solutions. According to the CAISO’s LCR study report, Category C describes the system performance that is expected following the loss of two or more system elements expected to happen simultaneously, a condition is referred to as “N-2.” By reflecting transmission operational solutions, this option allows for a lower generation requirement. However, long-duration outages would potentially subject load to extended outages.

LCR Report), issued in 2020, CAISO stated that it conducted a stakeholder process in 2019 to update the LCR criteria to align with current mandatory reliability standards developed by the North American Electric Reliability Corporation (NERC), the Western Electricity Coordinating Council (WECC), and CAISO.³ The Final LCR Report stated that the Federal Energy Regulatory Commission (FERC) approved CAISO tariff changes to align the LCR criteria with mandatory standards with no stakeholder opposition.

In 2020, CAISO stated that the updated LCR criteria closely aligned with prior requirements, as shown by the relatively small increase (517 megawatts (MW) or 2.2 percent) in overall local capacity requirements between 2020 and 2021. Yet in D.20-06-031, the Commission observed:

However, at the local area and sub-area level, the changes in capacity needs are varied. Some local areas and sub-areas have increased requirements while others have decreased requirements, with many smaller sub-areas being eliminated. In particular, the updated criteria resulted in an 1,850 MW increase in the Greater Bay Area local requirement, which represents a roughly 40 percent increase over the previous LCR study.⁴

For this year's 2022 Final LCR Report, CAISO states that no methodological changes were made from the 2021 Final LCR Report.

CAISO's Draft 2022 LCR Report was received on April 2, 2021. Comments on the Draft LCR Report were filed on April 12, 2021 by PG&E and PCF.

CAISO's 2022 Final LCR Report was received on April 30, 2021. CalCCA and

³ CAISO Notice of Availability, 2021 Final Local Capacity Technical Study, May 1, 2020, at Section 1.5.

⁴ D.20-06-031 at 9.

PCF filed comments to the Final LCR Report on May 7, 2021. CAISO, PCF, and WPTF filed reply comments on May 11, 2021.

The CAISO's recommended 2022-2024 LCR values are summarized in the following table, with the recommended 2021-2023 LCR values provided for comparison.

2022-2024 Local Capacity Requirements			
Local Area Name	2022	2023	2024
Humboldt	111	115	120
North Coast/North Bay	834*	834*	834*
Sierra	1220*	1338*	1455*
Stockton	562*	562*	562*
Greater Bay	7231*	7418*	7605*
Greater Fresno	1987*	2069*	2151*
Kern	356*	375*	394*
Big Creek/Ventura	2173	935	951
LA Basin	6646	6196	6251
San Diego/Imperial Valley	3993	3540	3330
Total	25113	23382	23653
* CAISO note: Details about magnitude of deficiencies can be found in the applicable section [of the LCR Report]. Resource deficient areas and sub-area implies that in order to comply with the criteria, at summer peak, load may be shed immediately after the first contingency.			

2021-2023 Local Capacity Requirements			
Local Area Name	2021	2022	2023
Humboldt	130	131	131
North Coast/North Bay	842*	842	840
Sierra	1821*	1834*	1371*
Stockton	596*	596*	642*
Greater Bay	6353	6292	6231
Greater Fresno	1694*	1763*	1832*
Kern	413*	413*	300*
Big Creek/Ventura	2296	2291	1013
LA Basin	6127	6387	6361
San Diego/Imperial Valley	3888	3640	3481
Total	24160	24189	22202

* CAISO note: Details about magnitude of deficiencies can be found in the applicable section [of the LCR Report]. Resource deficient areas and sub-area implies that in order to comply with the criteria, at summer peak, load may be shed immediately after the first contingency.

3.1. Comments to CAISO's LCR Study

PG&E seeks clarification as to why a 140 MW increase in the load forecast resulted in a ~900 MW increase in the Greater Bay Area LCR and why the increase was lowered from an initial ~1,250 MW increase that CAISO presented to stakeholders.⁵ PG&E expresses concern that CAISO's explanations of methodological changes were not made available to a wider group of stakeholders, and recommends the Commission address transparency of the LCR study in the LCR Working Group in this proceeding. PG&E also requests information on how CAISO will address deficiencies if there is sufficient capacity but insufficient energy, and clarification of zonal constraints.

PCF raises concerns about CAISO reliability requirements exceeding that of the NERC and WECC leading to excessive transmission costs, and about

⁵ PG&E Comments on Draft 2022 Local Capacity Technical Study, April 12, 2021, at 2.

utility participation in the forecasting process that can lead to excessive costs.⁶ PCF asserts that CAISO erroneously forecasts net load growth and sets the peak demand hour in San Diego-IV at 8:00 p.m., which is later than historical peaks and forecasted peaks in nearby areas such as LA Basin.

CalCCA raises concerns that the LCR requirement for the Greater Bay Area increased significantly for the second year in a row. It recommends that the LCR Working Group immediately consider this “extreme need growth” and PG&E be directed to investigate transmission options to reduce the LCR need.⁷ CalCCA recommends not adopting the 2022 LCR requirement for the Greater Bay Area and that because the Commission did not adopt higher requirements for 2022 in D.20-06-031, adopting a higher 2023 requirement could result in LSEs seeking one-year contracts and likely requesting local waivers for the Greater Bay Area.

CAISO responds that no methodological changes were made this year and that the deficiency in the San Jose sub-area had no impact on the Greater Bay Area requirement. CAISO responds that local energy deficiencies are considered similar to effectiveness factor deficiencies where no individual LSE is responsible but together all LSEs must meet the requirement so the cost allocation will be collective. CAISO echoes PG&E’s concern on zonal constraints and recommends PG&E propose that the Commission reinstate zonal requirements because CAISO does not have backstop authority for zonal constraints.

In response to PCF, CAISO generally states that PCF has overstated transmission costs in the SDG&E territory, that CAISO standards address issues

⁶ PCF Comments on Draft 2022 Local Capacity Technical Study, April 12, 2021, at 2, 6; PCF Comments on Final 2022 Local Capacity Technical Study, May 7, 2021, at 3, 7.

⁷ CalCCA Comments on Final 2022 Local Capacity Technical Study, May 7, 2021, at 4.

not already covered by NERC and WECC standards that are necessary to reliably operate the grid, that the load forecast is consistent with the CEC's Integrated Energy Policy Report (IEPR) forecast, and that utilities must participate in the LCR study process because only they have the detailed distribution-level data necessary to distribute to each individual bus bar.

WPTF opposes CalCCA's proposal to reject the LCR values for the Greater Bay Area, arguing that CalCCA did not oppose the LCR criteria at FERC or participate in CAISO's stakeholder process, nor has CalCCA proposed changes to the criteria.⁸ WPTF states that given the tight system conditions, the incremental Bay Area capacity will need to be procured as system capacity regardless of the Greater Bay Area LCR. WPTF adds that not procuring needed capacity runs counter to Public Utilities (Pub. Util.) Code § 380 which requires LSEs to procure sufficient capacity to maintain local reliability. CAISO also disagrees with CalCCA's proposal because the increased requirement is largely due to the load forecast increase in the San Jose sub-area.⁹ PCF agrees with CalCCA's recommendation.¹⁰

3.2. Discussion

In D.20-06-031, the Commission expressed concern that the revised reliability criteria implemented for the 2021 Final LCR study had not been fully vetted by the Commission.¹¹ The Commission therefore directed a working group to evaluate CAISO's updated criteria and other LCR related issues and

⁸ WPTF Reply Comments on Final 2022 LCR Local Capacity Technical Study, May 11, 2021, at 2-7.

⁹ CAISO Reply Comments on Final 2022 Local Capacity Technical Study, May 11, 2021, at 1.

¹⁰ PCF Reply Comments on Final 2022 Local Capacity Technical Study, May 11, 2021, at 1.

¹¹ D.20-06-031 at 8.

offer recommendations on the local RA requirements process.¹² The LCR Working Group was directed to evaluate the following issues:

- (1) Evaluation of the newly adopted CAISO reliability criteria in relation to NERC and WECC mandatory reliability standards;
- (2) Interpretation and implementation of CAISO's reliability standards, mandatory NERC and WECC reliability standards, and the associated reliability benefits and costs;
- (3) Benefits and costs of the change from the old reliability criteria "Option 2/Category C" to CAISO's newly adopted reliability criteria;
- (4) Potential modifications to the current LCR timeline or processes to allow more meaningful vetting of the LCR study results;
- (5) Inclusion of energy storage limits in the LCR report and its implications on future resource procurement; and
- (6) How best to harmonize the Commission's and CAISO's local resource accounting rules.

Due to the numerous issues in Track 3B and Track 4, an ALJ ruling was issued on February 2, 2021 that suspended the deadline for a Working Group Report on LCR recommendations. To date, an LCR Working Group Report has not yet been submitted and the working group has made little progress on LCR issues over the past year. The Commission agrees with CalCCA and PG&E that there is value in continuing the LCR Working Group given that the Greater Bay Area LCR requirement has once again increased substantially. The Commission recommends that PG&E and CalCCA co-lead the LCR Working Group going forward. The LCR Working Group is directed to continue to evaluate and make

¹² *Id.*

recommendations on the six topics listed above and to submit a Working Group Report into the successor RA proceeding in February 2022.

To avoid creating a disconnect between setting local RA requirements for 2022 and CAISO's 2022 backstop decisions, the Commission finds it necessary to adopt the LCR study results for 2022 for all local areas. Although there was a significant increase in the recommended Greater Bay Area LCR for 2023 and 2024, there have been no proposed changes to the LCR criteria in this proceeding over the past year. We anticipate that the LCR Working Group will offer such recommendations for consideration in this upcoming year. At this time, the Commission agrees with parties that support adopting the recommended LCR values for 2022 – 2024 for all local areas. Accordingly, CAISO's recommended 2022 – 2024 LCR values set forth in the table above are adopted.

4. 2022 Flexible Capacity Requirements (FCR)

D.13-06-024 and D.14-06-050 adopted a flexible capacity requirement to begin in 2015 and defined implementation guidelines. D.13-06-024 recognized a need for flexible capacity in the RA fleet and defined flexible capacity need:

“Flexible capacity need” is defined as the quantity of resources needed by the CAISO to manage grid reliability during the greatest three-hour continuous ramp in each month. Resources will be considered as “flexible capacity” if they can sustain or increase output, or reduce ramping needs, during the hours of “flexible need.”¹³

This year, CAISO notified the Commission that both the draft and final Flexible Capacity Needs Assessment for 2022 (Final FCR Report) would be delayed. An ALJ ruling directed parties to file comments to the Draft FCR Report on April 29, 2021 and the Final FCR Report on May 18, 2021. The Draft

¹³ D.13-06-024 at 2.

FCR Report was filed on April 21, 2021. GPI filed comments to the Draft FCR Report on April 29, 2021. The Final FCR Report was filed on May 14, 2021.

Comments on the Final FCR Report were filed on May 18, 2021 by GPI and PCF.

The Final FCR Report contains the following figures for 2022, with the 2021 FCR figures provided for comparison.

2022 Flexible Capacity Requirements					
NOTE: All numbers are in Megawatts	CAISO System Flexible Requirement	CPUC Flexible Requirement	CPUC		
			Category 1 (minimum)	Category 2 (100% less Cat. 1 & 3)	Category 3 (maximum)
January	19,140	18,532	7,393	10,212	927
February	19,584	18,742	7,477	10,328	937
March	19,362	18,694	7,458	10,301	935
April	19,527	18,853	7,521	10,389	943
May	20,180	19,378	9,613	8,796	969
June	17,318	16,552	8,211	7,513	828
July	16,648	15,924	7,900	7,228	796
August	16,956	16,198	8,036	7,352	810
September	17,030	16,453	8,162	7,468	823
October	19,707	18,912	7,545	10,421	946
November	19,300	18,740	7,476	10,327	937
December	19,819	19,321	7,708	10,647	966

2021 Flexible Capacity Requirements					
NOTE: All numbers are in Megawatts	CAISO System Flexible Requirement	CPUC Flexible Requirement	CPUC		
			Category 1 (minimum)	Category 2 (100% less Cat. 1 & 3)	Category 3 (maximum)
January	19,596	18,996	7,162	10,884	950
February	18,574	18,031	6,798	10,331	902
March	19,832	19,057	7,185	10,919	953
April	19,088	18,269	6,888	10,468	913
May	17,987	17,145	8,466	7,822	857
June	18,106	17,364	8,574	7,922	868
July	15,725	15,076	7,444	6,878	754
August	15,909	15,214	7,512	6,941	761
September	18,183	17,416	8,599	7,946	871
October	19,102	18,327	6,910	10,501	916
November	19,816	18,964	7,150	10,866	948
December	17,361	16,701	6,297	9,569	835

In light of the brief review period available for the Final FCR Report, the FCR figures appear reasonable. Accordingly, CAISO's recommended values set forth in the table above are adopted.

5. 2022 System Requirements and Planning Reserve Margin

The Amended Scoping Memo included "[a]doption of the 2022 System RA requirements" as a Track 4 issue, as follows:

The Commission imposes a system requirement based on the California Energy Commission's (CEC) 1-in-2 monthly load forecast, plus 15 percent planning reserve margin [PRM]. Absent any alternative proposals, this framework is expected to continue for the 2022 RA program year.

In Rulemaking (R.) 20-11-003, the Order Instituting Rulemaking (OIR) to Establish Policies, Processes, and Rules to Ensure Reliable Electric Service in

California in the Event of an Extreme Weather Event in 2021 (Emergency Reliability OIR), the Commission issued a decision that adopted an interim approach that increases the effective PRM to 17.5% beginning in summer 2021.¹⁴

The Commission stated:

The adopted effective 17.5% PRM supports the goal of meeting net peak demand; we continue to require all LSEs, including [investor-owned utilities (IOUs)], to meet their 15% system RA PRM requirement, and the large electric IOUs are required to target a minimum of 2.5% of incremental resources that are available at net peak through the efforts authorized in this proceeding.

For 2021, this results in a minimum target of 450 megawatts (MW) for PG&E, 450 MW for SCE, and 100 MW for SDG&E, based on 2.5% of the average CPUC jurisdictional share of CAISO peak load during peak summer months per the CEC's 2019 Integrated Energy Policy Report forecast for the year 2021.¹⁵

The Commission adopted the incremental PRM procurement targets for each IOU for 2021 and 2022, unless superseded by a future Commission decision.¹⁶

In this proceeding, CAISO, Cal Advocates, and WPTF put forward proposals on adjustments to the PRM. CAISO recommends a 17.5% PRM for resource needs during the 8:00 p.m. hour from June through October 2022.¹⁷ CAISO believes this is critical to ensuring CAISO can use its monthly Capacity Procurement Mechanism (CPM) to backstop for RA deficiencies and apply

¹⁴ D.21-03-056 at Section 5 of Attachment 1.

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ CAISO Track 3B.1 Proposal, January 28, 2021, at 27.

CAISO tariff requirements, such as the must-offer obligation (MOO) and the Resource Adequacy Availability Incentive Mechanism (RAAIM).¹⁸

Cal Advocates recommends using a 1 in 5 IEPR load forecast plus a 13% PRM, which under the current RA program is equivalent to the 1 in 2 IEPR forecast plus a 17.8% PRM.¹⁹ Cal Advocates states that the higher forecast is more likely to reflect climate change impacts, including probability of extreme weather. WPTF recommends a process to reevaluate the PRM for 2023 and beyond, which includes Energy Division and CAISO producing a joint loss of load expectation (LOLE) study, updates to the PRM based on the study and comments, and periodic updates to the PRM as system conditions and resource mix evolves.²⁰

A range of parties oppose increasing the PRM for summer 2022, including AReM, Calpine, CLECA, CEJA/Sierra Club, PCF, PG&E, SCE, and SDG&E.²¹ These parties generally state that a PRM increase must be further substantiated in this proceeding, including through LOLE studies to ensure the desired reliability level can be achieved. SDG&E supports a PRM working group to submit recommendations based on Energy Division's LOLE analysis. SCE and CLECA point out that there is no need to increase the PRM for 2022 because the Emergency Reliability OIR adopted the effective 17.5% PRM for summer 2022.

¹⁸ CAISO Track 3B.1 Comments, March 12, 2021, at 13.

¹⁹ Cal Advocates Tracks 3 and 4 Comments, March 12, 2021, at 6.

²⁰ WPTF Tracks 3B and 4 Comments, March 12, 2021, at 8.

²¹ *See, e.g.*, AReM Track 3B.1 Reply Comments, March 26, 2021, at 1; Calpine Tracks 3B.1 and 4 Reply Comments, March 26, 2021, at 1; CLECA Tracks 3B.1 and 4 Comments, March 12, 2021, at 9; CEJA/Sierra Club Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 15; PCF Track 3 Comments, March 12, 2021, at 4; PG&E Tracks 3B.1 and 4 Reply Comments, March 26, 2021, at A1-5; SCE Tracks 3B.1 and 4 Reply Comments, March 26, 2021, at 9; SDG&E Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 30.

CalCCA and Calpine support CAISO's proposal for 2022 but CalCCA asserts that more robust evaluation is needed for future years and Calpine seeks additional clarifications.²² SDG&E opposes Cal Advocates' proposal as unsupported by rigorous analysis and inconsistent with accepted industry standards, and AReM opposes it as untimely and raised in comments.²³

The Commission observes a consensus among parties opposing an increase in the PRM for summer 2022 and supporting study of the PRM in this proceeding, including via an LOLE study. The Commission agrees with these parties. In D.20-06-031, Energy Division was authorized to facilitate a working group to develop assumptions for use in an LOLE study and to perform an LOLE study.²⁴ We anticipate that Energy Division will issue its LOLE study in the coming months for consideration in a future phase of the RA proceeding. For these reasons, we decline to modify the PRM at this time.

As discussed, D.21-03-056, issued in the Emergency Reliability OIR, adopted an effective 17.5% PRM to apply for summer 2022 and thus, the effective 17.5% PRM shall apply for summer 2022.

6. Refinements to the RA Program

6.1. Maximum Cumulative Capacity Buckets

The Commission recently adopted revisions to the Maximum Cumulative Capacity (MCC) Buckets in D.20-06-031. The revisions included instituting a cap on the demand response (DR) bucket and updating the buckets for other use-limited resources to address overreliance of such resources, as well as a cap

²² CalCCA Tracks 3B.1 and 4, March 12, 2021, at 11; Calpine Tracks 3B.1 and 4 Comments, March 12, 2021, at 1.

²³ SDG&E Tracks 3B.1 and 4 Reply Comments, March 26, 2021, at 7; AReM Track 3B.1 Reply Comments, March 26, 2021, at 3.

²⁴ D.20-06-031 at 21.

on solar and wind resources using a net load duration curve. The MCC Buckets adopted in D.20-06-031 are as follows:

Category	Availability	Maximum Cumulative Capacity for Bucket and Buckets Above
DR	Varies by contract or tariff provisions, but must be available Monday – Friday, 4 consecutive hours between 4 PM and 9 PM, and at least 24 hours per month from May – September	8.3%
1	Monday – Friday, 4 consecutive hours between 4 PM and 9 PM, and at least 40 hours per month from May – September	16.0%
2	Every Monday – Friday, 8 consecutive hours that include 4 PM – 9 PM	22.2%
3	Every Monday – Saturday, 16 consecutive hours that include 4 PM – 9 PM	34.8%
4	Every day of the month. Dispatchable resources must be available all 24 hours.	100% (at least 56.1% available all 24 hours)

The Commission considers proposals to further modify the MCC Buckets below. We note that CEJA/Sierra Club and Hydrostor object to any modifications to the MCC Buckets, as these parties recommend waiting until broader changes are implemented through the Emergency Reliability OIR or Track 3B.2, respectively.²⁵

6.1.1. Saturday Availability

Energy Division recommends that all MCC Buckets be modified to require availability Monday through Saturday.²⁶ Energy Division reasons that during the August/September 2020 heat waves, of the six days when CAISO's peak load exceeded 44,000 MW, three days fell on weekends when approximately 3,000 MW of RA that would be available on weekdays was not available.

²⁵ CEJA/Sierra Club Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 3; Hydrostor Tracks 3 and 4 Comments, March 12, 2021, at 4.

²⁶ Energy Division Track 4 Proposal, January 28, 2021, at 2.

Parties that support this proposal include CAISO, MRP, PG&E, TURN, and WPTF.²⁷ MRP and CAISO recommend including Sunday availability, in addition to Saturday, because CAISO observed its highest 2020 demand on Sunday, September 6. Joint DR Parties and SDG&E oppose the proposal and state that the 2020 heat waves are an insufficient basis to warrant revising the MCC Buckets.²⁸

The Commission agrees that the August/September heat waves revealed that weekday only resource availability was insufficient to ensure grid reliability. To address this reliability gap, it is prudent and reasonable to adjust the MCC Buckets to require Saturday availability. We decline to require Sunday availability at this time; however, we will continue to monitor weekend resource availability and may make further adjustments as warranted. Accordingly, the MCC Buckets shall be adjusted to require availability Monday through Saturday. This shall be effective for the 2022 RA compliance year.

6.1.2. Category 1 Availability Hours

Category 1 contains resources such as energy storage that can dispatch for four hours. Energy Division proposes that the minimum availability of Category 1 resources should be increased from 40 to 100 hours per month between 4:00 p.m. and 9:00 p.m. and apply year-round.²⁹ Energy Division asserts that due

²⁷ CAISO Track 4 Comments, March 12, 2021, at 2; MRP Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 16; PG&E Tracks 3B.1 and 4 Comments, March 12, 2021, at A1-2; TURN Tracks 3B.1 and 3B.2 Comments, March 12, 2021 at 1; WPTF Tracks 3B.1 and 4 Comments, March 12, 2021, at 5.

²⁸ Joint DR Parties Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 10; SDG&E Track 3B.1 Comments, March 12, 2021, at 14.

²⁹ Energy Division Track 4 Proposal, January 28, 2021, at 2.

to the increased prevalence of use-limited resources, it is necessary to require these resources for additional hours.

CAISO, PG&E, and WPTF support this proposal.³⁰ PG&E states that the proposal may effectively incentivize procuring resources that meet net peak load need and provide a transitional structure until Track 3B.2 proposals can be developed. CESA conditionally supports the proposal so long as a bid cap proposal is not also adopted.³¹ TURN opposes the proposal because there is insufficient evidence that an extension is warranted.³²

The Commission observes that use-limited resources, such as intermittent renewable and energy storage resources, are becoming more prevalent and that given the August/September heat waves, expanding the availability hours of Category 1 resources is a prudent means to better ensure grid reliability. We therefore agree that the availability hours of Category 1 resources should be expanded and applied year-round. Accordingly, the minimum availability of Category 1 resources shall increase to 100 hours per month between 4:00 p.m. – 9:00 p.m. and apply year-round. This shall be effective for the 2022 RA compliance year.

6.1.3. Elimination of Category 2

To reduce complexity of the MCC Buckets, Energy Division recommends eliminating Category 2 because this category is rarely used and there are few resources that are available for 8, but not 16, hours per day.³³

³⁰ CAISO Track 4 Comments, March 12, 2021, at 2; PG&E Tracks 3B.1 and 4 Comments, March 12, 2021, at A1-2; WPTF Tracks 3B and 4 Comments, March 12, 2021, at 5.

³¹ CESA Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021 at 27.

³² TURN Tracks 3B.1 and 3B.2 Comments, March 12, 2021 at 2.

³³ Energy Division Track 4 Proposal, January 28, 2021, at 2.

Parties that oppose the proposal include CAISO, CESA, Hydrostor, LS Power, and PG&E.³⁴ Hydrostor states that removing Category 2 sends the wrong signal to developers of 8-hour long-duration energy storage. PG&E contends that the rare use of Category 2 is insufficient justification to reduce the granularity of the MCC Buckets. CAISO and CESA note that eliminating Category 2 may conflict with direction in the Integrated Resource Plan (IRP) proceeding, R.20-05-003, where the Commission proposed a minimum 1,000 MW procurement of 8-hour duration storage by 2025. TURN supports the proposal.³⁵

The Commission agrees that there is insufficient justification for this proposal and that removing Category 2 may be inconsistent with considerations in the IRP proceeding. We decline to adopt this proposal.

6.1.4. DR Bucket Modifications

Joint DR Parties and Energy Division submit proposals to modify the DR Bucket. Joint DR Parties propose applying the DR cap of 8.3% at the system level and to uncap the LSE-specific DR Bucket until the total approved DR providing RA nears the 8.3% threshold.³⁶ Joint DR Parties propose applying the DR cap to only third-party procured resources and exclude DR allocations from IOU DR programs. Joint DR Parties reason that DR allocations are generally not procured by competitive solicitations and are credits that lower an LSE's RA obligation.

³⁴ CAISO Track 4 Comments, March 12, 2021, at 2; CESA Tracks 3B.1 and 4 Comments, March 12, 2021, at 28; Hydrostor Tracks 3B and 4 Comments, March 12, 2021, at 6; LS Power Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 7; PG&E Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at A1-2.

³⁵ TURN Tracks 3B.1 and 3B.2 Comments, March 12, 2021, at 1.

³⁶ Joint DR Parties Track 3B.1 Proposal, January 28, 2021, at 5.

Energy Division suggests lowering the 8.3% cap in light of DR performance issues identified in the Final Root Cause Analysis Report on the August heat waves, which found an observed divergence between Proxy DR (PDR) that was available and awarded in the market.³⁷ Energy Division also proposes other modifications, such as minimum dispatch requirements (i.e. 24 hours/month or 60 hours over summer months), maximum bid prices, and to disallow startup costs for PDR resources.

Several parties oppose lowering the DR cap, including CAISO, Joint DR Parties, OhmConnect, and SCE.³⁸ SCE states that if the concern is performance of PDR resources, the DR bucket could be split in two (one for Reliability Demand Response Resources (RDRRs) and one for PDRs) and the cap of the PDR bucket could be reduced. SCE states that lowering the cap may be viewed as a negative judgment on all DR and potentially stifle distributed energy resources (DER) growth. CAISO recommends further study on the impacts of the 8.3% cap to address equity issues between IOU and third-party provided DR.

Parties object to Energy Division's other DR-related proposals, including CESA, DMM, Joint DR Parties, and SCE.³⁹ Joint DR Parties and SCE oppose a minimum dispatch requirement, noting that it would result in DR dispatching unnecessarily. Joint DR Parties oppose maximum bid prices as reducing DR

³⁷ Energy Division Track 4 Proposal, January 28, 2021, at 6 (citing Final Root Cause Analysis: Mid-August 2020 Extreme Heat Wave, January 13, 2021, at 56, available at: <http://www.caiso.com/Documents/Final-Root-Cause-Analysis-Mid-August-2020-Extreme-Heat-Wave.pdf>).

³⁸ CAISO Track 4 Reply Comments, March 26, 2021, at 7; Joint DR Parties Tracks 3B.1, 3B.2 and 4 Comments, March 12, 2021, at 7; OhmConnect Tracks 3B.1 and 4 Reply Comments, March 26, 2021, at 1; SCE Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 22.

³⁹ CESA Tracks 3B.1 and 4 Reply Comments, March 26, 2021, at 6; DMM Track 4 Comments, March 12, 2021, at 2; Joint DR Parties Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 8; SCE Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 23.

capacity and discriminatory towards DR considering a bid cap for all RA resources is being considered in Track 3B.2. SCE disagrees with a maximum bid price and believes more discussion is necessary to determine a correct bid price. Calpine opposes expanding the DR Bucket until there is more experience with other modifications of the treatment of DR.⁴⁰

The Commission only recently adopted the 8.3% DR cap in D.20-06-031 and therefore, believes that the adopted treatment of DR should first be evaluated before undertaking any additional modifications of the DR Bucket, including adjusting the cap, requiring maximum bid prices, and requiring minimum dispatch. As such, we decline to modify the DR Bucket at this time.

6.1.5. Inclusion of Storage Resources

CESA proposes modifying Categories 1 through 3 to include stepped availability assessment hours (AAHs) and apply the evening peak period and a morning ramp (5:00 a.m. – 9:00 a.m.).⁴¹ CESA believes this structure would permit resources with incremental cycling capabilities and long discharge durations to be included in categories that correspond to the desired operation duration.

Calpine and Hydrostor oppose the proposal.⁴² They argue that a 4-hour battery storage contributing at two non-consecutive periods does not have the same reliability as a consecutive 8-hour resource, leaving potential reliability gaps when a resource is needed for 8 consecutive hours. Hydrostor cites CAISO's 10-year Local Capacity Technical study to show that longer-duration

⁴⁰ Calpine Tracks 3B.1 and 4 Comments, March 12, 2021, at 10.

⁴¹ CESA Track 3B.1 Proposal, January 28, 2021, at 7.

⁴² Calpine Tracks 3B.1 and 4 Comments, March 12, 2021 at 7; Hydrostor Tracks 3 and 4 Comments, March 12, 2021 at 4.

energy storage that can discharge 7 to 13 hours is necessary. LS Power supports CESA's proposal.⁴³

The Commission agrees that CESA's proposal may result in potential reliability gaps when a resource is needed for 8 consecutive hours and finds insufficient record support for the proposal. We decline to adopt this proposal. However, although net qualifying capacity (NQC) values are based on four-hour dispatch, we note that a 4-hour storage resource may be shown in Category 2 on RA filings for half of its NQC value.

In summary, the following modifications to the MCC Buckets are adopted:

Category	Availability	Maximum Cumulative Capacity for Bucket and Buckets Above
DR	Varies by contract or tariff provisions, but must be available Monday – Saturday, 4 consecutive hours between 4 PM and 9 PM, and at least 24 hours per month from May – September	8.3%
1	Monday – Saturday, 4 consecutive hours between 4 PM and 9 PM, and at least 100 hours per month	17.4%
2	Every Monday – Saturday, 8 consecutive hours that include 4 PM – 9 PM	22.2%
3	Every Monday – Saturday, 16 consecutive hours that include 4 PM – 9 PM	34.8%
4	Every day of the month. Dispatchable resources must be available all 24 hours.	100% (at least 56.1% available all 24 hours)

6.2. Supply-Side Demand Response

6.2.1. Demand Response on CAISO Supply Plans

In the RA program, RA capacity from DR resources administered by the IOUs is allocated to LSEs as DR credits that are counted towards an LSE's RA requirements.⁴⁴ In August 2020, CAISO initiated proposed revision request (PRR) 1280 to its Business Practice Manual (BPM). The revision would reject any non-net neutral credits that lower an RA requirement without the resource being

⁴³ LS Power Tracks 3B.1, 3B.2 and 4 Comments, March 12, 2021, at 7.

⁴⁴ See D.09-06-028.

shown on a CAISO Supply Plan. Implementation of PRR 1280 would effectively mean that DR credits allocated to LSEs by the Commission would no longer be accepted by CAISO. PRR 1280 was held in abeyance until August 1, 2021 to provide time for CAISO and the Commission to work collaboratively to resolve RA issues.⁴⁵

In this proceeding, CAISO likewise proposes to discontinue all non-net neutral credits and require all resources counting as RA capacity to be shown on a CAISO Supply Plan.⁴⁶ CAISO states that unlike other RA resources, credited DR resources are not shown on Supply Plans and not subject to CAISO tariff provisions, such as a must-offer obligation. Thus, these resources do not allow CAISO to meet reliability needs and, in the event, they fail to perform, are not subject to RAAIM charges.

PG&E proposes to show its DR portfolio on Supply Plans if DR is categorized as a variable energy resource (VER) exempt from RAAIM.⁴⁷ SCE appears open to showing its DR portfolio on Supply Plans if DR is categorized as a VER that is exempt from RAAIM.⁴⁸

In its Demand Response proposal, Energy Division states that it views DR as a variable resource that should be treated as such in CAISO's system and that DR should be allowed to bid in different capacity amounts on different days/hours depending on operating conditions that affect load impact

⁴⁵ See <http://www.aiso.com/Documents/ExecutiveAppealsCommitteeDecision-PRR1280-Dec092020.pdf>.

⁴⁶ CAISO Track 4 Proposal, January 28, 2021, at 1.

⁴⁷ PG&E Track 3B.1 Proposal, January 28, 2021, at A1-10.

⁴⁸ SCE Tracks 3B.1 and 4 Comments, March 12, 2021, at 18.

magnitude without exposure to RAAIM penalties.⁴⁹ Energy Division thus proposes that IOUs be directed to move DR portfolios onto Supply Plans once CAISO allows DR to participate in its markets as a variable resource exempt from RAAIM, and DR is permitted to bid variably. Energy Division asserts that this approach ensures consistent treatment of all DR resources and addresses DR providers avoiding RAAIM charges by splitting resources into resources of less than 1 MW sizes. Energy Division suggests CAISO find an alternate mechanism to hold DR bidders accountable, so DR market bids accurately reflect available capacity under the applicable operating conditions.

DMM, MRP, and WPTF support CAISO's proposal to discontinue non-net neutral credits and require resources counting as RA to be shown on Supply Plans, although DMM recognizes significant issues that must be resolved, such as the counting methodology.⁵⁰ WPTF asserts that CAISO's proposal would put third-party DR programs on more equal footing with IOU DR programs. CLECA and Joint DR Parties oppose CAISO's proposal.⁵¹ CLECA states that showing IOU DR on Supply Plans would relinquish the Commission's jurisdiction of determining the qualifying capacity (QC) of a preferred resource to CAISO.

⁴⁹ Energy Division Demand Response (DR) Proposal, April 19, 2021, at 3.

⁵⁰ DMM Track 4 Comments, March 12, 2021, at 6; MRP Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 13; WPTF Tracks 3B and 4 Comments, March 12, 2021, at 3.

⁵¹ CLECA Tracks 3B.1 and 4 Comments, March 12, 2021, at 15; Joint DR Parties Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 12.

CLECA, PCF, SCE, and SDG&E support Energy Division's proposal.⁵² PG&E favors the proposal but cautions that to be successful, a new methodology that recognizes DR's variable and use-limited nature should be adopted for CAISO to justify tariff changes.⁵³ PG&E argues that RAAIM is not appropriate for variable resources because it assumes a constant output level and applying RAAIM discriminates against DR because other variable resources (such as wind and solar) are not subject to it.⁵⁴ Joint DR Parties support the proposal but acknowledge that moving IOU DR programs onto Supply Plans will create downstream problems for the Capacity Bidding Program (CBP) penalty structure that need to be addressed.⁵⁵ CLECA concurs that an alternative mechanism should be developed to assure that DR market participants' bids accurately reflect the ability of the capacity to deliver.

MRP and CAISO oppose Energy Division's proposal. CAISO suggests Energy Division's concerns conflate bidding functions with RAAIM application, and that because there is no current prohibition on bidding variably, CAISO need not develop a different DR model.⁵⁶ MRP supports putting DR on Supply Plans, but opposes deferring this until CAISO adopts a variable DR model exempt from RAAIM, stating that all resources that provide reliability and count

⁵² SDG&E Comments on DR Proposal, April 29, 2021, at 2; SCE Comments on DR Proposal, April 29, 2021, at 3; CLECA Comments on DR Proposal, April 29, 2021, at 3; PCF Comments on DR Proposal, April 29, 2021, at 3.

⁵³ PG&E Comments on DR Proposal, April 29, 2021, at 2.

⁵⁴ PG&E Reply Comments on DR Proposal, May 4, 2021, at 3.

⁵⁵ Joint DR Parties Comments on DR Proposal, April 29, 2021, at 3.

⁵⁶ CAISO Comments on DR Proposal, April 29, 2021, at 3.

toward RA requirements should be subject to penalties for failing to fully meet those requirements.⁵⁷

6.2.1.1. Discussion

The Commission is persuaded by parties' and Energy Division's assertions that DR is a variable resource with behavioral and weather-dependent characteristics and that DR should be treated as such in CAISO's market. DR should be permitted to bid different capacity amounts on different days and hours, depending on the operating conditions that affect the magnitude of load expected on a given day and hour. We also concur with PG&E that RAAIM should not apply to DR resources when other variable resources are not subject to it. Therefore, we do not agree with CAISO, as it is clear that DR resources bidding variably according to their availability to reduce load could be penalized for bidding below their QC value depending on applicable conditions on a given day. We find that such penalties would be unreasonable.

CAISO has insisted on the Commission's adoption of an effective load carrying capability (ELCC) methodology for DR as a prerequisite for DR to be exempt from RAAIM. The Commission finds that the historical record is not consistent with CAISO's assertion that an ELCC-determined QC is required in order for DR to be treated as a variable resource. CAISO likewise acknowledges in comments that the CAISO tariff does not require using an ELCC methodology.⁵⁸ As further discussed below, the Commission declines to adopt an ELCC-based QC methodology at this time.

⁵⁷ MRP Comments on DR Proposal, April 29, 2021, at 5.

⁵⁸ CAISO Comments on DR Proposal, April 29, 2021, at 6.

The Commission deems Energy Division's proposal to be a reasonable approach to DR resources, and the proposal is adopted here. Accordingly, once the Commission confirms that CAISO permits DR resources to bid variably in its markets and implements a FERC-approved RAAIM penalty exemption for DR resources, each IOU will be directed to move its DR portfolios onto CAISO Supply Plans.

6.2.2. Qualifying Capacity of Demand Response

Currently, the QC value of DR resources for both IOUs and non-IOUs is based on the Load Impact Protocols (LIPs), which is informed and adjusted by historic DR performance. CAISO proposes that an ELCC methodology be used to determine the QC of variable-output DR, rather than LIPs, because CAISO believes LIPs do not consider use-limitations and carbon offset capabilities, and thus overvalue DR's contribution to reliability.⁵⁹ In support of its proposal, CAISO cites an ELCC study prepared by Energy + Environmental Economics (E3) that analyzed 2019 bid data submitted by PG&E and SCE and found that the LIP methodology overvalued DR capacity contributions by 19 to 23% as compared to an ELCC methodology.⁶⁰

PG&E and SCE recommend using the LIP methodology to inform the QC in the ELCC for 2022, although details of how LIPs would be used to inform the ELCC-based QC are unclear.⁶¹ SCE contends that a "LIP + ELCC" methodology would allow CAISO to revise its tariff to treat DR as a variable resource. If

⁵⁹ CAISO Track 3B.1 Proposal, January 28, 2021, at 20.

⁶⁰ *Id.* at 21 (citing E3 Study, Attachment A to Proposal, at 14).

⁶¹ PG&E Tracks 3B.1 and 4 Comments, March 12, 2021, at A1-7, A1-10; SCE Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 15.

adopted, PG&E recommends a RAAIM exemption for DR on Supply Plans for 2022.

In its DR proposal, Energy Division states that there is insufficient basis to replace the current DR QC framework based on the E3 study because the underlying data did not reflect the change in AAHs in 2019, while the 2019 IOU bid data in the ELCC model accounted for the new AAHs.⁶² Energy Division maintains that QC values would have been much lower if adjusted for the later AAHs, and the divergence between LIP-based QC and ELCC would have been less than 5%. Energy Division also disputes that ELCC-based QC is a prerequisite to CAISO exempting DR from RAAIM penalties, noting that RAAIM was adopted prior to the adoption of ELCC for solar and wind and thus these VERs were exempt before ELCC implementation. Energy Division further observes unanswered questions regarding ELCC, including: (1) how ELCC works with the overall DR portfolio and subsequent QC assigned to individual DR programs or by different DR providers, and (2) whether it is appropriate for the full range of DR programs in the current DR portfolio.

Energy Division proposes that the Commission request that CEC launch a working group process in the 2021 IEPR to develop recommendations for a comprehensive measurement and verification (M&V) strategy for DR, including a new DR QC methodology addressing *ex post* and *ex ante* load impacts for the 2023 compliance year and submit recommendations to the Commission.⁶³ For the 2022 compliance year, Energy Division recommends applying a 5% derate adjustment to the QC determined for DR resources in the 2021 LIP evaluation

⁶² Energy Division DR Proposal, April 19, 2021, at 5.

⁶³ *Id.*, at 7.

process as an interim proxy for the ELCC method. The proposed 5% is based on E3's ELCC study that includes a table showing the derate factors as a function of a resource's allowed number of calls per year and maximum duration per dispatch.

In comments, PG&E, SCE, and CAISO propose to refresh the E3 ELCC study using data from 2020 for IOU DR programs to determine the QC of IOU DR resources for the 2022 compliance year.⁶⁴ CAISO commits that it will make a FERC filing to exempt IOU DR programs from RAAIM based on the proposed interim ELCC methodology for 2022. PG&E states that the ELCC refresh results are expected to be completed by the end of June. PG&E notes that if the deadline for Energy Division's utilization of the study proves impossible, alternatively, it supports the 5% derate for 2022 as long as a RAAIM exemption is granted.

SDG&E and CLECA support a small derate for DR in 2022, conditioned on CAISO removing DR RAAIM penalties.⁶⁵ CalCCA, Cal Advocates, and Joint DR Parties oppose the 5% derate, arguing that there is insufficient evidence for the percentage.⁶⁶ Joint DR Parties contend that the 5% derate appears meant to approximate the DR QC value using E3's ELCC method and that if adopted, it should be conditioned on CAISO treating DR as a VER exempt from RAAIM.⁶⁷

Joint DR Parties oppose the ELCC + LIP methodology and posit that it only adds complexity to the LIP process and is not possible to apply for 2022

⁶⁴ SCE Comments on DR Proposal, April 29, 2021, at 4; PG&E Comments on DR Proposal, April 29, 2021, at 3; CAISO Comments on DR Proposal, April 29, 2021, at 6.

⁶⁵ SDG&E Comments on DR Proposal, April 29, 2021, at 4; CLECA Comments on DR Proposal, April 29, 2021, at 6.

⁶⁶ CalCCA Comments on DR Proposal, April 29, 2021, at 2; Joint DR Parties Comments on DR Proposal, April 29, 2021, at 3; Cal Advocates Comments on DR Proposal, April 29, 2021, at 1.

⁶⁷ Joint DR Parties Reply Comments on DR Proposal, May 4, 2021, at 3.

because the LIP process is underway and DR providers have relied on the current LIPs.⁶⁸

Several parties oppose an ELCC methodology, including CLECA, Joint DR Parties, PCF, and SDG&E.⁶⁹ Joint DR Parties assert that the E3 study was meant to be conceptual, and that no analysis supports the claim that ELCC is more accurate than LIPs. CLECA comments that there is scant evidence on how ELCC would work for DR and the E3 study has not been fully vetted by parties in this proceeding. PCF argues that E3's methodology appears to allow resource leaning and that applying ELCC to DR attempts to force DR into a role of resource provider similar to a generator, despite DR offering a fundamentally different service to the grid.

Numerous parties support a CEC-led working group approach for developing recommendations for a new DR counting methodology.⁷⁰ Joint DR Parties find the timeline problematic and comment that if a new QC process is adopted in 2022, DR providers should have discretion to either use LIP-based QC or the new QC process for 2023.

6.2.2.1. Discussion

The Commission finds a consensus among parties in support of the proposed CEC-led stakeholder working group process to develop

⁶⁸ Joint DR Parties Tracks 3B.1 and 4 Reply Comments, March 26, 2021, at 4.

⁶⁹ CLECA Comments on DR Proposal, April 29, 2021, at 5; Joint DR Parties Comments on DR Proposal, April 29, 2021, at 4; SDG&E Track 3B.1 Comments, March 12, 2021, at 9; PCF Comments on DR Proposal, April 29, 2021, at 6.

⁷⁰ *See, e.g.*, CLECA Comments on DR Proposal, April 29, 2021, at 6; Cal Advocates Comments on DR Proposal, April 29, 2021, at 2; SCE Comments on DR Proposal, April 29, 2021, at 4; SDG&E Comments on DR Proposal, April 29, 2021, at 4; CAISO Comments on DR Proposal, April 29, 2021, at 6; Joint DR Parties Comments on DR Proposal, April 29, 2021, at 3; PCF Comments on DR Proposal, April 29, 2021, at 4; PG&E Comments on DR Proposal, April 29, 2021, at 3.

recommendations for a comprehensive DR M&V strategy, and the Commission agrees with these parties. Accordingly, the Commission adopts the following proposed process: CEC is requested to develop recommendations for a comprehensive and consistent M&V strategy, including a new capacity counting methodology for DR addressing *ex post* and *ex ante* load impacts for implementation as early as practicable. CEC is requested to launch a stakeholder working group process in the 2021 IEPR and make actionable recommendations on the following issues:

- (1) Whether CAISO's ELCC proposal is reasonable and appropriate to determine DR QC and/or what modifications, if any, should be considered;
- (2) Whether the LIP + ELCC proposal is reasonable and appropriate to determine DR QC and/or what modifications, if any, should be considered;
- (3) Whether other proposals that may be presented in the CEC's stakeholder process are reasonable and appropriate to determine DR QC;
- (4) Whether and to what extent alignment of DR M&V methods in the operational space for CAISO market settlement purposes with methods to determine RA QC in the planning space should be achieved, and if so, how;
- (5) Whether, and if so what, enhancements to intra-cycle adjustments to DR QC during the RA compliance year are feasible and appropriate to account for variability in the DR resource in the month-ahead and operational space;
- (6) Whether implementation of any elements of DR QC methodology modifications that might be adopted by the Commission should be phased in over time;
- (7) Whether, and if so how, any changes to DR adders should be reflected in DR QC methodology.

CEC is requested to submit recommendations to the Commission no later than March 18, 2022 and the Commission will consider recommendations as

appropriate for implementation in the 2023 RA compliance year. To the extent possible, recommendations should include specific QC values for consideration.

The Commission appreciates the efforts underway by CAISO, PG&E, and SCE to refresh the E3 ELCC study using 2020 IOU DR program data. However, CAISO, SCE, and PG&E fail to address how QC for third-party DR and SDG&E's DR resources will be determined for 2022, and how QCs at an individual program level will be established. It appears that the ELCC refresh study would produce a percentage derate factor to be applied to the LIP-determined QCs of individual DR programs, which implies that the approach would still rely on QCs determined through LIP studies.

The Commission agrees with parties and Energy Division that assert that implementing a new interim ELCC approach for 2022 is rife with uncertainties and unanswered questions that must be addressed. We also see validity in Joint DR Parties' comment that the E3 ELCC study was intended to be conceptual, and that the proposed methodology represents an abrupt change from the longstanding use of the LIP process, which is currently underway and evaluates the historic performance of DR resources on an *ex post* basis using robust analysis. We find that ELCC has not at this point been proven to be superior to LIPs or any other methodology at this time for DR. Further, the Commission cannot adopt a study or methodology that has not been thoroughly reviewed.

At this time, there is insufficient basis to adopt the ELCC methodology or proposed ELCC study with refreshed results. When the refreshed ELCC study is complete, however, the results of the study may be submitted into the RA proceeding or the forthcoming CEC working group process and the Commission will consider the results. Regarding Energy Division's proposed 5% derate adjustment, the Commission agrees with parties that there is insufficient basis for

the percentage, and we decline to adopt this proposal. The Commission declines to modify the QC methodology for DR resources and maintains LIP-determined QC as its default methodology at this time.

With respect to CAISO's proposed commitment to seek a RAAIM exemption from FERC contingent on the Commission's interim application of ELCC for 2022, the Commission notes the historical record that CAISO secured a RAAIM exemption for solar and wind resources prior to the Commission's adoption of ELCC for those resources. While CAISO states that the Commission applied a predecessor exceedance methodology to solar and wind that was also "reliability-based,"⁷¹ we maintain that the LIP approach is also a reliability-based QC methodology. While one methodology may be proven to be more accurate than another in valuing a resource's contribution to system reliability, that should not preclude recognition that DR is fundamentally a variable resource that should be allowed to bid variably and should be exempt from RAAIM penalties.

In addition, CAISO does not appear to dispute Energy Division's statement that CAISO has offered flexibility to non-Commission jurisdictional LSEs for solar and wind resources to override ELCC values for higher deemed values, without jeopardizing their RAAIM exemption and variable treatment.⁷² This creates a perception that CAISO could take a flexible approach in its treatment of IOU DR programs and in seeking a RAAIM exemption for DR resources.

⁷¹ CAISO Comments on DR Proposal, April 29, 2021, at 3.

⁷² See Energy Division DR Proposal, April 19, 2021, at 6.

6.2.3. Demand Response Adders

DR resources are credited with capacity adders based on the PRM, a Distribution Loss Factor (DLF), and a Transmission Loss Factor (TLF), which account for assumed DR benefits of avoided reserves, distribution losses, and transmission losses compared to other transmission-connected supply sources.

6.2.3.1. PRM Adder

The 2021 RA Guide provides that the 15% PRM is added to the listed DR capacity to reflect that DR programs directly reduce system load, and therefore, that load does not need planning reserves.⁷³ Parties offer proposals to remove all or part of the PRM adder for DR resources.

CAISO and PG&E propose eliminating the PRM adder for DR.⁷⁴ CAISO and PG&E reason that DR resources do not reduce the need for operating reserves in the real-time market and CAISO's current practice is to exclude DR in CAISO's load forecast results in procuring operating reserves, which effectively negates the 15% adder applied to DR. CAISO states there is no evidence DR lowers the system forecast error or the system average forced outage rate.

SCE supports removing the 6% portion of the adder due to ancillary services but retain the 9% that accounts for forced outages and forecast error.⁷⁵ SCE argues that CAISO procures ancillary services in the day-ahead market timeframe according to the forecast load and that because most of SCE's DR

⁷³ See 2021 Filing Guide for System, Local and Flexible Resource Adequacy (RA) Compliance Filings R.19-11-009, issued October 2, 2021, at 30, available at: <https://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=6442466394>.

⁷⁴ PG&E Track 3B.1 Proposal, January 28, 2021, at A1-4; CAISO Track 4 Proposal, January 28, 2021, at 9.

⁷⁵ SCE Tracks 3B.1 and 4 Comments, March 12, 2021, at 20.

portfolio is a real-time dispatchable product, it would make sense to not gross up the value of DR by the amount of the PRM associated with ancillary services.

Energy Division favors removing the 6% portion associated with operating reserves and the portion associated with load forecast error, but retaining the portion associated with forced outages for the interim.⁷⁶ Energy Division explains that the LIP-based QC may already derate the DR capacity for forced outages and thus, the portion attributed to forced outages should be retained to avoid double-penalizing DR. However, the forced outage portion should be included in the study process for the DR QC counting method.

Calpine, Cal Advocates, DMM, MRP, PG&E, and SDG&E support removal of the full PRM adder.⁷⁷ DMM states that on high load days during the 2020 heat waves, capacity represented by the PRM adder did not materialize as actual supply CAISO could call upon, nor did capacity reduce load CAISO procured on those days. Calpine states that justification for the PRM adder is equivalent to a permanent load reduction that reduces peak load but in actuality, DR does not reduce the need for planning reserves because it is no more certain than any other resource. SDG&E and PCF believe the PRM equals a monolithic 15% and should not be broken down into pieces, as this creates tracking, allocation, and implementation issues.⁷⁸

⁷⁶ Energy Division DR Proposal, April 19, 2021, at 7.

⁷⁷ Calpine Tracks 3B.1 and 4 Comments, March 12, 2021, at 9; Cal Advocates Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 35; DMM Track 4 Comments, March 12, 2021, at 3; MRP Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021 at 14; SDG&E Track 3B.1 Comments, March 12, 2021, at 7; PG&E Comments on DR Proposal, April 29, 2021, at 4.

⁷⁸ SDG&E Comments on DR Proposal, April 29, 2021, at 2; PCF Reply Comments on DR Proposal, May 4, 2021, at 2.

SCE and MRP support Energy Division's proposal, with SCE suggesting to split the remaining 9% down the middle and use 4.5% for forced outages for 2022.⁷⁹ CalCCA advocates for retaining the load forecast error portion, while PCF opposes retaining the load forecast error but favors retaining the operating reserve adder.⁸⁰ CLECA supports retaining the full PRM adder and claims its elimination may lead to unnecessary procurement.⁸¹ Cal Advocates argues that it is infeasible to split the PRM because the forced outage component has not been defined, and a stakeholder process is necessary to establish a breakdown.⁸² CAISO urges clarification of the breakdown within the 9%.⁸³

The Commission is persuaded by SCE's argument that because CAISO procures ancillary services (which account for 6% of the PRM) in the day-ahead market timeframe, and because the majority of SCE's DR portfolio is a real-time dispatchable product, it is reasonable to not gross up the value of DR by the amount associated with ancillary services. This rationale can be similarly applied to at least PG&E's DR portfolio. Therefore, we find it reasonable to remove the 6% component associated with ancillary services/operating reserves for DR, and we adopt this proposal.

Regarding the remaining 9% of the PRM adder, the Commission agrees with Energy Division's rationale that the component associated with load forecast error should be removed. However, as noted by parties, it is unclear

⁷⁹ MRP Comments on DR Proposal, April 29, 2021, at 7; SCE Comments on DR Proposal, April 29, 2021, at 4.

⁸⁰ CalCCA Comments on DR Proposal, April 29, 2021, at 4; PCF Comments on DR Proposal, April 29, 2021, at 9.

⁸¹ CLECA Comments on DR Proposal, April 29, 2021, at 7.

⁸² Cal Advocates Comments on DR Proposal, April 29, 2021, at 3.

⁸³ CAISO Comments on DR Proposal, April 29, 2021, at 8.

how the 9% should be divided and there is insufficient basis to simply split the 9% down the middle without further study and stakeholder consideration. While we deem it reasonable to remove the component associated with load forecast error, because the 9% portion cannot be feasibly separated, the Commission opts to retain the 9% portion of the PRM adder at this time. We direct further study of this 9% adder through the CEC-led stakeholder process. Accordingly, the 6% portion of the PRM adder associated with ancillary services and operating reserves is removed for DR resources. This is effective for the 2022 RA compliance year. The CEC-led working group is requested to study the PRM adder, including the interplay and viability of its various components, and provide recommendations to the Commission.

6.2.3.2. Transmission and Distribution Loss Adder

PG&E recommends removing the DLF and TLF adder. PG&E states that the Final Root Cause Analysis Report found that the total amount of DR programs did not approach the amount of DR credited against RA requirements and shown as RA capacity to CAISO.⁸⁴ PG&E states that applying this adder is inconsistent with other distribution-connected resources, which do not have this embedded factor.

Energy Division advocates for retaining the TLF and DLF adder, and asserts that there should be consistency in the treatment of DR and transmission-connected supply resources.⁸⁵ Energy Division recommends retaining and implementing the DLF adder for DR consistently across QC counting, Supply

⁸⁴ PG&E Track 3B.1 Proposal, January 28, 2021, at A1-5 (citing Final Root Cause Analysis Report, at 6).

⁸⁵ Energy Division DR Proposal, April 19, 2021, at 11.

Plans, bids and settlements. Energy Division also recommends including the TLF adder in the study process for the DR QC counting method.

Several parties support retaining the TLF and DLF adders, including CLECA, Joint DR Parties, MRP, PCF, PG&E, and SCE.⁸⁶ CAISO supports retaining the DLF adder and retaining the TLF adder for 2022 pending completion of the CEC study process.⁸⁷ Calpine supports removing the TLF adder but retaining the DLF adder.⁸⁸

The Commission finds that a range of parties support retaining the transmission and distribution adders and we find it reasonable to retain these adders at this time. We also agree with Energy Division that the CEC working group process should consider whether it is appropriate to retain the transmission adder beyond 2022. Accordingly, the DLF adder shall be incorporated into DR QC values beginning in the 2022 RA compliance year. Because the TLF adder cannot be incorporated into QC values, Energy Division Staff shall continue the current practice of grossing up RA filings and sending credits to CAISO to account for transmission losses. The CEC is requested to consider whether it is appropriate to retain the TLF adder beyond 2022 as part of its study process.

⁸⁶ MRP Comments on DR Proposal, April 29, 2021, at 7; PG&E Comments on DR Proposal, April 29, 2021, at 4; SCE Tracks 3B.1 and 4 Comments, March 12, 2021, at 19; PCF Comments on DR Proposal, April 29, 2021, at 4; Joint DR Parties Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 2; CLECA Reply Comments on DR Proposal, May 4, 2021, at 8.

⁸⁷ CAISO Comments on DR Proposal, April 29, 2021, at 8.

⁸⁸ Calpine Tracks 3B.1 and 4 Comments, March 12, 2021, at 9; CAISO Track 4 Comments, March 12, 2021, at 5.

6.3. Effective Load Carrying Capacity

6.3.1. Granular ELCC for Wind

SWPG observes that because the ELCC methodology does not account for geographic variability, there is no incentive for investment in regions where wind production offers greater contribution to reliability and meeting net peak demand.⁸⁹ For example, SWPG's analysis of Pattern Energy's New Mexico wind farms that deliver to California found that wind farms outperformed RA targets by 244 to 305% during the 2020 heat waves. To value wind geographic diversity, SWPG proposes calculating regional ELCC factors based on wind data adopted in the 2019-2020 IRP Inputs & Assumptions, identifying 12 regions, and assigning each region an ELCC multiplier based on relative value to the median capacity.

Parties that support this proposal include ACP, Calpine, Cal Advocates, CEERT, Pattern Energy, and SJCE.⁹⁰ These parties generally state that the methodology would accurately value wind resources and incentivize development and procurement of wind resources in areas with high generation potential. CalCCA agrees that locational ELCC values would more accurately measure reliability but favors considering this as part of Track 3B.2 reform.⁹¹

PG&E does not support changing the ELCC methodology but advocates for updating ELCC values for solar and wind every two years.⁹² PG&E notes

⁸⁹ SWPG Track 3B.1 Proposal, January 28, 2021, at 3.

⁹⁰ ACP Track 3B.1 Proposal, January 28, 2021, at 3; Calpine Tracks 3B.1 and 4 Comments, March 12, 2021, at 4; Cal Advocates Tracks 3B.1 and 4 Comments, March 12, 2021, at 25; CEERT Tracks 3B.1 and 4 Comments, March 12, 2021, at 4; Pattern Energy Track 3B.1 Comments, March 12, 2021, at 3; SJCE Track 3B.1 Comments, March 12, 2021, at 1.

⁹¹ CalCCA Tracks 3B.1 and 4 Reply Comments, March 26, 2021, at 7.

⁹² PG&E Track 3B.1 Proposal, January 28, 2021, at A1-11.

that the last ELCC update was nearly two years ago in D.19-06-026 and since that time, there have been significant additions to wind and solar resources.

The Commission agrees with PG&E that biennial updates to the ELCC methodology are reasonable and appropriate and such updates would ensure accurate RA capacity values that account for additional renewable resources. Accordingly, a biennial update schedule to the ELCC methodology is adopted.

The Commission agrees with SWPG that there is benefit to more granular ELCC values for wind. However, we find that incorporating locational granularity into the ELCC modeling would be preferable to the proposed *ex post* calculation. Thus, we direct Energy Division to develop regional ELCC values for wind resources for the upcoming ELCC update for consideration in a successor RA proceeding. We decline to adopt SWPG's proposal.

6.3.2. Marginal ELCC for New Solar

Energy Division and CalWEA put forth proposals addressing marginal ELCC for solar resources.

Energy Division observes that despite an increased need for system resources, as evidenced by the August/September heat waves, the marginal value of solar has decreased as more in-front-of-the-meter and behind-the-meter solar comes online.⁹³ Energy Division cites the Final Root Cause Analysis Report that described the challenges of the net peak period where “demand is decreasing at a slower rate than net demand is increasing, which creates higher risk of shortages around 7 p.m., when the net demand reached the peak (net demand peak).”⁹⁴ To appropriately signal the value of solar resources, Energy

⁹³ Energy Division Track 4 Proposal, January 28, 2021, at 4.

⁹⁴ *Id.* (citing Final Root Cause Analysis at 44).

Division proposes a QC of 0 for a new solar resource that reaches its commercial operation date (COD) after December 31, 2020. Energy Division cites the ELCC study directed in D.19-09-043, which reported very low marginal values for solar between 5% in 2022 to 0.6% in 2030.⁹⁵ Resources that reach a COD in 2021 or after and were contracted before the date of the Track 4 decision, would receive the average ELCC, while other existing solar resources would continue to receive average ELCC values.

CalWEA advocates for reconsideration of SCE's marginal ELCC proposal, which was raised in Track 2 of this proceeding.⁹⁶ In D.20-06-031, the Commission described SCE's proposal as "involving recalculation of ELCC every six months for the first two years, with resources receiving the prevailing ELCC value as of their COD and retaining that value through their lifetime (unless the resource fleet's aggregate ELCC greatly overstate RA value)."⁹⁷ The Commission declined to adopt the proposal, finding insufficient consensus and stating that marginal ELCC "is largely inconsistent with past practice regarding RA qualifying capacity values and requires further development."⁹⁸ The Commission authorized Energy Division to further explore marginal ELCC for consideration in this proceeding.

Numerous parties object to Energy Division's proposal, including ACP, CalCCA, CAISO, Cal Advocates, CESA, CEJA/Sierra Club, DMM, GSCE,

⁹⁵ *Id.* (citing Advice Letter 4243-E).

⁹⁶ CalWEA Track 3B.1 Proposal, January 28, 2021, at 1.

⁹⁷ D.20-06-031 at 36.

⁹⁸ *Id.*

SDG&E, and Solar Parties.⁹⁹ Some parties oppose the proposal because it would not value the solar portion of new hybrid resources. CEJA/Sierra Club and DMM argue that the proposal discounts the need for a source of energy from which storage capacity can charge. CAISO and Cal Advocates assert that the proposal discriminates among vintages of resources that provide the same product. CAISO and SDG&E comment that marginal ELCC values are best used to send long-term planning signals to LSEs, such as in the IRP proceeding.

Parties that support Energy Division's proposal include AReM, Calpine, CalWEA, MRP, SCE, and TURN.¹⁰⁰ CalWEA and Calpine state that the proposal is more straightforward than SCE's and administratively simpler for implementation. SCE seeks clarification as to how and if existing average ELCC values would change in the future.

AReM, ACP, CAISO, and GSCE oppose CalWEA's proposal.¹⁰¹ ACP states that it greatly disrupts hybrid and stand-alone solar resources under

⁹⁹ ACP Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 2; CalCCA Tracks 3B.1 and 4 Comments, March 12, 2021, at 20; CAISO Track 4 Comments, March 12, 2021, at 3; Cal Advocates Tracks 3B.1 and 4 Comments, March 12, 2021, at 26; CESA Tracks 3B.1 and 4 Comments, March 12, 2021, at 7; CEJA/Sierra Club Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 11; DMM Track 4 Comments, March 12, 2021, at 2; GSCE Tracks 3 and 4 Comments, March 12, 2021, at 3; SDG&E Track 4 Comments, March 12, 2021, at 4; Solar Parties Tracks 3B.1 and 4 Comments, March 12, 2021, at 2.

¹⁰⁰ AReM Tracks 3B.1 and 4 Comments, March 12, 2021, at 16; Calpine Tracks 3B.1 and 4 Comments, March 12, 2021, at 3; CalWEA Tracks 3B and 4 Comments, March 12, 2021, at 1; MRP Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 10; SCE Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 32; TURN Tracks 3B.1 and 3B.2 Comments, March 12, 2021, at 2.

¹⁰¹ AReM Tracks 3B.1 and 4 Comments, March 12, 2021, at 16; ACP Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 2; CAISO Track 3B.1 Comments, March 12, 2021, at 6; GSCE Tracks 3 and 4 Comments, March 12, 2021, at 3.

development. GSCE notes that the Commission already considered and rejected this proposal in D.20-06-031. MRP supports CalWEA's recommendation.¹⁰²

The Commission believes it is important to send appropriate signals to LSEs regarding the diminishing value to the system of new solar resources in order to incentivize investment in resources that contribute to grid reliability. However, there is a lack of support from a broad range of parties for either Energy Division's or SCE's marginal ELCC proposal and thus, we find insufficient basis to adopt either proposal. The Commission will continue to evaluate the value of new solar resources when the ELCC modeling is updated.

6.4. Qualifying Capacity of Hybrid Resources

6.4.1. In-Front-of-The-Meter Hybrid Resources

CEERT proposes a change to the QC methodology adopted in D.20-06-031 for hybrid resources comprised of a DC coupled solar resource and a storage resource.¹⁰³ A DC coupled solar and storage hybrid consists of a DC solar array and a DC battery that share an inverter with a single AC rating that is capped at the transmission injection rights at the point of interconnection. According to CEERT, the DC coupled configuration avoids losses from "clipped energy" for generation in excess of the inverter AC rating. Therefore, rather than using the nameplate capacity of the solar resource, CEERT proposes that the DC rating of the solar array be used to calculate the capacity of the solar component of the hybrid.

Solar Parties propose that RA counting rules should be fixed for 10 years for a new dispatchable storage resource that can be filled from a renewable resource, provided the resource continues to meet reasonable performance

¹⁰² MRP Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 10.

¹⁰³ CEERT Track 3B.1 Proposal, January 28, 2021, at 4.

standards.¹⁰⁴ Solar Parties reason that this will encourage development of new resources because there is currently no long-term certainty that RA value will be realized by an LSE.

CESA, Solar Parties, ACP, and PG&E support CEERT's proposed modification to the QC counting rules for DC coupled hybrids.¹⁰⁵ Other parties, such as Calpine, Cal Advocates, and WPTF, describe some merit in the proposal but have additional questions.¹⁰⁶ Calpine seeks further evidence that all clipped energy would necessarily be eliminated in DC coupled systems, while WPTF is supportive of using project-specific data to derive more accurate QC values for both DC and AC coupled solar plus storage hybrid resources, to the extent project-specific data is available. Cal Advocates supports using the most accurate characterization of available energy to charge storage resources and asserts that the proposal should be developed further.

Calpine and CAISO oppose fixing counting rules for ten years because fixed QC values would not reflect changes to the fleet or individual resource performance over time.¹⁰⁷

The Commission agrees with parties that state that project-specific data should be used to the extent possible when determining QC values. Energy Division has utilized project-specific solar production when available to calculate

¹⁰⁴ Solar Parties Track 3B.1 Proposal, January 28, 2021, at 4.

¹⁰⁵ ACP Track 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 3; CESA Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 31; PG&E Tracks 3B.1 and 4 Reply Comments, March 26, 2021, at A1-8; Solar Parties Tracks 3B.1 and 4 Comments, March 12, 2021, at 5.

¹⁰⁶ Calpine Tracks 3B.1 and 4 Comments, March 12, 2021, at 6; Cal Advocates Tracks 3B.1 and 4 Comments, March 12, 2021, at 24; WPTF Tracks 3B and 4 Comments, March 12, 2021, at 6.

¹⁰⁷ Calpine Tracks 3B.1 and 4 Comments, March 12, 2021, at 5; CAISO Track 3B.1 Comments, March 12, 2021, at 6.

QC values for hybrid and co-located resources and will continue to do so. While there is merit to CEERT's proposal, we agree with Calpine that it is unclear whether all clipped energy is eliminated in a DC coupled system as it would depend on how the hybrid operates. In addition, it does not appear that information on whether a hybrid is DC or AC coupled is as readily available as CEERT claims. Unless this information is added to the CAISO Master File or other readily accessible data source, it would be difficult to implement. For these reasons, CEERT's proposal is not implementable at this time and we decline to adopt it. The Commission, however, welcomes further development of the proposal.

The Commission agrees with CAISO and Calpine that QC values should not be fixed. Over the course of the RA program, many adjustments have been made to resources' QC values to reflect modifications in individual performance and contributions to grid reliability as the generator mix evolves. The resource mix has evolved significantly over the past ten years, and it is important to correctly value generators as the resource mix continues to evolve over time. Thus, we decline to modify the current practice of refining counting methodologies and updating associated QC values of generators as needed to fairly and accurately value a resources' contribution to grid reliability.

6.4.2. Behind-the-Meter Hybrid Resources

Joint Solar/Storage Parties propose the creation of a "market-informed" pathway for behind-the-meter (BTM) solar and storage hybrids and BTM standalone storage to receive RA capacity value without integration into the CAISO market, as well as modifications to PDR and Distributed Energy Resource Provider (DERP), the market-integrated pathways currently available to BTM

resources.¹⁰⁸ Joint Solar/Storage Parties describe the market-informed pathway as “one that is not directly integrated into the CAISO wholesale market, but its dispatch ‘triggers’ are informed by the market.”¹⁰⁹ The parties posit that this would be simpler and allow BTM resources to avoid many of the challenges of market integration (such as export restrictions, visibility, double counting, and deliverability) and would allow resource aggregators to dispatch to meet specific local needs rather than relying on CAISO system-level dispatch. The proposal equates the market-informed pathway to the way IOU DR programs were accounted for and operated prior to integration into the CAISO market or to the operation of the IOU’s Critical Peak Pricing program.

Under a proposed “market-integrated” pathway, Joint Solar/Storage Parties seek opportunities for DR to receive capacity credit for exports to the grid from BTM storage. They propose that the QC methodology adopted for in-front-of-the-meter (IFOM) hybrids be applied to BTM hybrids where a BTM storage resource would have equivalent requirements and capacity value to an IFOM storage resource. They also propose a must-offer requirement of the Availability Assessment Hours for these resources.

CalCCA supports the proposal and states that this would allow BTM hybrid and storage resources to provide reliability “without having to navigate the complexity associated with being fully market integrated.”¹¹⁰ CESA asserts that the proposal should be further developed with collaboration between the

¹⁰⁸ Joint Solar/Storage Parties Track 4 Proposal, January 28, 2021, at 4.

¹⁰⁹ *Id.*

¹¹⁰ CalCCA Track 4 Comments, March 12, 2021, at 18.

Commission and CEC on how to reflect market-informed resources in the CEC load forecast and through interagency working groups.¹¹¹

Calpine, PG&E, and SCE express concerns about the proposal.¹¹² PG&E argues that the proposal allows double counting if a resource reduces an LSE's RA requirement and also receives a QC value. Calpine contends that it is important for RA resources to participate in the CAISO market to the extent possible for equity and CAISO visibility, and important to address challenges (such as deliverability, export limitations, and constraints on how BTM resources can address distribution-level reliability problems), rather than avoid them by creating a new pathway for BTM resources. SCE questions how the proposal can be implemented if CAISO's PRR 1280 no longer accepts DR credits, and argues that a credit methodology should not be adopted without understanding how it meets reliability needs and how CAISO will treat the credited resource. SCE deems it problematic to apply the IFOM QC methodology to BTM resources without addressing the issues outlined in D.20-06-031 and the Hybrid Counting Working Group Final Report because BTM resources do not behave the same way as IFOM resources, may not be visible to CAISO, and may not respond to CAISO market signals.

6.4.2.1. Discussion

In D.15-11-042, the Commission was clear in determining that “[demand response] programs that can be integrated, should be.”¹¹³ This meant that event-based load modifying resources were determined to have no capacity

¹¹¹ CESA Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 33.

¹¹² PG&E Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at A1-8; Calpine Tracks 3B.1 and 4 Comments, March 12, 2021, at 12; SCE Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 33.

¹¹³ D.15-11-042 at 17.

value. The Commission left open the possibility of granting capacity value for such resources if a “hard trigger” was developed that would require dispatch under certain pre-defined conditions. However, the Commission found that the proposal under consideration was not satisfactory and that a hard trigger that met all necessary parameters “would be difficult and resource intensive to create and implement” and thus was unwilling to commit additional ratepayer funds to further development of a trigger.¹¹⁴ The Commission also stated in D.15-11-042 that a soft trigger, such as the market-informed pathway proposed by Joint Solar/Storage Parties, was inadequate because soft triggers for “event-based load modifying demand response programs do not provide dependable reductions in load, procurement obligations, or avoided cost.”¹¹⁵ Therefore, as of 2018, event-based DR programs are only eligible to receive capacity value if they are integrated into the CAISO market.

Joint Solar/Storage Parties propose to address this issue in two ways: a planning and procurement perspective and an operational and performance evaluation perspective. However, the proposed trigger criteria does not adequately ensure the reliable dispatch and performance of these resources. The proposal also lacks a measurement and verification mechanism and potential penalty structure, as discussed in D.15-11-042. It is also unclear how such resources would be incorporated in the load forecasting process. For these reasons, the proposed market-informed pathway is not an adequate solution, and the Commission cannot endorse such a proposal at this time.

¹¹⁴ *Id.* at 16.

¹¹⁵ *Id.* at 19-20.

With respect to the market-integrated pathway, as noted by parties, in D.20-06-031, the Commission identified issues that must be addressed before considering applying the QC methodology for IFOM resources to BTM resources:

The Commission agrees with parties and the Working Group that numerous issues must be addressed before considering treating BTM resources similarly to IFM resources, including: (1) forward determination of capacity associated with renewable production, consumption, charging, and export, (2) RA requirements associated with customer providing capacity, (3) wholesale market participation including metering, dispatch control, and communication with CAISO, (4) cost for energy associated with consumption, charging, and export, (5) changes such that net energy metering (NEM) and self-generation incentive program (SGIP) resources are compensated for capacity, while discounting for their NEM and SGIP compensation as necessary to ensure that the resources do not receive compensation beyond their value, (6) load forecasting and adjustments for BTM resources, (7) interaction of such resources with existing BTM resources such as proxy DR, and (8) deliverability determination.¹¹⁶

As discussed in D.20-06-031, as well as the Hybrid Counting Working Group Final Report submitted in Track 2,¹¹⁷ there are many challenges that must be addressed before granting capacity value to BTM exports. In particular, a key component of RA counting is deliverability. A BTM storage resource connecting via Rule 21 does not undergo a deliverability study and thus it is not guaranteed that exports will be deliverable to the grid at peak times.

¹¹⁶ D.20-06-031 at 32.

¹¹⁷ Track 2 Hybrid Counting Working Group Report, filed by SDG&E and CESA, March 11, 2020, at 17.

Joint Solar/Storage Parties seek a capacity value for exports from BTM storage before these numerous issues are addressed; however, a capacity value should be determined after the underlying issues are addressed and after the Commission has determined that BTM resources will be providing incremental, reliable capacity benefits. The Commission cannot assess the capacity value of a product that has not yet been defined. BTM and IFOM resources do not have the same requirements or behavior and, therefore, should not necessarily be counted equivalently. For these reasons, we find Joint Solar/Storage Parties' proposal to assign capacity values to exports from market-integrated DR resources to be premature and we decline to adopt the proposal.

The Commission notes that LSEs are free to reduce their peak loads in any way they choose. If deployment of BTM resources reduces an LSE's monthly peak load, it will consequently become embedded in the load forecast and reduce the LSE's RA requirement for the following year.

Despite maintaining current eligibility rules for demand response at this time, the Commission is committed to addressing the challenges outlined above and exploring options to better leverage the capabilities of BTM distributed energy resources. The Commission began to consider these issues in the Joint Agency workshop held in November 2020. The recently established Emergency Load Reduction Program, adopted in the Emergency Reliability OIR, will test a model to compensate BTM storage for exported energy under emergency conditions. In addition, Energy Division Staff is hosting a workshop on May 25, 2021 to discuss advanced DER and flexible demand management. The Commission encourages parties to participate in Energy Division's efforts to develop a proposal that lays out a path for scalable, low-cost deployment strategies to leverage load flexibility to meet grid needs. The workshop will

include discussions on how to best incentivize BTM resources, such as energy storage, electric vehicles and other DERs.

6.5. System RA Penalties

In D.20-06-031, the Commission revised the penalty for system RA deficiencies from a flat rate of \$6.66/kW-month for all months to a shaped penalty of \$8.88/kW-month in the summer months of May through October and \$4.44/kW-month in the winter months of November through April. The revised penalty structure maintained the existing average annual price but increased the penalty for summer months when capacity prices are higher. PG&E, AReM, and Energy Division filed proposals to further revise the penalty mechanism.

Energy Division is concerned that despite revisions to the penalty structure in D.20-06-031, the penalty remains too low to incent compliance.¹¹⁸ Energy Division notes that the average monthly penalty has remained the same since 2010, despite increases in capacity prices, which has resulted in instances where paying the penalty for a few months is less costly than procuring adequate resources that may require a contract throughout the year. Because the average has remained the same after D.20-06-031, the overall impact to the LSE may be the same for any 12-month period. Energy Division proposes increasing the average annual penalty price by either 10% or 20%, or increasing the summer penalty so that the cost over three months equals the cost of buying an annual strip at the weighted average price (resulting in a summer penalty of \$13.84/kW-month). Energy Division further recommends that LSEs with an outstanding unpaid penalty and LSEs with deficiencies greater than 10% of their

¹¹⁸ Energy Division Track 4 Proposal, January 28, 2021, at 12.

total system requirement in 3 or more summer months should not be allowed to increase load.

PG&E proposes an escalatory element for LSEs that repeatedly fail to meet their RA obligations, noting that there has been an increasing number of deficiencies in the last three years.¹¹⁹ PG&E proposes an accumulation of points for each month of deficiency not remedied within five days of notification from Energy Division, with summer month deficiencies (May to October) resulting in two points and winter month deficiencies (November to April) resulting in one point. LSEs with one to five points fall into Tier 1 and pay the applicable RA penalty in \$/kW-month; LSEs with six to ten points fall into Tier 2 and pay twice the applicable RA penalty; and LSEs with 11 or more points fall into Tier 3 and pay three times the applicable RA penalty. An LSE that does not have a deficiency for 24 consecutive months would have all accrued points removed.

AReM proposes a financial incentive for LSEs to cure RA deficiencies.¹²⁰ AReM recommends that an LSE that cures its system deficiency by the applicable month-ahead compliance filing should be entitled to a rebate of a prorated share of the penalty incurred for its year-ahead deficiency, up to one-half of the penalty assessed.

Calpine supports Energy Division's proposal to increase system RA penalties but notes that increasing the summer penalty to reflect the cost of an annual strip over three months may still not be high enough to incent compliance.¹²¹ PG&E supports Energy Division's proposal and in particular,

¹¹⁹ PG&E Track 3B.1 Proposal, January 28, 2021, at A1-2.

¹²⁰ AReM Track 3B.1 Proposal, January 28, 2021, at 2.

¹²¹ Calpine Tracks 3B.1 and 4 Comments, March 12, 2021, at 3.

penalties that go beyond monetary fines.¹²² AReM argues that the proposal should be modified to be based on the actual cost of the replacement resource, or the CPM price, and recommends that the average penalty price should be the CPM + 20%.¹²³ CalCCA recommends deferring material changes to the penalty structure until further discussion but supports a 10% increase if the Commission adopts system and flexible waivers.¹²⁴

Cal Advocates supports PG&E's proposal as it leaves the current penalty price in place and raises the penalty only for LSEs with repeated deficiencies.¹²⁵ SCE describes some merit in the proposal but claims that it is complex and potentially leads to high penalties for multiple deficiencies.¹²⁶ AReM sees merit in the proposal but recommends that the penalty structure should not focus solely on number of deficiencies, but also magnitude of deficiencies to account for smaller deficiencies.¹²⁷ PG&E responds that the magnitude of a deficiency is accounted for because the penalties are incurred on a \$/kW-month basis which ensures that deficiencies are penalized based on their impact to total system reliability, and non-consequential deficiencies will incur lower fines.¹²⁸ CalCCA argues that the proposal is overly punitive and will increase costs to ratepayers.¹²⁹

¹²² PG&E Tracks 3B.1 and 4 Comments, March 12, 2021, at A1-3.

¹²³ AReM Tracks 3B.1 and 4 Comments, March 12, 2021, at 9.

¹²⁴ CalCCA Tracks 3B.1 and 4 Comments, March 12, 2021, at 11.

¹²⁵ Cal Advocates Tracks 3B.1 and 4 Comments, March 12, 2021, at 33.

¹²⁶ SCE Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 31.

¹²⁷ AReM Tracks 3B.1 and 4 Comments, March 12, 2021, at 10.

¹²⁸ PG&E Tracks 3B.1 and 4 Comments, March 12, 2021, at A1-3.

¹²⁹ CalCCA Tracks 3B.1 and 4 Reply Comments, March 26, 2021, at 5.

CalCCA supports AReM's proposal.¹³⁰ SCE argues that the incentives of AReM's proposal are unclear, such as potentially resulting in a delay of procuring system RA in the year-ahead timeframe if it is economical for the LSE to do so.¹³¹

6.5.1. Discussion

In the last few years, the Commission has observed that an increasing number of LSEs have been penalized for system RA deficiencies. We agree with parties that state that the current RA penalty structure does not adequately discourage LSEs from incurring repeated deficiencies. In order to maintain system reliability, it is important to devise a penalty structure that mitigates against repeated LSE deficiencies.

The Commission finds PG&E's proposed penalty structure to be a reasonable mechanism to discourage an LSE's repeated deficiencies through increased penalty prices, while maintaining the overall current penalty price. The proposal's reversal of any incurred points allows an LSE to return to a lower tier after sufficient compliance. The Commission agrees with AReM, however, that the penalty structure should account for very small deficiencies. As such, we find it reasonable that if an LSE's deficiency is less than 1% of that LSE's system RA requirement, the LSE should not incur any points (although the LSE will still be subject to the applicable penalty). Accordingly, the Commission adopts PG&E's proposed point and tier penalty structure for system RA deficiencies, as follows:

¹³⁰ CalCCA Tracks 3B.1 and 4 Comments, March 12, 2021, at 5.

¹³¹ SCE Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 32.

Months	Points for Each Instance of System RA Deficiency
Non-Summer (January – April; November – December)	1
Summer (May – October)	2

Tier	Accrued Points	System RA Penalty Price
1	0-5	Applicable system RA penalty price
2	6-10	2x the applicable system RA penalty price
3	11+	3x the applicable system RA penalty price

If an LSE's deficiency is less than 1% of the LSE's system RA requirement, no points will be accrued. An LSE that does not have a deficiency for 24 consecutive months shall have all accrued points removed. All accrued points within an RA compliance year shall be carried over into the next RA compliance year. This structure shall be effective for the 2022 RA compliance year.

As the shaped system penalties were only recently adopted in D.20-06-031, the Commission would like to evaluate the impact of the shaped penalties before considering raising the overall system penalty price. Therefore, we decline to adopt Energy Division's proposal. With respect to AReM's proposal, the Commission finds the proposal has merit but agrees with SCE that potential unintended consequences of the proposal need to be thoroughly considered. We decline to adopt AReM's proposal at this time.

6.6. Import Requirements

CAISO offers a proposal to modify the RA import rules adopted in D.20-06-028.¹³² CAISO asserts that non-resource specific firm energy contracts cannot address speculative supply or double-counting concerns, and thus, contracts that do not specify a resource should not count as RA. CAISO recommends that only resource-specific imports should be eligible for RA to

¹³² CAISO Track 3B.1 Proposal, January 28, 2021, at 6.

include: (1) dynamically scheduled resource-specific resources, (2) pseudo-tied resources, and (3) non-dynamically resource-specific resources consisting of a single resource, a portfolio or aggregation of resources in a balancing authority area (BAA). CAISO also proposes that import contracts include an attestation to ensure the contract meets the requirements and that the CAISO tariff require scheduling coordinators to submit an attestation verifying certain requirements, including that the import is owned by the LSE that will provide the RA or contracted by the seller to provide the import to the LSE, that the import will not be committed to any entity other than the LSE, etc.

Lastly, CAISO recommends a firm transmission requirement on the last leg to the CAISO and a monthly non-firm transmission requirement on all intervening legs, in order to ensure that imports have the highest deliverability levels where flows can near total transfer limits. CAISO also recommends that imports have contractual availability to meet a 16 hour x 7 days a week must-offer obligation into the CAISO market to ensure reliability during critical periods.¹³³

Several parties support CAISO's proposal, including Bonneville, Calpine, CEERT, DMM, MRP, and WPTF.¹³⁴ BRTM and CalCCA support the proposal but not the firm transmission requirement.¹³⁵ Those who object to firm transmission generally state that the requirement may create market power

¹³³ CAISO Track 3B.1 Comments, March 12, 2021, at 7.

¹³⁴ Bonneville Tracks 3B.1 Comments, March 12, 2021, at 5; Calpine Tracks 3B.1 and 4 Comments, March 12, 2021, at 8; CEERT Tracks 3B.1 and 4 Reply Comments, March 26, 2021, at 4; DMM Track 3B.1 Comments, March 12, 2021, at 2; MRP Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 8; WPTF Tracks 3B and 4 Comments, March 12, 2021, at 6.

¹³⁵ BRTM Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 15; CalCCA Tracks 3B.1 and 4 Comments, March 12, 2021, at 13.

opportunities among transmission rights owners.¹³⁶ PG&E supports requiring source specification but opposes the firm transmission and MOO requirement because it places an undue burden on LSEs that may reduce the ability to rely on imports.¹³⁷

Parties that oppose the proposal include AReM, Cal Advocates, PCF, SCE, and SDG&E.¹³⁸ These parties generally state that the impact of the import rules adopted in D.20-06-028 should first be evaluated before taking further action. Cal Advocates, SCE, and SDG&E add that layering on more import rules to the adopted requirements may lead to market confusion, increased costs, and reduced liquidity of import availability. SDG&E and Cal Advocates note that the proposal is still being considered in CAISO's RA Enhancements Initiative process and is thus premature for the Commission to adopt it before it is resolved in CAISO's processes.

Calpine, CEERT, DMM, and PG&E state that CAISO should work with other WECC BAAs to ensure that RA imports are not recallable for a BAA's own needs.¹³⁹ PG&E states that CAISO should instead negotiate with other BAAs through non-recallability agreements, which can more significantly ensure firm delivery than LSE attestations.

¹³⁶ See Cal Advocates Tracks 3B.1 and 4 Comments, March 12, 2021, at 28; CalCCA Tracks 3B.1 and 4 Comments, March 12, 2021, at 13.

¹³⁷ PG&E Tracks 3B.1 and 4 Comments, March 12, 2021, at A1-4.

¹³⁸ AReM Tracks 3B.1 and 4 Comments, March 12, 2021, at 2; Cal Advocates Tracks 3B.1 and 4 Comments, March 12, 2021, at 28; PCF Track 3B Comments, March 12, 2021, at 1; SCE Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 26; SDG&E Track 3B.1 Comments, March 12, 2021, at 11.

¹³⁹ Calpine Tracks 3B.1 and 4 Reply Comments, March 26, 2021, at 5; CEERT Tracks 3B.1 and 4 Reply Comments, March 26, 2021, at 4; DMM Track 3B.1 Comments, March 12, 2021, at 2; PG&E Tracks 3B.1 and 4 Reply Comments, March 26, 2021, at A1-6.

The Commission agrees that CAISO's proposal is premature at this point. The Commission agrees with parties that assert that changes to the RA import rules were only recently adopted in D.20-06-028 and effective for the 2021 RA compliance year. We have yet to evaluate the effectiveness of the recently-adopted rules and intend to evaluate the impact of those rules before considering further modifications to the RA import requirements. For these reasons, we defer consideration of this proposal.

6.7. Import Compliance Filings

Energy Division proposes clarifications to Staff's compliance review of RA filings of non-resource specific imports.¹⁴⁰ In D.20-06-028, Energy Division Staff was directed to review data on self-schedules and bids associated with RA imports based on data obtained from the Commission's annual subpoena of CAISO data.¹⁴¹ Energy Division states that because CAISO cannot provide the necessary bidding data until one month after the compliance month (or at least 75 days after month-ahead filings are due and 7 months after year-ahead filings are due), if there is a deficiency with a filing, this creates a conflict with the existing penalty structure. Energy Division states that the review process for non-resource specific imports involves two steps:

- Step 1: Staff reviews contracts at the time of filing to assess "*ex ante*" compliance with contract provisions required by D.20-06-028, and
- Step 2: Staff reviews bid and self-schedule activity once data becomes available "*ex post*" to assess whether the resource performed as required by D.20-06-028.

¹⁴⁰ Energy Division Track 4 Proposal, January 28, 2021, at 9.

¹⁴¹ D.20-06-028 at Ordering Paragraph 11.

To adjust for the delay in receiving CAISO bidding data and to clarify the approval process, Energy Division proposes the following actions:

- (1) If Energy Division Staff does not identify any issues with an LSE's filing in Step 1 (and there are otherwise no issues with the filing), Energy Division has the discretion to "provisionally approve" the filing, subject to final approval after Step 2.
- (2) If Energy Division Staff identifies an issue with an LSE's filing in Step 1 (*e.g.*, lack of documentation), Staff will treat the resource as if it were not made available to CAISO on a Supply Plan. As with other RA resources, a correction or deficiency notice will be issued, depending on if the LSE has enough capacity to meet its RA requirement without the import.
- (3) If Energy Division Staff does not identify any issues in Step 2, Staff will confirm whether any Step 1 deficiency was cured (if applicable) or approve the filing.
- (4) If Energy Division Staff identifies an issue in Step 2, Staff will process a deficiency notice. Because the supporting data would be available after the compliance month has passed, Staff and the Consumer Protection and Enforcement Division (CPED) are authorized to treat deficiencies in Step 2 as "not replaced" (or not cured) under the existing penalty structure.

AReM, Calpine, and MRP support the proposal, while CalCCA supports it with the modification that Staff provide a template of the components of a confirm for the RA product to minimize confirmation transaction time.¹⁴² SCE asserts that the proposal should be further evaluated to consider certain

¹⁴² AReM Tracks 3B.1 and 4 Comments, March 12, 2021, at 2; Calpine Tracks 3B.1 and 4 Comments, March 12, 2021, at 8; MRP Tracks 3B.1, 3B.2, and 4 Comments, March 12, 2021, at 17; CalCCA Tracks 3B.1 and 4 Comments, March 12, 2021, at 17.

instances, such as whether an LSE is deficient if a resource bid \$0.01/MWh, cleared the market and delivered.¹⁴³

The Commission agrees that the proposed compliance review process reasonably sets expectations about what constitutes a “deficiency” and the timeframe for final determinations with respect to non-resource specific imports, given the delay in receiving bidding data. Accordingly, Energy Division’s above-outlined compliance proposal is adopted. Energy Division Staff is directed to provide LSEs with a template of the required components to confirm and approve the RA product. These changes are effective immediately.

7. Comments on Proposed Decision

The proposed decision of ALJ Chiv 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 _____ by _____.

8. Assignment of Proceeding

Marybel Batjer is the assigned Commissioner and Debbie Chiv and Amin Nojan are the assigned ALJs in this proceeding.

Findings of Fact

1. CAISO recommended that the existing capacity needed for all local areas is 25,113 MW for 2022, 23,382 MW for 2023, and 23,653 MW for 2024.
2. CAISO recommended system-wide flexible capacity requirements that range from 15,924 MW in July to 19,378 MW in May.
3. The August/September 2020 heat waves revealed that weekday only resource availability was insufficient to ensure grid reliability. To address this

¹⁴³ SCE Tracks 3B.1 and 4 Comments, March 12, 2021, at 33.

reliability gap, it is prudent and reasonable to adjust the MCC buckets to require Saturday availability.

4. As use-limited resources are becoming more prevalent, expanding the availability hours of the Category 1 resources of the MCC Buckets is a prudent means to better ensure grid reliability.

5. DR is a variable resource with behavioral and weather-dependent characteristics and DR should be treated as such in CAISO's markets.

6. Energy Division's proposal that IOUs move DR portfolios onto Supply Plans once CAISO adopts a variable DR model exempt from RAIM penalties and that permits variable bids is a reasonable approach.

7. There is consensus among parties in support of a CEC-led stakeholder working group process to develop recommendations for a new QC methodology for DR resources.

8. It is reasonable to not gross up the value of DR by the amount associated with ancillary services.

9. A range of parties support retaining the TLF and DLF components of the PRM adder for DR resources.

10. Biennial updates to the ELCC methodology are reasonable and would ensure accurate RA capacity values that account for additional renewable resources.

11. It is appropriate for Energy Division to develop regional ELCC values for wind resources for the upcoming ELCC update.

12. PG&E's proposed penalty structure is a reasonable mechanism to discourage an LSE's repeated deficiencies through increased penalty prices. The penalty structure should be modified to account for very small deficiencies.

13. Energy Division's proposed compliance review process for non-resource specific imports reasonably sets expectations as to what constitutes a deficiency and establishes a timeframe for final determinations.

Conclusions of Law

1. CAISO's recommended LCR study results for 2022-2024 should be adopted.

2. A working group should continue to evaluate CAISO's updated criteria and other local RA requirement issues and propose improvements to the local RA requirement process.

3. CAISO's recommended systemwide FCR figures for 2022 should be adopted.

4. The MCC Buckets should be adjusted to require availability Monday through Saturday.

5. The availability hours of Category 1 resources of the MCC Buckets should be expanded and applied year-round.

6. Each IOU should move its DR portfolios onto CAISO Supply Plans after the Commission confirms that CAISO permits DR resources to bid variably in its markets and implements a RAIM penalty exemption for DR.

7. The proposed CEC-led working group process to develop recommendations for a new DR QC methodology should be adopted.

8. The 6% component of the PRM adder associated with ancillary services/operating reserves for DR resources should be removed.

9. The 9% component of the PRM adder associated with forced outages and load forecast error should be retained.

10. The TLF and DLF components of the PRM adder for DR resources should be retained.

11. A biennial update schedule to the ELCC methodology should be adopted.
12. Energy Division should develop regional ELCC values for wind resources for the upcoming ELCC update.
13. PG&E's proposed penalty structure should be adopted with a modification to account for very small deficiencies.
14. Energy Division's proposed compliance review process for non-resource specific imports should be adopted.

O R D E R

IT IS ORDERED that:

1. The Commission approves 25,113 megawatts as the existing capacity needed for the Local Capacity Requirement for 2022.
2. The Commission approves 23,382 megawatts as the existing capacity needed for the Local Capacity Requirement for 2023.
3. The Commission approves 23,653 megawatts as the existing capacity needed for the Local Capacity Requirement for 2024.
4. A working group shall continue to evaluate the California Independent System Operator's updated criteria used to establish local procurement obligations and other local requirement issues, and propose recommendations to the local Resource Adequacy requirement process.
5. The working group shall file and serve a report in this proceeding no later than February 2022 that provides recommendations on the following issues:
 - (a) Evaluation of the California Independent System Operator's (CAISO) current reliability criteria in relation to the North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) mandatory reliability standards;

- (b) Interpretation and implementation of CAISO's reliability standards, mandatory NERC and WECC reliability standards, and the associated reliability benefits and costs;
- (c) Benefits and costs of the change from the old reliability criteria "Option 2/Category C" to CAISO's current reliability criteria;
- (d) Potential modifications to the current Local Capacity Requirement (LCR) timeline or processes to allow for more meaningful vetting of the LCR study results;
- (e) Inclusion of energy storage limits in the LCR report and its implications for future resource procurement; and
- (f) How best to harmonize the Commission's and CAISO's local resource accounting rules.

6. California Independent System Operator's recommended Flexible Capacity Requirements for 2022 are adopted.

7. The Maximum Cumulative Capacity Buckets shall be adjusted to require availability Monday through Saturday. This is effective for the 2022 Resource Adequacy compliance year.

8. The minimum availability of Category 1 resources of the Maximum Cumulative Capacity Buckets shall increase to 100 hours per month between 4:00 p.m. - 9:00 p.m. and apply year-round. This is effective for the 2022 Resource Adequacy compliance year.

9. The Maximum Cumulative Capacity Buckets are modified as follows:

Category	Availability	Maximum Cumulative Capacity for Bucket and Buckets Above
DR	Varies by contract or tariff provisions, but must be available Monday – Saturday, 4 consecutive hours between 4 PM and 9 PM, and at least 24 hours per month from May – September.	8.3%
1	Monday – Saturday, 4 consecutive hours between 4 PM and 9 PM, and at least 100 hours per month.	17.4%
2	Every Monday – Saturday, 8 consecutive hours that include 4 PM – 9 PM.	22.2%
3	Every Monday – Saturday, 16 consecutive hours that include 4 PM – 9 PM.	34.8%
4	Every day of the month. Dispatchable resources must be available all 24 hours.	100% (at least 56.1% available all 24 hours)

10. After the Commission confirms that the California Independent System Operator (CAISO) permits demand response (DR) resources to bid variably in its markets and implements a Federal Energy Regulatory Commission-approved exemption to the Resource Adequacy Availability Incentive Mechanism penalty for DR resources, each investor-owned utility will be directed to move its DR portfolios onto CAISO Supply Plans.

11. The California Energy Commission (CEC) is requested to develop recommendations for a comprehensive and consistent measurement and verification (M&V) strategy, including a new qualifying capacity (QC) counting methodology for demand response (DR) resources addressing *ex post* and *ex ante* load impacts for implementation as early as practicable. CEC is requested to launch a stakeholder working group process in the 2021 Integrated Energy Policy Report (IEPR) and make actionable recommendations on the following issues:

- (a) Whether the California Independent System Operator’s (CAISO) effective load carrying capability (ELCC) proposal is reasonable and appropriate to determine DR QC and/or what modifications, if any, should be considered;

- (b) Whether Pacific Gas and Electric Company's Load Impact Protocol + ELCC proposal is reasonable and appropriate to determine DR QC and/or what modifications, if any, should be considered;
- (c) Whether other proposals that may be presented in the CEC stakeholder process are reasonable and appropriate to determine DR QC;
- (d) Whether and to what extent alignment of DR M&V methods in the operational space for CAISO market settlement purposes with methods to determine Resource Adequacy (RA) QC in the planning space should be achieved, and if so, how;
- (e) Whether, and if so what, enhancements to intra-cycle adjustments to DR QC during the RA compliance year are feasible and appropriate to account for variability in the DR resource in the month-ahead and operational space;
- (f) Whether implementation of any elements of DR QC methodology modifications that may be adopted by the Commission should be phased in over time; and
- (g) Whether, and if so how, any changes to DR adders should be reflected in DR QC methodology, including whether the planning reserve margin adder should be retained and whether the transmission loss factor adder should be retained beyond 2022.

The CEC is requested to submit recommendations to the Commission no later than March 18, 2022 and the Commission will consider the recommendations as appropriate for implementation in the 2023 RA compliance year or thereafter.

12. The 6% component of the planning reserve margin (PRM) adder associated with ancillary services and operating reserves shall be removed for demand response resources. This is effective for the 2022 Resource Adequacy compliance

year. The 9% component of the PRM adder associated with forced outages and forecast error shall be retained.

13. The transmission loss factor (TLF) and distribution loss factor (DLF) components of the planning reserve margin adder for demand response (DR) resources shall be retained. The DLF adder shall be incorporated into qualifying capacity (QC) values for DR beginning in the 2022 Resource Adequacy (RA) compliance year. For the TLF adder, Energy Division Staff shall continue the current practice of grossing up RA filings and sending credits to the California Independent System Operator to account for transmission losses.

14. A biennial update schedule to the effective load carrying capability methodology is adopted.

15. Energy Division is directed to develop regional effective load carrying capability (ELCC) values for wind resources for the upcoming ELCC update.

16. The following penalty structure is adopted for system Resource Adequacy (RA) deficiencies and is added to the current penalty structure:

Months	Points for Each Instance of System RA Deficiency
Non-Summer (November – April)	1
Summer (May – October)	2

Tier	Accrued Points	System RA Penalty Price
1	0-5	Applicable system RA penalty price
2	6-10	2x the applicable system RA penalty price
3	11+	3x the applicable system RA penalty price

If a load-serving entity's (LSE) deficiency is less than 1% of the LSE's system RA requirement, no points will be accrued. An LSE that does not have a deficiency for 24 consecutive months shall have all accrued points removed. All accrued points within an RA compliance year shall be carried over to the next RA compliance year. This structure is effective for the 2022 RA compliance year.

17. Energy Division's compliance review and approval process for non-resource specific Resource Adequacy (RA) imports is adopted, as follows:

- Step 1: Energy Division Staff reviews contracts at the time of filing to assess "*ex ante*" compliance with contract provisions required by Decision (D.) 20-06-028, and
- Step 2: Energy Division Staff reviews bid and self-schedule activity once data becomes available "*ex post*" to assess whether the resource performed as required by D.20-06-028.
 - (1) If Energy Division Staff does not identify any issues with a load-serving entity's (LSE) filing in Step 1 (and there are otherwise no issues with the filing), Staff has the discretion to provisionally approve the filing, subject to final approval after Step 2.
 - (2) If Energy Division Staff identifies an issue with an LSE's filing in Step 1, Staff will treat the resource as if it were not made available to the California Independent System Operator on a Supply Plan. As with other RA resources, a correction or deficiency notice will be issued, depending on if the LSE has enough capacity to meet its RA requirement without the import.
 - (3) If Energy Division Staff does not identify any issues in Step 2, Staff will confirm whether any Step 1 deficiency was cured (if applicable) or approve the filing.
 - (4) If Energy Division Staff identifies an issue in Step 2, Staff will process a deficiency notice. Because the supporting data would be available after the compliance month has passed, Energy Division Staff and the Consumer Protection and Enforcement Division (CPED) are authorized to treat deficiencies in Step 2 as "not replaced" (or not cured) under the existing penalty structure.

This process is effective immediately.

18. Rulemaking 19-11-009 remains open.

This order is effective today.

Dated _____, at San Francisco, California.