

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

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

Rulemaking 21-10-002
(Filed October 7, 2021)

**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON THE
ADMINISTRATIVE LAW JUDGE'S RULING SEEKING COMMENTS ON THE
FUTURE OF RESOURCE ADEQUACY WORKING GROUP REPORT**

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March 24, 2022

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In accordance with the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the California Energy Storage Alliance (“CESA”) hereby submits these comments on the *Administrative Law Judge’s Ruling Seeking Comments on the Future of Resource Adequacy Working Group Report and the Local Capacity Requirement Working Group Report* (“Ruling”), issued on March 4, 2022 by Administrative Law Judge (“ALJ”) Debbie Chiv.

I. INTRODUCTION.

CESA appreciates the significant efforts of parties to this proceeding in actively participating in a series of workshops that led to the development of the *Future of Resource Adequacy Working Group Report* (“Report”). During the workshop process, parties engaged extensively with the issues that the current Resource Adequacy (“RA”) Program faces and how these will evolve as California continues to work towards achieving its energy and climate goals. As the Report summarizes, the public workshop process resulted in the development of two distinct slice-of-day (“SOD”) proposals: Southern California Edison Company’s (“SCE”) 24-hourly slice proposal and Gridwell’s two-slice proposal.

Much of CESA’s positions has already been articulated at length in our final informal comments,¹ but we reiterate here our view that SCE’s 24-hourly slice proposal is superior for a

¹ See Report at 206-220.

number of reasons, including that it fully complies with the direction provided by the Commission in Decision (“D.”) 21-07-014. While SCE’s proposal is robust and has been refined during the workshop process, there are still a number of important elements that require further development and Commission guidance, particularly those related to the role of loss-of-load expectation (“LOLE”) studies, the counting rules for paired resources,² the applicable planning reserve margin (“PRM”), and the use of unforced capacity (“UCAP”) methodologies. As a result, CESA recommends that the Commission provide guidance prior to Summer 2022 regarding the approach that should be applied starting RA Year 2024. This timeline will allow the Commission and parties to this proceeding to finalize the details of the SOD framework in a timely manner, minimizing transition disruptions. Thus, CESA’s comments on the Report and our responses to the questions posed in the Ruling can be summarized as follows:

- SCE’s 24-hourly SOD proposal is superior since it is the only proposal that fully complies with the direction provided by the Commission in D.21-07-014.
- Regardless of the direction the Commission adopts for the future of RA, the Commission should provide more clarity regarding the valuation of all configurations of paired resources.
- The Commission should not adopt a hedging component at this time since this issue is not directly related to a capacity framework and the record does not support a concrete proposal.
- The Commission should continue development of trading considerations, as well as the showing tools that would enable it.
- The Commission should delineate a transition plan that contemplates grandfathering mechanisms for currently contracted assets.
- If the Commission adopts a SOD Reform that would use effective load carrying capability (“ELCC”) for storage and hybrid resources, it should recognize the differential in ELCC related to storage duration and hybrid configurations.

² Throughout this document, “paired resources” refers to energy storage assets paired with intermittent renewable generation in either a hybrid or co-located configuration.

II. SCE'S 24-HOURLY SOD PROPOSAL IS SUPERIOR SINCE IT IS THE ONLY PROPOSAL THAT FULLY COMPLIES WITH THE DIRECTION PROVIDED BY THE COMMISSION IN D.21-07-014.

As indicated within its introduction, the Report was ordered in D.21-07-014, decision in which the Commission also outlined a series of principles all RA reform proposals shall be consistent with.³ The principles included were:

- Principle 1: To balance ensuring a reliable electrical grid with minimizing costs to customers.
- Principle 2: To balance addressing hourly energy sufficiency for reliable operations with advancing California's environmental goals.
- Principle 3: To balance granularity and precision in meeting hourly RA needs with a reasonable level of simplicity, and transactability.
- Principle 4: To be implementable in the near-term (*e.g.*, 2024).
- Principle 5: To be durable and adaptable to a changing electric grid.

CESA, along with several other parties as noted in the Report, firmly believes that SCE's proposal is the only one that fully complies with the principles outlined above. In D.21-07-014, the Commission directed parties to further develop Pacific Gas & Electric Company's ("PG&E") SOD proposal because it was the best suited to "address the increased penetration of renewable resources by basing reliability needs on a more granular level."⁴ During the workshops, this proposal was further refined and led to several parties showing that longer slice durations and seasonal compliance have the potential to overlook the significant variance related to the output of variable energy resources ("VERs"). Ignoring said variance across hours or months can penalize renewable output and induce overprocurement, generally increasing ratepayer costs.⁵ As a result, an SOD framework with multi-hour slices is likely to overestimate the capacity necessary to meet the same reliability target, relative to an approach with more granular hour-long slices.⁶ Thus,

³ *Decision on track 3B.2 Issues: restructuring of the resource Adequacy Program*, D.21-07-014, issued under Rulemaking ("R.") 19-11-009 on July 15, 2021, at 26.

⁴ *Ibid*, at 37.

⁵ Report at 8.

⁶ Report at 26.

compared to a two-slice proposal, it is clear that SCE’s 24-hourly SOD approach is better suited to minimize ratepayer costs, fulfilling Principle 1.

SCE’s proposal is also the only one that directly addresses hourly energy sufficiency needs while advancing California’s environmental goals by explicitly including a 24-hour load profile into the compliance framework and requiring load-serving entities (“LSEs”) to demonstrate their portfolios are sufficient to meet load in every hour. Moreover, SCE’s proposal would transition away from the oversimplification of single-value estimates for quantifying the reliability contributions of VERs towards a counting framework that enables them to be counted in every hour they can physically contribute. On the other hand, Gridwell’s proposal argues that hourly energy sufficiency is ensured by modeling all hourly demand needs in a periodic LOLE study and updating the ELCC values accordingly.⁷ Yet, this approach would have the RA Program continue to rely on a problematic single-value estimates for VERs, which undercounts contributions during the day and overcounts contributions during the net peak period, leading to some of the very challenges that drove the need for emergency reliability procurement. In fact, Gridwell’s proposal implies the application of this methodology for energy storage and demand response (“DR”) assets as well, despite the fact that, as observed by the Commission in D.20-06-031, it is unclear how effective ELCC values would be if studies assume a certain pattern of bidding and dispatch, but resources subsequently bid and dispatch in a substantially different manner.⁸ As such, Gridwell’s proposal does not advance California’s environmental goals as it does not materially improve upon the current representation of VERs contribution to reliability.

SCE’s proposal strikes an appropriate balance between precision in meeting hourly RA needs and a reasonable level of simplicity and transactability. SCE proposes to address hourly RA needs by establishing RA requirements in the form of a 24-hour load shape derived from the day of the month with the highest coincident peak load forecast, although it recognizes that this parameter could evolve over time as grid needs change.⁹ Under the 24-hourly proposal, hourly sufficiency is considered in the establishment of the requirements and in the verification of

⁷ Report at 35.

⁸ *Decision Adopting Local Capacity Obligations for 2021-2023, Adopting Flexible Capacity Obligations for 2021, and Refining the Resource Adequacy Program*, D.20-06-031, issued under Rulemaking (“R.”) 19-11-009 on June 30, 2020, at 36-37.

⁹ Report at 10.

compliance since LSEs will need to demonstrate sufficiency by hour in their showings.¹⁰ In contrast, Gridwell’s proposal only addresses hourly energy sufficiency within the LOLE study that would set the requirements. While the LOLE study would analyze all 8,760 hours of a given year, its outputs would not provide significant insight into hourly needs or the hourly contributions of resources. As noted by the Public Advocates Office (“CalAdvocates”) in comments to the Energy Division’s (“ED”) recently-issued LOLE and ELCC Study (“ED’s LOLE Study”), the results of LOLE studies cannot be taken out of their arcane context and used as valid estimates of likely conditions; reducing their utility in the context of RA slice-of-day reforms that must be “durable and adaptable to a changing grid”.¹¹ While both of the proposals considered will require a thoughtful transition strategy, SCE’s proposal is also superior since it will likely not require several technology classes to transition to the ELCC counting method – a change that could significantly impact the costs of existing assets and resources under development and being contracted. To the same ends, ELCC methods have not been demonstrated as being sufficiently flexible and granular to capture reliability benefits and contributions of different technologies, characteristics (*e.g.*, duration), and locations without aggregating them into broader resource classes – something that SCE’s proposal can better achieve in assessing at a more granular level, perhaps even to a level that is specific to a project, thereby providing sharper incentives and signals to optimize project development and procurement for RA purposes.

While both of the proposals could be implemented by RA Year 2024 provided that the necessary materials and analyses are concluded in time, the Commission should consider that adopting Gridwell’s proposal would necessitate the development of a new LOLE and ELCC study within the next year. The development of this new study would be warranted as ED’s LOLE Study does not estimate values differentiated by location for VERs and duration for energy storage resources. Moreover, ED’s LOLE Study does not provide clarity regarding the counting of paired resources (*see* Section III of these comments), nor does it estimate values for RA Year 2025. Since the development of these type of analyses has proven to be administratively burdensome and

¹⁰ Notably, this sufficiency includes verification that the LSE in question has sufficient capacity to charge the energy storage include in its showing.

¹¹ CalAdvocates Opening Comments on ED’s LOLE Study at 11.

significantly time-consuming, the need for an additional LOLE and ELCC study in the next 12 months may prove to be a barrier to the adoption of Gridwell’s proposal starting RA Year 2024.

Finally, the SCE proposal offers a more durable, bankable approach that minimizes the need for future revisions and regulatory risks related to resource counting. ELCC values, particularly rolling average and marginal estimates, are highly variable and are fundamentally determined by the assumptions that go into their calculations. The volatility and sensitivity of these values create a complex landscape for project financing, especially as the state considers other reforms in the RA realm. Currently, RA revenues represent an important revenue stream for new resources to be procured and built. The bankability of RA revenues is a cornerstone to the financing of the thousands of MWs of energy storage that the Commission expects to come online in the coming years, supporting grid reliability and enabling the transition to a decarbonized electric grid. While it is important to ensure reliability with accurate assessments and resource counts, it is also important that the RA Program be structured to balance with these bankability considerations since reliability through the RA Program cannot be assured if resources are not contracted for. As such, due to the arguments outlined in this section, CESA supports SCE’s recommendation for the Commission to render its decision adopting this framework and outlining next steps as early as possible, preferably prior to Summer 2022. Such a decision will allow for the remaining open items to be determined in a narrowly-focused forum over the upcoming year.

III. REGARDLESS OF THE DIRECTION THE COMMISSION ADOPTS FOR THE FUTURE OF RA, THE COMMISSION SHOULD PROVIDE MORE CLARITY REGARDING THE VALUATION OF ALL CONFIGURATIONS OF PAIRED RESOURCES.

In the Report, several parties offer proposals to count paired assets. PG&E recommends maintaining the existing methodology that tests whether sufficient energy exists to charge the storage component and applies exceedance to any excess energy captures the storage.¹² Similarly, the Solar Energy Industries Association, the Large-Scale Solar Association, and Vote Solar (jointly, “Solar Parties”) propose using the qualifying capacity (“QC”) methodology currently applicable to paired assets as a starting point, but they recommend modifying it to use 50% exceedance to calculate the contribution of solar assets.¹³ Gridwell proposes to use an ELCC

¹² Report at 30.

¹³ Report at 42-44.

methodology that reflects any limitations related to the Investment tax Credit (“ITC”) and/or interties.¹⁴ SCE does not offer a specific method to value paired assets, but proposes to follow the general principle that they be shown within their capabilities on the RA showing, recommending that this be addressed in a subsequent process.¹⁵

Overall, CESA agrees that more clarity regarding how paired assets will be treated under either of the proposals is necessary. In this context, the Commission should ensure that, regardless of the direction adopted regarding the future of the RA framework, all configurations of paired resources have a methodology that properly values their reliability contributions. CESA is particularly concerned about the lack of a clear methodology for paired assets that claim a portion of the ITC, but not 100% – *i.e.*, paired resources that are still able to charge from the grid to some degree. In D.20-06-031 the Commission adopted a counting methodology for hybrid or co-located resources that assumes that the energy storage exclusively charges from on-site generation. In essence, the Commission has only created a methodology applicable for resources that seek to capture 100% of the ITC. While D.20-06-031 does recognize that “more discussion is needed on how to treat ITC Limited (75-99 percent on-site) charging and non-ITC Limited scenarios,”¹⁶ this discussion has not occurred. This omission is no longer something the Commission can punt to the next RA proceeding. CESA members have noted that these rules currently limit the value of existing projects, a trend that will only continue as the state expects to incorporate several thousand MWs of these resources in the coming years.

In addition, CESA requests the Commission also address the counting methodology applicable for paired assets with a generation component that is not intermittent, such as natural gas or geothermal generators. These scenarios have not been considered by the Commission due to their limited focus on the 100% ITC; nevertheless, establishing a methodology for them is warranted as storage assets provide material efficiency benefits when paired with all types of generators. Moreover, as CESA has noted in the Commission’s Integrated Resource Planning (“IRP”) docket, gas-plus-storage resources are likely to be required to retain reliability and

¹⁴ Report at 34.

¹⁵ Report at 15.

¹⁶ *Decision Adopting Local Capacity Obligations for 2021-2023, Adopting Flexible Capacity Obligations for 2021, and Refining the Resource Adequacy Program*, D.20-06-031, issued under R.19-11-009 on June 25, 2020, at 30.

advance environmental targets, particularly in local areas. As a result, establishing a counting methodology for them is a necessary step to incent their development. Hence, CESA urges the Commission to prioritize the establishment of a forum to discuss the treatment of paired assets as soon as additional direction regarding the future of the RA framework is provided.

IV. THE COMMISSION SHOULD NOT ADOPT A HEDGING COMPONENT AT THIS TIME SINCE THIS ISSUE IS NOT DIRECTLY RELATED TO A CAPACITY FRAMEWORK AND THE RECORD DOES NOT SUPPORT A CONCRETE PROPOSAL.

CESA does not support the inclusion of a hedging requirement as part of the SOD RA Reform process. First, the Report describes how there was general agreement among parties at the workshop that this issue is more closely related to energy price risks rather than capacity need *per se*.¹⁷ Second, as the Report makes evident, the record developed over the workshop process does not support a concrete proposal.

The Report accurately notes that the conversations parties held around hedging generally concluded that: (1) instituting a hedging requirement does not significantly affect reliability as both sellers and buyers of RA today can willingly enter into hedging agreements as an option; and (2) the requirement of a hedging component will not reduce costs for consumers, as sellers of RA would be incented to replace one potential revenue stream (high energy prices) with another (higher RA contract prices) in order to retain financial viability.¹⁸ As such, the implementation of a hedging requirement could in fact increase RA costs, resulting in a less cost-effective outcome for consumers, contrary to Principle 1 of D.21-07-014. Hesitance towards the adoption of a hedging component without consideration of the underlying energy price risks clearly had an impact on party preferences, as captured by the Party Position Matrix (“PPM”). Critically, only one party that submitted a PPM response, CalAdvocates, unequivocally supported the inclusion of a hedging component. Given the potential cost implications associated with a hedging component and the record developed over the workshop process on this matter, CESA does not recommend the adoption of any hedging proposal at this time.

¹⁷ Report at 3.

¹⁸ See Report at 131-134.

V. RESPONSES TO QUESTIONS IN RULING.

CESA appreciates the opportunity to provide specific feedback on the remaining open items that must be addressed ahead of implementation of any RA SOD Reform. Considering that each of the core proposals has enlisted the analyses and compliance materials that would need to be developed ahead of implementation, CESA's comments focus on general concepts the Commission may want to refine: transactability and the transition from the status quo to the reformed paradigm. In addition, CESA provides comments related to the potential application of ELCC methodologies to energy storage and hybrid resources, per ED's LOLE Study.

Question 1: What additional milestones are necessary to further develop the preferred RA framework and when should the milestones be achieved? Provide preferred timelines that reflect paths to implementation.

As stated above, CESA supports the adoption of SCE's 24-hourly SOD proposal. This proposal offers reasonable transactability as it would continue to allow resources to be contracted monthly and/or sell fractions of their capacity to different LSEs. Nevertheless, while recognizing the potential for energy storage and behind-the-meter ("BTM") resources to right-size LSE portfolios, we still recommend the need to enhance the transactability of this framework to account for timelines to procure new-build resources and to provide flexibility to, for example, meet the charging sufficiency requirement, if implemented.

If the Commission moves forward with the adoption of SCE's proposal, CESA recommends that the Commission establish a forum for parties to discuss transactability elements and proposals, including the load trading proposal put forth by CESA, Peninsula Clean Energy ("PCE") and San Jose Clean Energy ("SJCE"). Under this obligation trading proposal, LSEs with short positions in some hours would be allowed to trade with others with long positions in those hours to allow resource sharing between the two LSEs with different loads and RA portfolios. Note, this approach would also work to free up excess capacity to be used to qualify as charging capacity. For example, an LSE that had enough capacity for each hour, but not enough charging energy for the storage used, could trade its obligation to an LSE long in some hours, particularly during the day when most LSEs will be long with solar generation. This would reduce the obligation during these hours, creating

excess capacity which could then be shown as charging capacity for the storage. This would allow LSEs to take advantage of diversity benefits – something that Gridwell has advocated as being an advantage to their proposal – across their portfolios by charging storage with generation in other LSEs’ portfolios. Consideration of this and other transactability proposals should be addressed through a Commission Ruling requesting responses on the issue of transactability. CESA recommends said Ruling should be issued by Fall 2022 to allow for timely resolution ahead of the RA Year 2024 implementation date.

In addition to transactability, the Commission must establish a clear transition plan for the thousands of RA MWs that are currently contracted or in development. Up until now, parties have not developed fully fleshed transition proposals since it is unclear which of the two approaches included in the Report will be adopted. As a result, consideration of a plan to transition current contracts to the new framework should be top of mind for the Commission once further clarity on the preferred approach is provided. CESA recommends that transition alternatives be discussed over a series of two to three public workshops hosted by the Commission no later than Q3 2022. ED and interested parties would be able to present transition alternatives within those workshops, which should be followed by a period of written comments. After these workshops, the Commission should issue a PD on transition to the new paradigm the end of this year.

Question 2: In light of Energy Division’s loss of load expectation (LOLE) and Effective Load Carrying Capability (ELCC) study, has your party position (as documented in the Future of RA Working Group Report) changed? If yes, please explain why.

Overall, CESA’s position has not changed relative to what is documented in the Report from our informal comments. While we continue to support SCE’s proposal and to advise against the use of ELCC methodologies for the valuation of dispatchable assets such as energy storage and paired resources, the issuance of ED’s LOLE Study served as a reminder of the importance of estimating actionable values that communicate useful market signals and enable investment. As such, CESA agrees with PG&E’s comments to ED’s LOLE Study, which highlighted that, should an ELCC methodology be used to value energy storage and hybrid resources, the Commission should consider different modeled hybrid configurations and different storage durations for ELCC values and PRM

accounting.¹⁹ CESA agrees, as the LOLE Study’s recommendation to utilize the same ELCC values for both battery storage (assumed to be 4-hour) and pumped hydro storage (“PHS”) represents a fundamental misunderstanding of how an ELCC methodology could be applied to dispatchable energy-limited assets. In fact, even parties that support the ELCC methodology like the Union of Concerned Scientists (“UCS”) noted that the application of one ELCC value to all storage resources (regardless of duration) is not appropriate.²⁰ Such approaches would undercut or misrepresent the value of energy storage with different durations and/or capabilities.

Similarly, as noted in Section III of these comments, CESA requests that, if the Commission decides to adopt an ELCC methodology to value hybrid resources, it should consider the material impacts of different configurations on the ability of these resources to contribute to grid reliability. This should include not only if the resources are deemed as “hybrid” or “co-located” by the CAISO, but also their if and how much they are able to charge from the grid, the manner in which they are paired, and the generation they are paired with.

In sum, the simplifications of ELCC outputs made in the LOLE Study do not incentivize the development of energy storage and hybrid resources with the right capabilities and configurations to best support the state’s RA needs. If the ELCC approach is unable to make these differentiations and do so with sufficient granularity and frequency,²¹ CESA questions the value and merits in this approach to value grid reliability, no matter how robust the model is in theory. At the end of the day, the RA framework must support one of the key tenants of the RA Program to ensure that LSEs contract for and secure the right resources needed to support grid reliability.

¹⁹ PG&E Opening Comments on ED’s LOLE Study at 7.

²⁰ UCS Opening Comments on ED’s LOLE Study at 5.

²¹ Further highlighting the limitations of the ELCC approach is the lack of regional ELCC values produced for out-of-state wind resources, as highlighted by several parties.

VI. CONCLUSION.

CESA appreciates the opportunity to submit these comments on the Ruling and looks forward to working with the Commission and stakeholders in this proceeding.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Jin Noh', written in a cursive style.

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Date: March 24, 2022