

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

Order Instituting Rulemaking to
Continue Electric Integrated Resource
Planning and Related Procurement
Processes.

Rulemaking 20-05-003
(Filed on May 7, 2020)

**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON THE E-
MAIL RULING INVITING COMMENTS ON INDIVIDUAL INTEGRATED
RESOURCE PLAN FILINGS**

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October 23, 2020

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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 *E-Mail Ruling Inviting Comments on Individual Integrate Resource Plan Filings* (“Ruling”), issued by the Administrative Law Judge (“ALJ”) Julie A. Fitch on October 9, 2020.

I. INTRODUCTION.

CESA acknowledges the efforts of all Commission-jurisdictional load-serving entities (“LSEs”) in the development of their individual integrated resource plan (“IRP”) filings. Moreover, CESA appreciates the Commission’s determination to allow parties in this proceeding to provide feedback on the individual IRPs. Despite not being included in the original scope of this proceeding, the opportunity to provide comment on these filings allows stakeholders to point out areas of improvement within the IRP process, as well as highlight trends that must be considered in the development of the Preferred System Plan (“PSP”) in order to ensure the achievement of the goals set by the Legislature in Senate Bill (“SB”) 350 and SB 100. CESA is generally supportive of the findings of the individual IRPs. In their filings, notably, LSEs indicate the prevalence of solar photovoltaic (“PV”) and energy storage resources as the main incremental capacity additions

necessary for the fulfillment of the State’s energy and climate targets. While these filings generally demonstrate that the IRP process has evolved substantially in the last two cycles, CESA continues to find areas of potential improvement and encourages the Commission to consider the following recommendations:

- The Commission should address methodological inconsistencies among LSE filings, particularly those related to the manner candidate resources were selected for compliance.
- The Commission should base the PSP on the 38 million metric ton (“MMT”) compliant filings as a means to ensure the timely fulfillment of SB 100.
- The Commission should act expeditiously to address the capacity shortfalls identified by Southern California Edison Company (“SCE”).
- The Commission should evaluate means to properly represent hybrid resources within the IRP proceeding.

II. THE COMMISSION SHOULD ADDRESS METHODOLOGICAL INCONSISTENCIES AMONG LSE FILINGS.

In reviewing the individual IRPs filed by LSEs, CESA focused on the methodologies and assumptions used to determine the resource mix needed by each LSE to comply with its greenhouse gas (“GHG”) cap, as set by the Commission’s adopted Reference System Plan (“RSP”). CESA was pleased to see a plurality of LSEs employed the assumptions derived from the Commission-led stakeholder processes. Overall, there is a significant level of consistency in the use of load, cost, and resource availability assumptions among all LSE filings. Nevertheless, an analysis of the individual IRPs reveals that there are significant methodological differences between the modeling approaches used by several LSEs – differences that, crucially, could result in the selection of an uneconomic or suboptimal resource mix.

To perform its own IRP analysis, the Commission used two main modeling tools to ensure the selection of an economic portfolio (RESOLVE) and its underlying reliability (SERVM). The

main benefit of this process is that it allows for iterative adjustments of inputs and results to ensure the feasibility and appropriateness of the resulting resource mix. The Commission’s approach to IRP modeling enables the selection of a least-cost portfolio given the set of policy constraints pursuant to SB 350 and Commission decisions. In their individual IRP filings, most LSEs used models well-equipped to find such a solution. CESA noted several LSEs used PLEXOS or the AURORA model, for example, which is able to perform the steps done by both RESOLVE and SERVM. Nevertheless, CESA also identified a subset of LSEs did not employ capacity expansion models to select new resources. Instead, these LSEs structured their IRP methodology around the construction of “cases”, essentially deciding *a priori* different potential future resource mixes and then evaluating their reliability. CESA is concerned with these methodological inconsistencies among LSE filings since this case-based approach prescribes the number and characteristics of potential solutions an *ex ante* basis and does not ensure the selection of the most economic and reliable portfolios.

Currently, LSEs are required to complete several documents and forms as part of the IRP filing process; nonetheless, these requirements do not explicitly establish a methodological approach needed to inform incremental resource selection.¹ In order to avoid these inconsistencies in future IRP cycles, the Commission should expressly state that LSEs are required to perform both capacity expansion and production cost modeling to fulfill their filing requirements. Overall, CESA’s concern with these methodological inconsistencies is that the resulting aggregated portfolios may not result in a system-wide portfolio that meets the state’s decarbonization goals and reliability objectives, or with unacceptable tradeoffs to either.

¹ See CPUC, *2020 IRP Filing Requirements Overview*, June 15, 2020. Available at ftp://ftp.cpuc.ca.gov/energy/modeling/Filing_Requirements_Overview.pdf.

III. THE COMMISSION SHOULD BASE THE PREFERRED SYSTEM PLAN ON THE 38 MMT-COMPLIANT FILINGS.

In this cycle of the IRP, the Commission identified a RSP based on a 46 MMT statewide emission target by 2030. Generally, once the RSP is identified, LSEs would be required to perform their own analyses and identify a portfolio that conforms to the RSP, as well as other “alternative” portfolios. Once these portfolios are selected and included in the individual LSE filing, LSEs are able to signal to the Commission which of these alternatives is better suited to ensure compliance with their share of the decarbonization efforts.

In this cycle of the IRP, however, the Commission additionally requested LSEs to identify a portfolio compliant with the 38 MMT case.² CESA fully supported this directive by the Commission since, as other parties in this proceeding and its predecessor, Rulemaking (“R.”) 16-02-007, the 38 MMT case better positions the state to fulfill SB 100, among other environmental and decarbonization goals. As a result of this directive, LSEs have included both 46 MMT- and 38 MMT-compliant portfolios within their individual IRP filings, with several of these LSEs selecting the 38 MMT-derived portfolios as their preferred portfolios.³

Basing the PSP on the 38 MMT-compliant filings would enable the Commission to establish a procurement plan more aligned with the work of the SB 100 Joint Agency Report, fostering the transformation of the IRP proceeding from one focused almost exclusively on 2030 targets, to one that targets near-term actions required to keep the state on a trajectory to achieve its overarching, long-term goals. Moreover, and as discussed in following sections of these comments, a reframing of the 2030 GHG targets within the IRP proceeding equips the state to address near-term reliability shortfalls in a manner consistent with future grid needs. In an initial

² CPUC, *2019-2020 Electric Resource Portfolios to Inform Integrated Resource Plans and Transmission Planning*, April 6, 2020, p. 105.

³ Consider the filings of Clean Power Alliance, Southern California Edison, Silicon Valley Clean Energy, and San Jose Clean Energy, among others.

review of the individual IRPs, CESA identified that, generally, 46 MMT-compliant portfolios significantly fall short in the selection of energy storage resources relative to the pro-rata allocation of RSP values. This trend is exacerbated when evaluating the selection of long-duration energy storage. While the 38 MMT-compliant filings do not select the exact pro-rata share of storage resources, these portfolios are much closer to the deployment levels identified by the RSP. Though LSEs are not beholden to submit plans that align perfectly with the RSP, it serves as a reasonable benchmark that has been vetted and tested for meeting decarbonization goals and reliability objectives to inform both LSE-driven and Commission-directed procurement.

As such, CESA recommends that the Commission formalize the use of the 38 MMT filings for the development of the PSP. In light of the transformational challenge that lies ahead of the electric sector, the comments shared by stakeholders within this proceeding and its predecessor, and the arguments shared by LSEs regarding the transition away from a fossil-based grid, CESA strongly supports the Commission base its PSP on the 38 MMT-compliant filings.

IV. THE COMMISSION SHOULD ACT EXPEDITIOUSLY TO ADDRESS THE CAPACITY SHORTFALLS IDENTIFIED BY SOUTHERN CALIFORNIA EDISON.

In its IRP filing, SCE performed systemwide modeling in addition to its LSE-specific analyses. SCE's systemwide analysis resulted in a least-cost, operable, and reliable resource plan for the California Independent System Operator ("CAISO") footprint based on a 28 MMT GHG target by 2030.⁴ This analysis was based on a robust three-step iterative process that included capacity expansion modeling, production cost modeling, and a loss-of-load expectation ("LOLE") analysis to more thoroughly vet the reliability of the selected portfolio.⁵ SCE's systemwide

⁴ SCE, *Integrated Resource Plan of Southern California Edison Company (U 388-E)*, September 1, 2020, p. 6.

⁵ *Ibid.*

modeling confirms the near-term capacity need of approximately 4,200 MW by 2023, a need that is set to be addressed by the mandate to procure incremental System Resource Adequacy (“RA”) per Decision (“D.”) 19-11-016. Despite this directive, after the recommended once-through-cooling (“OTC”) compliance deadlines expire at the end of 2023, SCE’s systemwide modeling demonstrates there is an additional system capacity need of about 1,700 MW in 2024. With the planned retirement of the Diablo Canyon units in 2024 and 2025, SCE notes this system capacity need increases to about 5,380 MW in 2026.⁶ As a result, SCE identifies a need for incremental system capacity of 1,697 MW in 2024, an additional 3,010 MW in 2025, and an additional 674 MW in 2026. It is worth noting that SCE asserts this *reliability* need is present regardless of the GHG target by 2030.⁷

Given this reliability need, SCE recommends that the Commission act expeditiously by establishing 2024 procurement targets for all LSEs by the first quarter of 2021. CESA generally agrees with SCE’s needs assessment but suggests swifter action. As stated previously in this proceeding, CESA believes that the IRP is the appropriate venue for the Commission to issue procurement directives that can both guarantee the continued reliability of the electric power system and enable the grid transformation required to achieve California’s ambitious energy and climate goals on a forward-looking basis. In light of SCE’s analyses, after accounting for new System RA procurement already by each LSE, CESA believes a stepped approach for directing incremental procurement is needed.

The need for near-term action is better exemplified by the current state of procurement and deployment pursuant to D.19-11-016. In the ongoing procurement in response to D.19-11-016, CESA members have reported significant challenges in responding to solicitations with short

⁶ *Ibid*, p. 7.

⁷ *Ibid*.

turnarounds and tight timelines to finance, procure equipment, and construct projects ahead of the required 2021-2023 commercial online date. The recognition of the need and issuance of the procurement decision just two or three years ahead of the need date has increased the burden on developers and LSEs, created unnecessary levels of development risks, and led to a need to expedite contract review processes, which could have been avoided or mitigated with earlier action. To avoid a similar situation, CESA has already urged the Commission to establish a more orderly and advanced procurement process within the IRP proceeding that would allow invite greater market participation in solicitations, thereby reducing ratepayer costs, as well as to provide additional time for contract review. The Commission's decision to formalize the Procurement Track within the IRP proceeding is a valuable first step. Given the establishment of the Procurement Track, the Commission is well-positioned to address the issues highlighted by SCE in an orderly fashion provided it acts in an expeditious manner.

It is worth noting that new resources, even those capable of being deployed in a modular fashion, typically require a four- to five-year lead time to participate in competitive solicitations, enter the CAISO cluster study process, seek Commission approval (where applicable),⁸ and build interconnection equipment. Considering the needs identified by SCE are of 1,697 MW in 2024, an additional 3,010 MW in 2025, and an additional 674 MW in 2026, CESA believes action for 2024 would necessitate a procurement directive in 2020 in order to avoid disorderly and rushed request for offer ("RFO") processes.

Taking the above into consideration, CESA recommends the Commission issue a decision by January 2021, directing the procurement of 1,697 MW of incremental System RA by 2024 or

⁸ For storage resources, which represent a significant share of the resource mix going forward, a more streamlined approval process will likely need to be developed for investor-owned utility ("IOU") contracts. Given the procurement and contracting experience with storage and the increased standardization of storage contracts, the time is ripe to consider more streamlined approval processes (*e.g.*, advice letter filings) for utility-procured storage, using, for example, pre-approved procurement plans with upfront guidance.

some other least-regrets amount. In addition, the Commission should issue a decision before the end of Q2 2021, directing the procurement of an additional 3,010 MW by 2025, and an additional 674 MW by 2026.

V. THE COMMISSION SHOULD EVALUATE MEANS TO PROPERLY REPRESENT HYBRID RESOURCES WITHIN THIS PROCEEDING.

In their individual IRP filings, several LSEs noted they would deploy hybrid resources within their conforming portfolios in order to meet their GHG targets by 2030. CESA is fully supportive of this consideration, as hybridization of variable energy resources (“VERs”) can result in an increased usage of renewable energy, and hybridization of fossil-based generators can minimize GHG emissions, improve generator efficiency, and lessen the environmental impacts of providing spinning reserves. While the consideration of hybrid resources by LSEs is positive and must be encouraged, the incorporation of these resources within the individual IRPs signals a need for Commission direction in terms of categorization and siting.

Currently, the Commission does not expressly model hybrid resources within its IRP analyses. Instead, the Commission has included cost sensitivities for energy storage resources as a means to represent the economic incentives associated with hybridization. While this modification is beneficial and it approximates a subset of the benefits associated with hybridization, it does not fully capture the operational complexities and siting requirements of hybridized resources. In particular, a review of individual IRPs highlights three main challenges surrounding the incorporation of hybrid resources within this proceeding.

First, given the Commission’s methodology to approximate the benefits of hybrid resources, mainly solar PV plus storage, LSEs are not able to report hybrid resources as a sole resource within the Clean System Power (“CSP”) calculator. Instead, LSEs are forced to report

these assets in a disaggregate manner, that is, the hybrid's solar component is reported as standalone solar and its storage component is reported as standalone storage. This method of reporting creates an administrative challenge for the Commission as both these candidate resources have vastly different resource availability and siting assumptions. For this case, it is fundamental to recall that, currently, the Commission does not have siting assumptions in place that would limit the resource availability of energy storage. In this context, if an LSE is set to procure both standalone and hybridized energy storage, it would be bound to report both these assets in the same category of the CSP, complicating the determination of where to site and plan for a subset of these assets.

Second, since the reporting of VER-based hybrids is done in a disaggregate fashion, it is likely that these estimates would complicate reliability modeling of portfolios as a whole. Even assuming Commission guidance is provided relative to the siting of hybridized energy storage, the reporting of these resources increases the possibility of them being modeled as standalone assets within production cost models regardless of the LSE's plans. In short, by only approximating hybridization from a capital cost reduction angle and not representing hybrid resources as a candidate resource of its own, with its own generation profile and economic calculus, the Commission faces the risk that a model set to determine the reliability of a portfolio inclusive of hybrid resources would evaluate them as standalone assets, attributing them operating characteristics that are at odds with their hybrid composition.

Third, the current approximation of VER-based hybrid resources, while deficient as stated above, has not been extended to other hybridization cases – namely, the case of gas-storage hybrids. As CESA has pointed out previously within this proceeding, the hybridization of fossil-based generators is both possible and desirable considering the state's overarching energy and environmental goals. As of now, no significant attempts have been made to estimate the need and

value of this alternatives within the IRP proceeding. Despite the fact that the RSP shows a high retention of natural gas-powered assets to provide capacity in the system, the Commission has not developed a sound methodology to consider the environmental and economic benefits of retrofitting existing generators with energy storage assets.

As such, it is clear that more guidance is required to properly consider, account for, and report the selection of hybrid resources. Thus, CESA recommends the Commission, within the Modeling Track of this proceeding, work with stakeholders to devise a robust methodology to evaluate hybrid resources in all its configurations.

VI. CONCLUSION.

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

Respectfully submitted,



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Date: October 23, 2020