

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

Order Instituting Rulemaking to Develop an
Electricity Integrated Resource Planning
Framework and to Coordinate and Refine
Long-Term Procurement Planning
Requirements.

Rulemaking 16-02-007
(Filed February 11, 2016)

**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE
TO THE ASSIGNED COMMISSIONER AND ADMINISTRATIVE
LAW JUDGE'S RULING INITIATING PROCUREMENT TRACK AND SEEKING
COMMENT ON POTENTIAL RELIABILITY ISSUES**

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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”)¹ hereby submits these comments on *Assigned Commissioner and Administrative Law Judge’s Ruling Initiating Procurement Track and Seeking Comment on Potential Reliability Issues* (“Ruling”), issued by Assigned Commissioner Liane Randolph and Administrative Law Judge (“ALJ”) Julie A. Fitch

¹ 174 Power Global, 8minutenergy Renewables, Able Grid Energy Solutions, Advanced Microgrid Solutions, Aggreko, Alligant Scientific, LLC, AltaGas Services, Amber Kinetics, Ameresco, American Honda Motor Company, Inc., Avangrid Renewables, Axiom Exergy, Better Energies, Boston Energy Trading & Marketing, Brenmiller Energy, Bright Energy Storage Technologies, Brookfield Renewables, Carbon Solutions Group, Clean Energy Associates, ConEd Battery Development, Customized Energy Solutions, Dimension Renewable Energy, Doosan GridTech, Eagle Crest Energy Company, East Penn Manufacturing Company, EDF Renewable Energy, eMotorWerks, Inc., Enel X North America, Energport, Energy Vault, Engie Storage, E.ON Climate & Renewables North America, esVolta, Fluence, Form Energy, General Electric Company, Greensmith Energy, Gridwiz Inc., Hecate Grid LLC, Highview Power, Ingersoll Rand, Innovation Core SEI, Inc. (A Sumitomo Electric Company), Lendlease Energy Development, LG Chem Power, Inc., Lockheed Martin Advanced Energy Storage LLC, LS Energy Solutions, LS Power Development, LLC, Magnum CAES, Malta Inc, NantEnergy, National Grid, NEC Energy Solutions, Inc., NextEra Energy Resources, NEXTracker, NGK Insulators, Ltd., Nuvve, Pattern Energy, Pintail Power, Plus Power, Primus Power, PolyJoule, Quidnet Energy, PXiSE Energy, Range Energy Storage Systems, Recurrent Energy, RES Americas, SNC-Lavalin, Soltage, Southwest Generation, Stem, STOREME, Inc., Sunrun, Swell Energy, Tenaska, Inc., Tesla, True North Venture Partners, Viridity Energy, VRB Energy, WattTime, and Wellhead Electric. The views expressed in these Comments are those of CESA, and do not necessarily reflect the views of all of the individual CESA member companies. (<http://storagealliance.org>).

on June 20, 2019. Pursuant to the *Administrative Law Judge’s Ruling Denying, in Part, and Granting, in Part, Motion of California Community Choice Association for Amended Ruling and Extension of Time*, issued by ALJ Fitch on July 11, 2019, CESA timely files our comments herein on July 22, 2019.

I. INTRODUCTION.

CESA commends the Commission for initiating the procurement track within the Integrated Resources Planning (“IRP”) proceeding (R.16-02-007) via the adoption of Decision (“D.”) 19-04-040,² which recognized the need to facilitate procurement and develop frameworks to address near-term reliability needs as well as renewable integration and longer-term needs. Like the Commission, CESA is concerned with the potential System Resource Adequacy (“RA”) capacity shortfalls based on the staff analysis and believes that near-term procurement is overdue to address this situation. As noted in the Ruling, energy storage in particular has played a key role in providing Local RA capacity on expedited timelines to address near-term and urgent reliability issues³ – such as with the procurements to provide capacity to mitigate Aliso Canyon natural gas facility limitations and to serve as a viable clean alternative to gas facilities in the Moss Landing, South Bay, Moorpark, and Goleta areas. Without these resources, the reliability situation would have been significantly worse and so the Commission, going forward, should focus on developing expedited procurement and streamlined regulatory approval frameworks for energy storage resources to address these near-term reliability issues.

² *Decision Adopting Preferred System Portfolio and Plan for 2017-2018 Integrated Resource Plan Cycle* (“Preferred System Plan Decision”), issued on April 25, 2019 in R.16-02-007 at pp. 3 and 139-142. <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M287/K437/287437887.PDF>

³ Ruling at p. 10.

CESA supports the Ruling's near-term procurement directive given the immediate near-term reliability and renewable integration issues and the short timeframe in which we have to address them. To bring resources online by August 2021, replacement or solution resources would likely need to already be in the California Independent System Operator ("CAISO") interconnection queue or receive significant support from the Commission, CAISO, and other agencies to expedite the deployment of these resources. Consequently, it is logical that the Commission should, among other things, strive to fully understand the timing and nature of the near-term reliability need, develop an effective "backstop procurement" mechanism (beyond what is available to extend existing resources) for new preferred alternatives, and develop expedited regulatory approval processes for solution resources.

However, given the situation the Commission is in with few options available, including some undesirable ones such as the extension of the once-through-cooling ("OTC") facilities, CESA cautions against a strict sequencing of the procurement track and any major delays in addressing the range of both medium-term and long-term procurement issues and reliability and renewable integration needs. Otherwise, the Commission may be constantly "playing catch-up" or again may be put into an urgent situation to bring procurement online with limited options as opposed to one where longer-term vision and certainty could be provided to allow for planned and orderly procurement. While expedited procurement is doable in some circumstances, this presents a challenging and less-than-ideal situation for all parties involved, as the Commission is unable to review and direct/approve the procurement of a wider range of possible solutions at the most cost-effective outcomes that align with the state's environmental and clean energy goals.

Moreover, "kicking the can down the road" on long-term reliability and renewable integration issues perpetuates this inefficient and risky cycle and delays needed resources such as

long-duration and bulk storage (*e.g.*, pumped storage, compressed air). These resources will be critical to addressing reliability and integration issues as well as helping to achieve deep decarbonization mandates by 2030 in a cost-effective manner. Given the long lead time of these capital-intensive projects, the Commission should act now to ensure that it has the needed resources online in time to meet fast approaching 2030 issues and beyond. Longer-term vision and certainty are needed to allow for planned, cost-effective, and orderly procurement. While expedited procurement is doable in some circumstances, this presents a challenging and less-than-ideal situation for all parties involved, as the Commission is unable to review and direct/approve the procurement of a wider range of possible solutions at the most cost-effective outcomes that align with the state’s environmental and clean energy goals

Furthermore, renewables needs are framed as a “medium” priority but any delays from addressing procurement issues by early Spring 2020 may cause the Commission to miss a critical opportunity to take advantage of Federal investment tax credits (“ITC”), which phase down between the 2020 and 2022 timeframe. An opportunity to deliver significant ratepayer savings of ITC-eligible solar paired with storage could be lost or diminished as a result. The Commission should thus strive to incorporate procurement guidance and/or directives within the 2020 Renewable Portfolio Standard (“RPS”) Procurement Plans for all load-serving entities (“LSEs”) without delay. Similarly, the inquiry around long-term reliability issues is slated for consideration starting in Summer 2020 with resolution on the matter by early 2021. “Long-term reliability” must be defined, but whatever grid and resource needs are identified in that portion of the procurement track may necessitate near-term Commission action even as the need is further out. Rather than “kicking the can down the road” on long-term reliability issues, CESA recommends that the ‘first phase’ scope of the procurement track expand the scope beyond just near-term reliability needs to

also include an assessment of long-term reliability needs that require immediate Commission action to ensure timely deployment by 2030. As it stands, this first phase of the procurement track appears to be too narrowly scoped. As a result, CESA recommends that the Commission address these issues without delay to avoid a repeat of the situation the state is in today related to near-term 2021 reliability issues.

In sum, CESA offers the following key points and recommendations in these comments:

- The Commission should define “renewable integration” and focus beyond just peaking capacity.
- The Reliability Threshold Mechanism is a smart concept to develop in the procurement track to procure preferred alternatives as backstop resources.
- Long-term reliability issues warrant some early actions.
- Staff analysis of near-term reliability needs should be supplemented with a review of additional information from LSEs, account for risk factors such as unplanned retirements, and incorporate local and flexibility needs.
- The Commission should define “new RA capacity” that would be eligible for procurement and should generally pursue an “all-hands-on-deck” procurement approach to allow LSEs to procure as much as they can and to allow all resource types including distributed energy resources (“DERs”) to address near-term needs.
- Between 50 MW to 100 MW of equivalent capacity should be set aside for procurement of short-duration energy storage for the specific purpose of hybridizing 2,000 MW to 4,000 MW of existing gas resources based on the benefits and cost-effectiveness found in CESA’s modeling analysis.
- Further guidance and support are needed on procurement timing, location of capacity need, evaluation criteria, and expedited interconnection processes.
- Streamlined regulatory approval processes are needed for timely deployment of resources for near-term needs.

II. THE COMMISSION SHOULD DEFINE “RENEWABLE INTEGRATION” AND FOCUS BEYOND JUST PEAKING CAPACITY.

The Ruling states that renewable integration and reliability resources need the most immediate attention in this proceeding.⁴ CESA agrees, but at the same time, most of the staff analysis and discussion in the Ruling focuses on System RA, and thus implicitly on peaking capacity needs, without defining “renewable integration” or providing supporting analysis on the need for renewable integration resources and how the needs may vary or evolve over time.

LSEs cannot effectively procure resources to meet a need that is not clearly defined, and neither the Legislature nor the Commission has clarified what resources provide “optimal integration of renewable energy” or what “renewable integration needs” are.⁵ To identify and define these needs, the Commission should examine the various roles that natural gas resources currently play in the grid, and then ensure that a mix of renewables plus storage and other preferred resources can play these same roles and ultimately displace or reduce the need for natural gas resources over time. Importantly, the Commission should not think of energy storage as a homogenous resource class. Just as different types of fossil resources play different roles on the grid, different types of energy storage technologies will be suitable for meeting different grid needs. As the Commission works to define what “renewable integration needs” are, it should consider at least the following range of renewable integration needs: regulation services to balance the sub-hourly variation of renewables; transmission services to manage congestion and curtailment; energy reserves to manage contingencies; flexible ramping needs to follow net load and manage renewable forecast and generation uncertainties; longer-duration shifting of renewable

⁴ Ruling at p. 4.

⁵ Public Utilities (P.U.) Code § 454.51(a), (c), and (d)

overgeneration to maximize the value of renewable generation; and grid resiliency to manage unexpected and prolonged grid disturbances.

As highlighted in our comments on December 20, 2018,⁶ California's grid currently faces flexibility challenges to meet the multi-hour net load ramp and to mitigate sub-hourly uncertainty from variable generation, pointing to analysis conducted by the CAISO⁷ as well as our own analysis using Reference System Plan assumptions from the 2017-2018 IRP cycle.⁸ In the RA Enhancements Initiative, the CAISO shared their flexible needs analysis that highlighted how the maximum monthly three-hour upward net load ramps continue to increase through 2022 and how three-hour upward ramps indicate a need for faster ramping resources (with these ramps exceeding 50% of daily peak demand). Given these flexibility needs, the Commission should not only focus on resources needed to provide peak capacity to meet shortfalls in System RA but also on Flexible RA resources that are capable of providing fast intra-hour and multi-hour flexibility. As the Commission seeks to address near-term System RA needs, it can efficiently and simultaneously anticipate and address known future flexibility needs. While some of the new products being discussed and developed in the CAISO's ongoing RA Enhancements Initiative and Day-Ahead Market Enhancements Initiative will address some of these flexibility needs through wholesale market participation of resources on the grid, the Commission should consider Flexible RA

⁶ *Comments of the California Energy Storage Alliance to the Ruling of Assigned Commissioner and Administrative Law Judge Seeking Comment on Policy Issues and Options Related to Reliability* filed on December 20, 2018 in R.16-02-007 at pp. 8-9.

⁷ Flexible Resource Adequacy Capacity and Must Offer Obligation Working Group Meeting, CAISO stakeholder meeting on September 26, 2017, pp. 11-19. https://www.caiso.com/Documents/Presentation-FlexibleResourceAdequacyCriteria_MustOfferObligationSep26_2017.pdf

⁸ *Notice of Ex Parte Communication of the California Energy Storage Alliance*, filed on October 25, 2017 in R.16-02-007 at pp. 7-8.

<http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M199/K321/199321253.PDF>

reforms that ensure the needed flexible capacity is made available and is delivered to the CAISO,⁹ and it should guide or direct procurement toward flexible resources such as energy storage and hybrid storage resources (*e.g.*, solar-plus-storage, gas-plus-storage).

As a threshold matter, this procurement track may benefit from a definition of renewable integration needs to facilitate procurement and policy discussions, which CESA recommends as being focused on Flexible RA and operating reserve needs in the short term but to be broadened to address long-term needs to mitigate inefficient amounts of overgeneration by integrating renewable energy across seasons, as well as needs for intra-hour flexibility. Generally speaking, energy storage and hybrid storage resources are able to alleviate system operating constraints (*e.g.*, Pmin, ramp rates), thereby making the system more flexible and more able to accommodate variable renewable resources. Existing resources that are frequently limited by these constraints (*e.g.*, consistent operation near Pmin) could be prioritized for hybridization as a means to unlock greater system flexibility and renewable integration capabilities.

III. THE RELIABILITY THRESHOLD MECHANISM IS A SMART CONCEPT TO DEVELOP IN THE PROCUREMENT TRACK TO PROCURE PREFERRED ALTERNATIVES AS BACKSTOP RESOURCES.

D.19-04-040 and the Ruling highlighted the priority of developing a “backstop” or “backup” mechanism to ensure that the resources needed to address reliability or IRP goals are

⁹ In the December 20, 2018 comments as well as in Track 2 and 3 proposals and testimony in the RA proceeding (R.17-09-020), CESA has consistently recommended that the Commission unbundle System and Flexible RA to more efficiently support the procurement of flexible resources, modify ELCC methodologies to represent the additional reliability and renewable integration value of solar-plus-storage and wind-plus-storage resources, develop Fast Flexible RA products to provide the CAISO with flexible intra-hour capacity, and develop a Flex-Down RA product to support capacity that can address overgeneration periods. In addition, in R.18-07-003, CESA has advocated for hybrid resource procurement in the RPS procurement to more efficient and cost-effective non-siloed procurement of renewable integration attributes (*e.g.*, load following, load shifting). These matters are outside the scope of the IRP proceeding but it is important to get alignment on “renewable integration needs” across these proceedings to effectively procure, value, and deliver the needed flexible resources.

met. CESA agrees that a backstop mechanism for the procurement preferred resources should be established to align the IRP goals with the reliability requirements of the grid. The development of such a mechanism should be one of the first priorities of the procurement track, leveraging the initial Reliability Threshold Mechanism proposal from Southern California Edison Company (“SCE”). The specific reliability “triggers” should be assessed and explored, and the mechanism should be further vetted, but CESA believes that this represents a reasonable starting point for discussions.

The reliability must-run (“RMR”) and capacity procurement mechanism (“CPM”) are already in place for the CAISO to extend existing resources at specified prices if needed for short-term reliability needs, but there is no backstop procurement mechanism in place for new preferred alternatives to potentially address the same near-term and urgent reliability needs if it can be done more cost-effectively while supporting the state’s greenhouse gas (“GHG”) emission goals. Specifically, the Commission could systematize and set clear processes and thresholds for procurement of preferred alternatives based on experiences from the Moss Landing-South Bay energy storage procurements approved in Resolution E-4949 or the Aliso Canyon energy storage procurements approved in Resolution E-4791. Energy storage resources were successfully procured on an expedited timeline and in an ad hoc process to address those respective urgent reliability needs while obviating the GHG emissions from the thermal generation facilities they were replacing, but a more systematized mechanism could establish specific thresholds at which point similar types of expedited procurement would be triggered if load-serving entities fail to procure the needed resources by some point in time. Under this mechanism, other resource types, not just energy storage, that meet pre-defined criteria should be eligible (*e.g.*, GHG-reducing, deliver reliability need, able to be procured by needed time). With such clear processes, thresholds,

and timelines in place, the Commission can preserve LSE self-procurement up to a certain point in time and create a pre-approved and streamlined procurement and approval process to ensure reliability is preserved and GHG emission reductions are advanced.

Ideally, CESA hopes that the Commission does not have to rely on this backstop mechanism as planned procurement with reasonable lead times for deployment is preferable to sellers and buyers and in the best interest of ratepayers. The Commissions should strive to be proactive and effectively conduct long-term resource planning. However, having this mechanism in place is a smart safeguard to ensure reliability and support the state’s GHG goals. A mechanism similar to the Reliability Threshold Mechanism is necessary to help the state avoid the need for RMR/CPM backstopping, where possible, while adhering to the principles and requirements set forth in Senate Bill (“SB”) 1136 – in effect, a ‘loading order’ to ensure RA needs are met with resources that reduce GHG emissions such as demand response (“DR”), energy storage, hybrid gas-plus-storage, and other hybrid storage technologies.

IV. LONG-TERM RELIABILITY ISSUES WARRANT SOME EARLY ACTIONS.

CESA is concerned that the Commission is again punting on long-term reliability and renewable integration issues when 2030 is only ten years away. Resources such as long-duration and bulk storage have been shown in the IRP modeling to be particularly critical to achieving deep decarbonization mandates as well as to address longer-duration local capacity needs in a cost-effective and efficient manner. Certain resources such as capital-intensive, large-infrastructure storage projects (*e.g.*, pumped storage, compressed air energy storage) require long lead times to develop, therefore procurement frameworks and actual solicitations likely need to be initiated in the near term (*e.g.*, by 2022 to meet 2030 goals) for these resources to be built, deployed, and online in time to address longer-term needs.

CESA agrees that the near-term reliability issues should be the initial focus in the procurement track at this time. However, it is essential that the Commission does not delay work to resolve on long-term reliability issues. The Commission should work expeditiously to create a stable path forward for LSEs to procure long-term resources, so they are online by or before 2030 to address reliability needs that are likely to emerge. Any delays in the preceding schedule should be avoided via concurrent consideration of near-term and long-term reliability needs, and/or alternative pathways should be established. Otherwise, CESA fears that similar situations as the one facing the Commission today will occur in 2030, resulting in the Commission having to turn to inefficient, non-compliant, or unwanted solutions.

Furthermore, timely inquiry into long-term reliability needs is needed to support the consideration of emerging and new technologies that may be needed by 2030 or later but have not yet been identified or procured for current and near-term needs. CESA reiterates that 2030 is only ten years away and procurement frameworks will need to be developed for resources such as long-duration energy storage, which largely represent a commercially available resource class with limited deployment due to a number of barriers that CESA highlighted in August 28, 2018 comments in A.18-02-016, *et al.*¹⁰ Similar to how the Commission plans to coordinate the IRP proceeding with the RPS proceeding, the Commission should define these long-term needs and consider procurement guidelines and directives for a range of long-duration storage resources.

Potentially, if a new Energy Storage rulemaking is initiated, that proceeding could focus on developing the procurement frameworks for these resources.¹¹ The Commission has had

¹⁰ *Comments of the California Energy Storage Alliance to Assigned Commissioner's and Assigned Administrative Law Judge's Ruling Requesting Comments on Issues Pertaining to Energy Storage Technology Diversity* filed on August 28, 2018 in A.18-02-016, *et al.* at pp. 3-5.

¹¹ *Ibid* at pp. 6-10. See CESA's recommended Energy Storage Emerging Technology Procurement Program ("ES-ETPP").

significant success in the past at quickly bringing new technologies to market, including renewables and lithium-ion battery storage, by creating stable procurement frameworks such as the RPS and the Assembly Bill (“AB”) 2514 Energy Storage Procurement Framework. To minimize reliability risks and system portfolio costs in the future, the Commission should consider developing a similar technology transformation procurement framework to bring long-duration storage resources to market in time to support the grid’s mid- to long-term reliability needs.

Finally, to the extent that the Commission is considering long-duration resources in this procurement track (particularly for local capacity needs), it should take account of the fact that hybrid gas-plus-storage resources can effectively provide long-duration capabilities while minimizing overall fuel and GHG impacts.

V. **RESPONSE TO QUESTIONS.**

Below, CESA provides our responses to the list of questions posed by the Commissioner and ALJ in the Ruling.

Question 1: **Do you believe that there could be reliability challenges as soon as 2021? Why or why not? Include comments on any concerns you have about the staff analysis presented in Section 2.1 of this ruling and cite to publicly-available data to support your analysis.**

Yes, CESA believes that the staff analysis is generally correct in that reliability challenges could emerge as soon as 2021 due to the increased reliance on imports, the revision downwards of the effective load carrying capacity (“ELCC”) of solar resources, the baseline of resources on the grid or expected to be on the grid in the near term, and the risk of reduced supply from mothballed or existing generation facilities at risk of economic retirement. However, some further and supplemental but expedited analysis may be helpful to better understand the RA need in 2021 once some new data is submitted to the Commission. For example, as the Ruling acknowledges, the Commission may not have complete information on the new resources coming online from the

community choice aggregators (“CCAs”).¹² The Commission should further their analysis with this additional information so that the decision to authorize and/or direct procurement can be completed as soon as possible to ensure replacement or hybridized resources are procured to eliminate or minimize the need to extend OTC facilities and other mothballed or economically retiring thermal generation units.

In addition, notwithstanding the additional information to be provided to the Commission, CESA is concerned that the near-term reliability issues may be understated since the staff analysis does not appear to contemplate or incorporate how forced outage rates of the current RA fleet could affect the supply in practice. The CAISO proposed that it may incorporate forced outage rates in RA assessments, such as through a requirement for generators to submit their NERC Generation Availability Data System data to the CAISO and within some calculation period. These new proposed assessments are important especially as the CAISO may trigger CPM procurement. As a result, given how certain RA resources are ‘showing up’ in the CAISO market, the Commission should consider how the current RA supply stack in the staff analysis may be understating shortfalls, though this issue may be addressed by the CAISO. Within this context, CESA believes that the Commission should expeditiously move to direct LSEs to procure for the needed resources.

Finally, as noted in previous sections, the near-term reliability issues are framed and focused on peak capacity issues, even though the CAISO has quantified the near-term flexibility challenges on the grid. The Commission has an opportunity to be proactive to address the near-term and growing flexibility needs on the grid, which the CAISO can only address to a certain extent with the tools and market designs available to them (*e.g.*, Flexible Ramping Product). The

¹² Ruling at p. 11.

staff analysis should thus be expanded to incorporate how flexibility challenges may drive the need for additional or replacement flexibility resources.

Question 2: Are you concerned about increasing reliance on imported capacity for meeting resource adequacy requirements? Why or why not?

CESA believes that imported capacity to meet RA requirements should be only relied upon to the degree that there is a physically-linked resource, physical deliverability, and RA contracts to ensure the importing resource indeed provides the capacity. Absent these commitments, obligations, and physical capabilities to deliver capacity, relying on imports as RA resources create grid reliability issues and risks. While it is reasonable to allow for the use of imports to provide balancing, as done through the Energy Imbalance Market (“EIM”), such resources should not be relied upon or counted for RA capacity. The appropriate level of reliance on imported capacity should thus be based on physical deliverability and the existence of RA contracts. Furthermore, the Commissions should consider that import RA resources are not allowed to provide Flexible RA. The CAISO is currently contemplating how import resources can provide ramping capacity but indicated that they may be unable to cover the uncertainty requirement. As such, consideration of flexibility needs is important when assessing the increased reliance on import capacity.

Question 3: Should the Commission be concerned about specific local and/or flexible resource adequacy needs, or only the system needs identified herein? Explain.

Yes, the Commission should be concerned about specific Local and Flexible RA needs as well. In the IRP, the Commission should focus on several aspects of Local RA needs:

1. Mitigating the mid- to long-term market power of remaining natural gas resources.
2. Methodically directing new preferred resource capacity additions to local areas so that existing natural gas resources can retire economically without triggering reliability crises and backstop procurement.
3. Working with the CAISO to evaluate the time duration of contingencies that portfolios of renewable and zero-carbon resources must be able to meet in local

reliability areas and, relatedly, the magnitude of stored energy reserves that are necessary to manage these contingencies in a zero-carbon grid.

4. The cost efficiencies that the system can realize if LSEs focus on procuring resources in local areas that can also meet System and Flexible RA capacity needs.

The CAISO has estimated significant local capacity needs in 2020 and 2024 in the Big Creek/Ventura, LA Basin, and San Diego/Imperial Valley local areas driven in part by OTC retirements in these areas.¹³ Thus, the Commission should focus on targeting these local capacity needs that also simultaneously addresses System RA needs. As highlighted in the Day-Ahead Market Enhancements Initiative, flexibility needs are also specific to local areas.

Additionally, the Commission has previously expressed concerns about market power mitigation that could be exercised in the local RA markets by generators situated in those transmission constrained areas. Market power risks will only continue to grow as more fossil resources in local areas retire or threaten to retire, and as the marginal peak capacity contribution of solar resources continues to decline. Flexibility needs exist today and will only continue to grow, as highlighted by the CAISO in its ongoing and previous initiatives, which will further exacerbate market power concerns.

Finally, the CAISO has expressed concern about relying on increasing amounts of availability-limited resources in local reliability areas. To address these concerns, the CAISO and the Commission should develop expectations about the duration of reliability contingencies that the CAISO factors into its reliability assessments so that the Commission can factor these needs into IRP procurement guidance and identify combinations of renewable and zero-carbon resources capable of satisfying these needs in the long-run. Lastly, although the IRP has only focused on system resources to date, the Commission may be able to realize overall cost savings and

¹³ *2020 Local Capacity Technical Study: Final Report and Study Results* published on May 1, 2019 at pp. 167-168. <http://www.caiso.com/Documents/Final2020LocalCapacityTechnicalReport.pdf>

efficiencies if it focuses LSEs on targeting local capacity needs that also address system and flexibility needs, creating more cost-effective outcomes for ratepayers and for the reliability of the grid. The focus should thus be broadened beyond system needs to focus on these other needs as well. To the extent that the cost of procuring a new resource is similar inside and outside of local capacity areas, it appears that ratepayer value will be maximized if the resource is sited inside the transmission-constrained areas.

Question 4: If a need for system reliability resources in the near-term is identified within this proceeding, will there be sufficient time to bring new resources online to meet the need? If not, should the Commission pursue delays to the OTC retirement schedules to bridge this short-term gap? Why or why not? If the Commission pursues OTC retirement date delays, or which plants and for how long should we request the delays?

There will be challenges in bringing new resources online by the August 1, 2021 timeline given the time needed to procure, approve, and deploy/construct projects. Even for projects that are already in the CAISO interconnection queue, there will be challenges and costs to bringing these resources under a one-year timeframe, assuming the Commission will arrive at a procurement decision by the end of this year and LSEs launch solicitations thereafter.

CESA is disappointed to see that the Commission is considering delaying the OTC retirement schedules to bridge this short-term gap but delaying OTC retirement schedules should be an absolute last-resort and/or short stopgap measure to allow for new resources to be procured and come online. Even as energy storage, for example, has been demonstrated to be procured on an expedited timeline, the Moss Landing procurements were generally granted approximately two years to achieve commercial operations while the Aliso Canyon procurements benefited from resources bidding into an earlier solicitation, which were repurposed for procurement and delivery in the Aliso Canyon solicitation.

As a result, given this situation, CESA recommends that the Commission direct procurement to allow LSEs to procure resources that could achieve commercial operations by August 1, 2021 but also allow resources to be procured and deployed by 2022, 2023, and 2024. Under these more extended timelines and stepped procurement structures, new resources are more likely to be procured and have more cost-effective outcomes for ratepayers. Timing, location, and quantity of needed resources could be informed by further analysis of the need.

For example, further analysis was recently completed by the CAISO on the need to extend the OTC permit for the AES Alamitos facilities in the Los Angeles basin, which together amount to about 1,166 MW of capacity. Using the most recent load forecasts from the California Energy Commission (“CEC”), the CAISO found that an extension was not needed for the OTC permit due to load forecasts that were revised downward in 2018, along with several transmission projects that were recently completed or are in the process of development. Sensitivity analysis, however, of higher load forecasts and potential economic retirements of non-OTC plants found the potential need for 476 MW to 816 MW of Alamitos OTC generation.¹⁴ These results suggest that the Commission can minimize the need to extend OTC retirement schedules to only select units, affording some flexibility to phase in near-term procurement over a slightly broader range of time between 2021 and 2024. Similarly type of analyses should be coordinated between the CAISO and Commission to inform how and where procurement could be phased in over time to minimize delaying OTC retirement schedules.

Question 5: Comment on the proposed requirements in Section 2.2 of this ruling for 2,000 MW of new resource adequacy capacity procured and online by August 1, 2021, procured on a proportional and all-source basis by

¹⁴ *2021 Limited Local Capacity Technical Study: Special Report for the State Water Resources Control Board to Determine Alamitos OTC Permit Extension* published by the CAISO on July 11, 2019.

<http://www.caiso.com/Documents/2021LimitedLocalCapacityTechnicalStudyReport.pdf>

all jurisdictional LSEs. Parties may also propose an alternative requirement.

CESA supports the Commission proceeding on all fronts to require additional procurement of new storage and new DR resources while minimizing the need to extend deadlines for planned OTC retirements or extend mothballed or at-risk existing resources, even though these options should remain on the table. Indeed, all LSEs should be required to procure for their proportional share, with a backstop procurement mechanism in place if LSEs do not procure and demonstrate their procurement to the Commission. However, the 2,000-MW number should be reassessed if some supplemental analysis shows that more megawatts may be needed in the short-term. In the announced retirements and mothballed list of generators maintained by the CAISO, there are 2,200 of OTC facilities set to retire along with over 1,000 MW of generators that have communicated with the CAISO on potential retirement.

In developing the proposed requirements for 2,000 MW of procurement, the Commission should define “new RA capacity” that would be eligible for procurement to address the System RA need, as well as our recommended Local and Flexible RA needs as identified. This clarity is needed to understand whether new resource procurement, re-contracting of existing resources, and/or repowering of existing sites are eligible for this procurement and address the identified needs. While this is implied in the Ruling, an explicit clarification is needed to understand the available resource options on the table. CESA’s view is that *all* available resource options should be on the table but that LSE procurement and Commission approval of procurement of new RA capacity should adhere to SB 1136 requirements and advance the state’s GHG emissions, reliability, and disadvantaged community (“DAC”) goals as much as possible.

An important addition to the list of potential solutions outlined in the Ruling should be to consider the procurement of new storage resources to be paired with existing gas generators to

support near-term renewable integration needs, as hybrid gas-plus-storage resources have been demonstrated in CESA’s modeling to effectively address load following and operating reserve needs.¹⁵ In leveraging existing infrastructure and deliverability at the same point of interconnection, short-duration storage paired with existing gas generators represents commercially-ready technologies that can come online very quickly and cost-effectively while significantly reducing GHG emissions and local criteria pollutants. Hybrid technologies are operational today and do not require additional time to reach commercial readiness. Of the 2,000 MW or more directed by the Commission for procurement, CESA thus recommends that 50 MW to 100 MW of equivalent capacity to be set aside for procurement of short-duration energy storage for the specific purpose of hybridizing 2,000 MW to 4,000 MW of existing gas resources to address near-term renewable integration needs, adhere to SB 1136 requirements, and advance the IRP’s goals. To ensure efficient and cost-effective outcomes, hybrid storage candidates should be sited with combined-cycle gas turbines (“CCGT”) and peaker facilities in local areas, with a priority for peakers to be located in DACs to realize the benefits of lower NOx emissions.

Question 6: Is the requirement for commercial online date of August 1, 2021 sufficiently clear or are other requirements needed? Explain.

No, additional requirements, information, and guidance is needed to ensure that any procurement is targeted to best address the identified System RA need. As noted before, procuring for System, Flexible, and Local RA needs can lead to more efficient and effective procurement. LSEs should also be directed to procure as much as they can, even beyond the initially recommended 2,000 MW of capacity, given the various risks of the RA need turning out to be higher than expected. CESA recommends the following areas of further guidance needed:

¹⁵ See Attachment 1 of *Comments of the California Energy Storage Alliance to the Ruling of Assigned Administrative Law Judge Seeking Comment on Proposed Preferred System Portfolio and Transmission Planning Process Recommendations* filed on January 31, 2019 in R.16-02-007. See link [here](#).

- **Procurement timing:** The commercial online date appears clear, but if a phased procurement approach is taken, further guidance should be provided on by how much and by when new resources need to come online to support the Commission’s objectives.
- **Locational guidance:** The Commission in collaboration with the CAISO should provide locational guidance on where new procurement should be targeted to address both System and Local RA needs, as the OTC retirements and other non-OTC retirements are likely to drive local capacity needs. LSEs will have better information to structure solicitations while sellers will have better guidance on where to target project development.
- **Evaluation criteria:** The Commission should provide guidance on the evaluation criteria that should be used by LSEs in pursuing procurement. For the investor-owned utilities (“IOUs”), the Commission has direct influence on the least-cost best-fit evaluation methodology to be used in their procurement and contract approval process and should ensure that the IOUs’ methodologies incorporate SB 1136 requirements to pursue preferred resources, energy storage, and hybrid generation. To ensure a competitive and robust marketplace, this guidance should also ensure that third parties are given opportunities to deliver resources that address the identified needs. Though the Commission lacks direct procurement oversight over other LSEs like community choice aggregators (“CCAs”), such as in approving resulting contracts, it should still provide guidance on how all LSEs should adhere to and incorporate SB 1136 requirements in their procurement plans and evaluation criteria.
- **Interconnection support:** The Commission should explore if and how interconnection timelines could accommodate new resources coming online in an expeditious and timely fashion.

Finally, as previously discussed, the Commission should clarify what “new RA capacity” means and thus what types of resources would be eligible for procurement.

Question 7: Comment on how demand-side resources included in this new resource procurement should be counted (e.g., as part of a reduction in the system resource adequacy requirement as part of the IEPR, etc.).

Under current rules and policies, demand-side resources that are contracted for supply-side RA and follow RA must-offer obligations and requirements should be counted toward the System RA requirement. Such resources include behind-the-meter (“BTM”) energy storage that has been procured through multiple Local Capacity Requirements (“LCR”) Requests for Offers (“RFOs”)

by the investor-owned utilities (“IOUs”), as well as the Demand Response Auction Mechanism (“DRAM”). By contrast, demand-side resources enrolled in load-modifying DER programs are likely to be counted as reducing the RA requirement. Both pathways should be pursued, though there may be greater assurances and certainty of performance and reliability of supply-side DERs that are explicitly contracted for RA and required to follow RA rules and requirements – *i.e.*, required to submit 24x7 must-offer obligations and make their capacity available. How DERs should be eligible, contracted, and counted for RA likely requires further policy discussion in the RA proceeding as well as in CAISO initiatives, as there are several barriers to fully unleashing DERs for RA capacity.

More importantly, the Commission should expand its “all-hands-on-deck” approach to leverage DERs to provide RA or reduce RA needs. DERs should be eligible for these all-source solicitations as well as the backup mechanism, if and when established. Furthermore, the Commission should consider how various DER programs could be targeted to specific Local RA capacity needs. For example, the Self-Generation Incentive Program (“SGIP”) could be smartly modified to direct BTM energy storage systems to be deployed and installed in the Los Angeles Basin to facilitate the timely retirement of the OTC plants. In the past, the Commission used lottery priorities in SGIP to direct projects to the Los Angeles Basin to support Aliso Canyon reliability issues. Similar program modifications could be pursued within SGIP, but other smart ways to direct DER deployment and operations to the OTC-affected areas should also be explored.

Question 8: Comment on the proposed requirement in Section 2.2 of this ruling that SCE contract for 500 MW of existing resource adequacy capacity from a resource or resources that do not have contracts extending past 2021, for 2-5 years, with cost allocation addressed through a modified CAM mechanism. Parties may also propose an alternative approach.

Alternatively, CESA recommends that SCE be directed to hybridize some portion of the 500 MW of existing RA capacity with new energy storage resources under 10-year contracts, if

cost-effective to do so and if it provides other material benefits that support the IRP's goals. By directing SCE to consider hybridization opportunities, SCE and the Commission may find that hybridization not only ensures reliability but also continues to advance the IRP's decarbonization and DAC goals. Over this near-term period, CESA is concerned that the Commission may be suspending consideration of the other IRP goals to reduce GHG emissions in order to maintain reliability. Of course, maintaining reliability is of utmost importance, but hybridization represents an opportunity to ensure reliability while also advancing our other IRP goals.

Question 9: Should any procurement from existing resources be focused on resources that have formally notified the CAISO and the Commission of an intention to retire? Why or why not?

Yes, it seems reasonable to consider procurement of all other at-risk existing resources, but as noted in our response above, the Commission should consider hybridization opportunities for new storage to be paired with these existing resources to mitigate unplanned reliability risks while advancing the state's other IRP goals. Hybridization options should be considered under the general umbrella of "existing resources" regardless of whether the Commission limits its focus to resources that have made formal notifications or not.

Question 10: If individual LSEs are unable to procure their responsible share of the authorized procurement, should an interim backup mechanism and role be established to ensure the procurement needs are met and that all LSEs pay their fair share? Could this interim backup mechanism be developed and implemented in time to get resources procured and online by August 1, 2021? If yes, describe implementable solutions.

As noted in a previous section, CESA believes that an interim backup mechanism could and should be developed, using SCE's proposed Reliability Threshold Mechanism as an initial starting point for discussions. Even beyond 2021 needs, such a backup mechanism could be put in place permanently with the thresholds and triggers adjusted over time since a backup mechanism that creates a pathway for new alternative preferred resources to be procured is superior to relying

on and immediately defaulting to RMR and CPM measures to extend existing GHG-emitting resources. A key open question, however, looms over this procurement. A Commission decision on the central buyer structure will likely impact the development of interim backup mechanisms, especially in terms of which entity takes on this procurement role.

Question 11: If the Commission is unable to develop and implement an interim backup mechanism in time to meet peak system resource adequacy needs in 2021, what type of compliance mechanism will be needed to ensure that LSEs comply with their share of the procurement responsibility? Provide implementable solutions.

If unable to develop and implement an interim backup mechanism, CESA imagines that existing RMR and CPM mechanisms will be relied upon, which already have cost-allocation methodologies and processes in place. Reliance on these mechanisms should be avoided to the degree possible.

Question 12: Is a Tier 3 advice letter the appropriate mechanism to secure Commission approval for contracts associated with the proposals in this ruling, for LSEs who require such approval? Why or why not? Provide an alternative proposal, if desired.

Yes, a Tier 3 advice letter process should be adopted for all proposals related to this Ruling. Regulatory approvals should be streamlined to the greatest degree possible, with much of the policy discussions and analysis conducted upfront to give upfront procurement guidance (*e.g.*, evaluation criteria) and processes (*e.g.*, backup mechanisms) to the LSEs to move quickly toward procurement and deployment. Delays in the regulatory approval process should be avoided, as timing and efficiency is clearly vitally important to address these near-term reliability issues. Importantly, sufficient time should be granted for the actual procurement and deployment processes. For hybrid gas-plus-storage procurement, CESA recommends that the Commission consider a more expeditious Tier 2 advice letter process for approval to ensure timely and near-term solutions to the identified near-term reliability needs. CESA views hybridization as a

reasonable ‘least-regrets’ investment that can be approved in a streamlined fashion once procurement and evaluation criteria are established upfront.

More broadly, CESA advocates for an advice letter approval processes for new energy resource approvals, which have now been tested, are understood, and are proven technologies. The Commission has previously stated that it would revisit the approval process for storage contracts once it had more experience with such procurements.¹⁶ Given the experience the Commission has had with streamlined approvals of such contracts in recent years (*e.g.*, Moss Landing, Aliso Canyon), as well as the time-sensitive reliability needs facing the state, CESA believes the time is ripe for the Commission to move to an advice letter review process for storage contracts. .

Question 13: Provide any other comments you think the Commission would find relevant to its consideration of system resource adequacy issues and potential procurement by 2021.

The Commission should strive to initiate procurement before the end of 2019. Delays should be avoided in initiating actual procurement, as each incremental delay only increases reliability risks and forces the Commission and LSEs to have to rely on resources that are counter to the state’s clean energy, DAC, and other IRP goals.

¹⁶ D.14-10-045, October 22, 2014, at pp. 103-104.

VI. CONCLUSION.

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

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Alex J. Morris".

Alex J. Morris
Vice President, Policy & Operations
CALIFORNIA ENERGY STORAGE ALLIANCE

Date: July 22, 2019