BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Establish Policies, Processes, and Rules to Ensure Reliable Electric Service in California in the Event of an Extreme Weather Event in 2021.	Rulemaking 20-11-003 (Filed November 19, 2020)

COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON THE ORDER INSTITUTING RULEMAKING ON EMERGENCY RELIABILITY

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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 *Order Instituting Rulemaking on Emergency Reliability* ("OIR"), issued by the Joint Commissioners on November 20, 2020.

I. INTRODUCTION & SUMMARY.

CESA supports the Commission's issuance of this OIR in response to the Joint Agency's *Preliminary Root Cause Analysis: Mid-August 2020 Heat Storm* Report ("Root Cause Report"), highlighting the various causes and contributing factors to the August 14-15, 2020 rotating outages as well as their collective recommendations. The OIR detailed many of the findings from the Root Cause Report, including but not limited to how resource planning targets were insufficient to meet the net peak demands during the heat storm and how some practices in the day-ahead energy market exacerbated the supply challenges under highly stressed conditions.[1] CESA understands that the findings are preliminary and will likely require further analysis, but the issuance of this OIR is still timely and needed in order to avoid or mitigate the risks of similar instances occurring

[1] OIR at 4-5.

in Summer 2021 and beyond. Based on the Commission's review of the Root Cause Report, the OIR identified two "primary issues" to consider in this proceeding: how to increase (1) energy supply and (2) decrease demand during the peak demand and net peak demand hours in the event that a heat storm similar to the August 2020 storm occurs in Summer 2021.[2]

CESA generally agrees on the need to bring online and secure as much supply capacity, whether in the form of supply-side resources or load reductions, to avoid or mitigate the risks of capacity shortfalls during a heat storm event. However, CESA is concerned that the OIR may be narrowly focusing on near-term and temporary solutions for implementation by Summer 2021.

First, the timing of the resolution and finalization of the issues by May 30, 2021, at the latest, will leave little time for the implementation steps that may be required, such as distributed energy resource ("DER") or demand response ("DR") program (re)design, customer outreach and/or acquisition, interconnection timelines for new resource additions or project modifications (*e.g.*, retrofits, efficiency improvements, configuration changes to allow limited export), and potential supply chain constraints given the limited lead time to Summer 2021, among others. As a result, CESA is worried that the Commission may default to the lowest hanging fruit to address immediate risks to the next heat storm but not position the state to bring on or secure the resources needed to address potential immediate-term and future heat storms, especially as climate change will likely make these extreme conditions a more common occurrence.[3] A narrow focus on 2021 solutions only will drastically limit the range of possible solutions to those that are marginal and will do little to mitigate all future risks in 2022 and beyond. Instead, while low-hanging actions

[2] OIR at 12.

[3] Mazdiyasni, O., Sadegh, M., Chiang, F. et al. *Heat wave Intensity Duration Frequency Curve: A Multivariate Approach for Hazard and Attribution Analysis*. Sci Rep 9, 14117 (2019). https://doi.org/10.1038/s41598-019-50643-w

can be taken to avoid or mitigate extreme-weather driven capacity shortfalls in the immediate term, this OIR should also consider actions to address these risks beyond 2021 by including measures that can be implemented for the 2022-2024 period.

Second, the OIR describes some of the changes considered in this OIR as being "immediate steps" that will "remain in effect for a limited duration," with determinations to extend them beyond the 2021 calendar year being done on a measure-by-measure basis.[4] In addition to the concerns expressed above about the potentially limited focus on immediate measures, CESA is concerned that the default temporary nature of all proposed solutions will possibly filter out viable solutions to address extreme-weather-related reliability risks. If temporary measures are used as a criteria to assess potential actions, it may eliminate potential new resource or efficiency investments and/or create regulatory uncertainty for developers and service providers in having the confidence to make the incremental investments necessary in capital, interconnection processes, etc. For example, any expectation that new resource capacity, even as storage retrofits to existing gas generators or standalone in-front-of-the-meter ("IFOM") solar or augmentations at existing storage sites, is unlikely to be delivered in Summer 2021 due to interconnection and material modification processes, supply chain considerations, and any additional permitting or development considerations. Additionally, as the OIR contemplates an Emergency Load Reduction Program ("ELRP"), including one that allows for excess export capacity, behind-the-meter ("BTM") hybrid solar-plus-storage and standalone storage will need to make the appropriate changes in their interconnection agreement and/or project configurations, and program design will need to approved and implemented to ensure that the incremental capacity can direct the appropriate performance and compensate such performance accordingly. Only so much can be

[4] OIR at 11.

feasibly done for Summer 2021, and temporary actions may cause the Commission to only focus on a narrow set of solutions, such as operational solutions and/or exceptions to existing rules (*e.g.*, use of backup diesel generators, extension of once-through-cooling generators) that contravene the state's decarbonization goals. Instead, CESA recommends that this OIR focus on all possible actions that can address emergency reliability risks from 2021-2024 that are both temporary and long-term in nature to encourage the appropriate investments in the resources needed.

Third, the schedule of the proceeding, as currently proposed in the Preliminary Scoping Memo, may not yield the intended outcomes of this proceeding. Currently, the preliminary schedule has this OIR conclude with a Proposed Decision ("PD") no later than April 30, 2021 and a Final Decision before May 30, 2021.[5] By having a single point in the schedule resolve all of the issues and identify the actions to be taken by the Commission, load-serving entities ("LSEs"), and others, the Commission would be leaving only three months, at most, to actually implement solutions ahead of August 2021 – presumably the period in which a similar heat storm could occur. However, not all possible actions or issues may require the Commission to extensively discuss or await until this decision point to direct near-term, low-hanging actions. An earlier decision is needed to afford sufficient lead time to meet Summer 2021 needs. Many other near-term actions will likely require some lead time for implementation. Instead of the current proposed single decision point, CESA recommends that the Commission modify the schedule to include an interim decision in February 2021 that directs all immediate actions for Summer 2021 while having the May 2021 decision direct all other actions that should be taken to address emergency reliability for 2022-2024.

[5] OIR at 16.

Fourth, not only should the criteria and nature of the possible actions considered in the OIR be expanded to address risks beyond 2021 and longer-term solutions, it should also allow for a wide range of possible solutions not contemplated by the Commission in the OIR that could provide emergency reliability in 2021 and during the 2022-2024 period. In this type of emergency, an all-hands-on-deck approach is needed. At the same time, CESA understands that the consideration of all possible solutions could become unwieldy and constrain the ability of the Commission to identify the best and most feasible solutions. Taking this into account, as the Commission solicits party proposals by January 25, 2021, the Commission should outline how it is open to all types of proposals to address the key objectives of the OIR but also clarify the guiding principles and evaluation criteria to identify the specific proposals that warrant further examination and/or inclusion in the Staff Proposal. The issues and questions outlined in the OIR represent a good start but do not comprehensively capture the full range of solutions, where parties should be allowed to bring forth such proposals, with knowledge of the evaluation criteria that will be used to support further consideration.

CESA appreciates the opportunity to submit these comments on the OIR and looks forward to being an active participant in this proceeding. To summarize, our general recommendations are as follows:

- While low-hanging actions can be taken to avoid or mitigate extreme-weather driven capacity shortfalls in the immediate term, this proceeding should also consider actions to address these risks beyond 2021 by including measures that can be implemented for the 2022-2024 period.

- This proceeding should focus on all possible actions that can address emergency reliability risks from 2021-2024 that are both temporary and long-term in nature in order to encourage the appropriate investments in the resources needed.

- The proposed schedule should be modified to include an interim decision in February 2021 that directs all immediate actions for Summer 2021 while having

the May 2021 decision direct all other actions that should be taken to address emergency reliability for 2022-2024.

- The Commission should solicit a wide range of solutions from parties that should be assessed against key guiding principles, objectives, and evaluation criteria.

II. BACKGROUND & INTEREST IN PROCEEDING.

CESA is a 501c(6) membership-based advocacy group committed to advancing the role of energy storage in the electric power sector through policy development, education, outreach, and research. With over 95 companies represented in the energy storage ecosystem, CESA has a direct interest in the proceeding in shaping the policies, rules, and processes to support emergency reliability in 2021 and beyond. Energy storage has played a key role in address near-term capacity needs with procurements to address emergency reliability situations, such as in response to the moratorium on the Aliso Canyon natural gas storage facility as well as the 2021-2023 System Resource Adequacy ("RA") shortfall pursuant to Decision ("D.") 19-11-016. CESA has been an active participant in a number of relevant rulemakings, such as Rule 21 Interconnection (R.17-07-007), Microgrids (R.19-09-009), Demand Response Applications (A.17-01-012, *et al.*), Self-Generation Incentive Program ("SGIP") (R.20-05-012), Resource Adequacy ("RA") (R.19-11-009), Integrated Resource Planning ("IRP") (R.20-05-003), among others.

III. PRELIMINARY SCOPING MEMO.

CESA generally supports the 18 questions included in the Preliminary Scoping Memo that point to possible solutions if those questions and others can be addressed. However, the Commission should not limit the range of solutions to those suggested in the OIR. To identify the range of actions that can most readily and effectively address emergency reliability risks, the Commission should specifically outline the problems that are intended to be resolved (*e.g.*, provide reliability for extreme heat-storm events) and the principles and evaluation criteria by which the

Commission would arrive at a decision on a set of actions. As CESA sees it, based on the Root Cause Analysis Report, the current planning framework is not structured to prepare for 1-in-10, let alone 1-in-35, weather events, where this proceeding fills a critical gap in the current IRP planning models and RA framework. As the IRP/RA proceedings contemplate possible changes to the regular planning and capacity frameworks (*e.g.*, higher planning reserve margins), this proceeding should identify the programs, procurement needs, and other solutions that may be needed until these regular processes can determine how to best incorporate extreme-weather events – after which the IRP/RA proceedings can assess whether and how to reflect these new resources and/or newly developed programs in the IRP/RA processes.

Taken this into account, CESA offers the following evaluation criteria to support the identification of the most effective and feasible solutions in this proceeding:

- Brings incremental capacity online to address capacity shortfalls driven by extreme-weather events
- Balances costs and benefits in mitigating extreme-weather-related capacity shortfalls
- Represents a solution that is implementable in the next one- to three-year timeframe
- Aligns with the state's decarbonization and clean energy goals to the greatest degree possible
- Requires action in this proceeding due to gaps in other proceedings and reasonably supplements existing programs, policies, and processes

Other evaluation criteria could be identified, but this information will be helpful for parties to bring forth viable proposals. In light of this, CESA offers the following comments on the proposed issues/questions as well as additional solutions that should be added for consideration in this proceeding.

A. An expedited stack analysis should consider 2021-2024 new supply-side resource procurement needs similar to what was done in D.19-11-016.

CESA supports the Preliminary Scoping Memo's consideration of an expedited stack analysis to procure new supply-side resources but recommends that the analysis be expanded to consider not only Summer 2021 needs but also 2022-2024 needs. The System RA capacity shortfalls were assessed in a similar stack analysis in D.19-11-016, but it should be updated to reflect load-serving entity ("LSE") procurement progress reports as well as to incorporate potential shortfalls driven by 1-in-10 or higher needs. CESA recommends this for two main reasons.

First, an expedited stack analysis for Summer 2021 would likely not yield actionable outcomes since any identified shortfall would be impossible to meet in 2-3 months, even assuming retrofits or enhancements to existing resource sites. Any analysis would only be useful to address 2022 and beyond needs since new supply-side resource procurement is only feasible with a further commercial online date.

Second, there is a critical gap in the Procurement Track of R.20-05-003, which has plans to issue a final decision on the Diablo Canyon analysis for 2024-2026 needs by May 2021 and potential additional procurement in adopting the Preferred System Portfolio in Q4 2021.[6] The current IRP scope thus does not address near-term emergency reliability, does not provide timely guidance or procurement directives, and/or may not be accounting for the latest resource "stack" with the once-through-cooling ("OTC") facilities extensions expiring in 2023. Even though a simple stack analysis lacks detail, the limited time makes it impossible to conduct more sophisticated and robust loss-of-load expectation ("LOLE")

[6] *Assigned Commissioner's Scoping Memo and Ruling* issued on September 24, 2020 in R.20-05-003 at 12-13. https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M347/K608/347608446.PDF

analysis, where the Commission should err on the side of timely least-regrets action over precise analysis at this time.

Based on the stack analysis, any identified needs should be directed for procurement. The near-term procurement of storage for hybridization with existing gas generation or as enhancements to existing standalone renewable facilities represent one of the more immediate means to bring capacity online in a timely manner, taking advantage of current deliverability at sites. Importantly, regarding hybridization of storage with existing gas generation, CESA reminds the Commission that such solutions not only adds incremental capacity but also modifies the underlying generation resources in a manner that allows them to support renewables integration and advance decarbonization objectives. Furthermore, like with the D.19-11-016 procurement, the Commission should work with other agencies to ensure that existing contracted resources meet their commercial online dates and are brought online in time to meet the needs. Finally, the Commission should

B. The Preliminary Scoping Memo appropriately considers new load reduction programs such as the Emergency Load Reduction Program.

CESA strongly supports the consideration of the ELRP outside of the RA framework as well as the inclusion of a potential excess export capacity component. The recent reliability events underscore not only the potential for DERs to provide RA capacity in general but also how the state is not realizing or enabling the full capacity that could be used to serve the grid on an emergency basis. The extension reliance on Flex Alerts to help the state weather the capacity shortfalls on August 14-15, 2020 highlight the importance of DERs and customer response for free, but such responses would be enhanced through programs, tariffs, or contracts that commit their performance with commensurate

compensation. For facilities with low minimum daily loads, like homes and schools, there is significant stranded export value that could be unlocked to provide critically needed capacity on an emergency basis during the 1-in-10 or worse heat-storm events. Currently, Track 3A of R.19-11-009 is contemplating BTM export capacity issues for hybrid solar-plus-storage systems to deliver capacity on a "regular" basis such that a potential ELRP in this proceeding would address a critical gap in being able to leverage this excess export capacity for emergency reliability events. Coordination may be needed with the Rule 21 proceeding (R.17-07-007) as well as with DR-related proceedings.

C. Dynamic functional energy storage assets can provide "outsized" capacity during 1-in-10 or greater heat storms and should be considered in this proceeding as a high-potential solution.

CESA recommends that the Commission also consider the potential role of dynamic functional storage assets in meeting heat-storm-driven needs. One example of a dynamic baseline type of grid asset would be Large Thermal Energy Storage ("LTES"), which can be added to chillers, refrigeration, and HVAC systems. Another example is the additional gravity-fed tankage that can be added to both potable water systems and wastewater treatment facilities. These load-modifying energy storage systems have the potential to bring additional very long-lived, relatively low-cost, and long-duration capacity assets that have outsized impacts during heat-storm events. There is even an energy efficiency gain in some of these applications due to the efficiency at which these loads would otherwise run without storage capabilities.[7]

[7] *See* Thomas A Deetjen et al 2018 Environ. Res. Lett. 13 024013: "The study concludes that, under the right circumstances, cooling thermal energy storage can reduce grid-wide energy consumption, challenging the perception of energy storage as a net energy consumer."

Importantly, the Commission accepted the use of a site-specific data driven dynamic capacity valuation and verification methodology for the purposes of calculating SGIP incentives with the issuance of Resolution E-5016.[8] This type of methodology should be expanded to any form of dynamic assets, and a feed-in tariff or rider should be developed to support the dispatchable peak capacity value of these assets. Such resources can be brought online in as little as 90 to 120 days when dispatchable thermal storage is added to existing chillers, representing a high-potential resource that falls squarely within the core objective of this proceeding to bring incremental capacity online to mitigate heat-storm-driven emergency reliability risks.

D. The efficacy of a supplemental Demand Response Auction Mechanism ("DRAM") auction will depend on an earlier Commission decision.

A supplemental auction within the existing DRAM is contemplated in the OIR and represents an immediate means to procure additional DR capacity online that would only require additional budget authorization and the launch of already-existing and established processes and contracts. Under the current schedule, however, an auction in June 2021 after the Commission decision would leave little time for third-party DR providers to build the portfolio of customers to bring as much capacity online, thus forgoing an opportunity to bring more immediate capacity online. This represents one of the most immediate means to support the emergency reliability need, where recent improvements to performance requirements have strengthened the program and the Commission would only need to authorize additional auction budgets to bring capacity online in a timely manner. As a

[8] *Resolution E-5106: Rejection of the Large Thermal Energy Storage (L-TES) Incentive Calculation Methodology Proposal for the Self-Generation Incentive Program and Proposed Updates to the Self-Generation Incentive Program (SGIP) Handbook* issued on November 12, 2020. https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M350/K762/350762070.PDF

result, approval of a supplemental DRAM auction should be included in CESA's proposed interim decision in February 2021.

E. The Preliminary Scoping Memo appropriately considers revisions to various DR programs but the prohibitions to dual participation and the Prohibited Resources Policy should also be revisited to support emergency reliability.

CESA generally supports an investigation into revisions to load-shifting programs as well as existing supply-side reliability DR programs, such as the Base Interruptible Program ("BIP"). In particular, CESA supports the consideration of increasing the enrollment via incentives or by addressing various barriers for electric vehicles ("EVs") and electric vehicle supply equipment ("EVSEs") to participate as DR resources. Vehicle-to-grid ("V2G") resources can also play a role in providing not only load reduction capacity but also export capacity and should therefore be considered in discussing these issues.

In addition to the consideration of these issues, CESA also recommends reconsideration of two key Commission decisions for the purposes of addressing emergency reliability issues. First, the Commission adopted D.16-09-056 that prohibited the use of prohibited fossil-fueled backup generators in DR programs starting on January 1, 2018 – a prohibition that could be relaxed for emergency DR events within certain limited parameters to deliver incremental capacity. This issue is preliminary posed as a question/issue in the OIR, but it could also encompass how it impacts DR program eligibility. Second, the Commission also issued D.18-11-029 that set a prohibition of dual participation of Critical Peak Pricing ("CPP") and another DR program for all new customers, effective immediately and until further notice. Revisiting this determination could support greater enrollments in reliability DR programs from those who may be currently participating in economic DR programs or portfolios. A limited exception to the

dual participation decision to support emergency reliability could be granted to support the key objectives of this proceeding.

IV. CATEGORIZATION, HEARINGS, AND SCHEDULE.

CESA has no views at this time on the categorization of the proceeding or the need for evidentiary hearings, but in the interest of identifying and directing near-term actions to respond to the emergency reliability events of August 2020, CESA recommends modifications to the proposed schedule to direct immediate 2021 solutions with an earlier decision (*e.g.*, end of February 2021), followed by directives for medium-term emergency reliability risks in 2022-2024 with the May 30, 2021 decision. This would afford time to implement immediate-term 2021 solutions while identifying and directing actions to address 2022-2024 emergency reliability needs.

V. NOTICES.

Services of all notices and communications in this proceeding should be directed to the following CESA representative:

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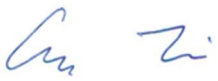
VI. CONCLUSION.

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

Respectfully submitted,



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Date: November 30, 2020