

Docket No.: R.20-11-003

Exhibit No.: CESA-002

Date: January 19, 2021

Witness: Jin Noh

**REPLY TESTIMONY OF JIN NOH
ON BEHALF OF THE CALIFORNIA ENERGY STORAGE ALLIANCE**

1 **Q: Please state your name and business address.**

2 **A:** My name is Jin Noh. I am Policy Director of the California Energy Storage Alliance (“CESA”). My
3 business address is David Brower Center, 2150 Allston Way, Suite 400, Berkeley, CA 94704.

4 **Q: Please summarize your professional and educational background.**

5 **A:** In my capacity as Policy Director, I manage CESA’s engagements at the California Public Utilities
6 Commission (“Commission”), California Independent System Operator (“CAISO”), California Energy
7 Commission (“CEC”), California Legislature, Federal Regulatory Commission (“FERC”), and other agencies. I
8 have more than 6 years of experience in policy and regulatory work at these agencies. I hold a Bachelor of Arts
9 in Public Policy Studies and Economics from Duke University and a Master’s in Public Policy (“MPP”) from
10 the University of California, Berkeley.

11 **Q: Have you ever testified before this Commission?**

12 **A:** Yes.

13 **Q: On whose behalf are you testifying?**

14 **A:** I am testifying on behalf of CESA. Founded in 2009, CESA is a non-profit membership-based advocacy
15 group committed to advancing the role of energy storage in the electric power sector through policy, education,
16 outreach, and research. CESA’s mission is to make energy storage a mainstream energy resource that
17 accelerates the adoption of renewable energy and promotes a more efficient, reliable, affordable, and secure
18 electric power system for all Californians. As a technology-neutral group that supports all business models for
19 deployment of energy storage resources, CESA’s membership includes technology manufacturers, project
20 developers, system integrators, consulting firms, and other clean tech industry leaders.

21 **Q: What is the purpose of your testimony?**

22 **A:** The purpose of this reply testimony is to provide our responses to testimony and proposals submitted by
23 other parties on various solutions that could be pursued by the Commission to address Summer 2021 emergency
24 reliability needs and beyond. Specifically, we respond to testimony from other parties on the design, structure,
25 and operations of a new Emergency Load Reduction Program (“ELRP”), performance-related issues tied to
26 demand response (“DR”) resources, and various recommendations for expedited Integrated Resource Plan
27 (“IRP”) procurement.

1 **I. Introduction**

2 CESA continues to support the intent, purpose, and importance of this proceeding and
3 appreciates the various proposals and insights from other parties. With the limited time between now
4 and Summer 2021, CESA understands that the feasibility of implementation is a critical factor, but we
5 also urge the Commission to not narrowly focus on immediate Summer 2021 needs but also quickly
6 pivot to adopting proposals that can position the state to address Summer 2022 and beyond emergency
7 reliability needs. If the Commission adopts bridge and short-term solutions for Summer 2021, then
8 these issues will persist in years after, where measures taken in early 2021 can broaden the range of
9 solutions available with the added lead time to Summer 2022. As such, CESA encourages the
10 Commission to adopt many, if not all, of our proposals explained in our opening testimony, including
11 the establishment of a new ELRP to support enhanced DR resources.

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13 **II. Summary of Recommendations**

14 After reviewing parties' testimony, CESA offers the following key responses:

- 15 • Rather than recycling previous DR programs, the ELRP should be developed to
16 support the enhanced DR resources, as proposed by CESA.
 - 17 • Authorization of a supplemental Demand Response Auction Mechanism ("DRAM")
18 auction is an existing mechanism to expeditiously bring incremental capacity online
19 for Summer 2021 or Summer 2022.
 - 20 • Any performance issues warrant review but bid price cap proposals should not be
21 adopted for Proxy Demand Resources ("PDRs") and energy sufficiency and delivery
22 issues should be addressed in R.19-11-009.
 - 23 • An agreed-upon procurement target or range should guide IOU procurement orders
24 and contract review to meet Summer 2021/2022 needs.
 - 25 • Parameters of contract term length should follow guidance from D.19-11-016.
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- Energy-only resources that are on the path to reaching full capacity deliverability by Summer 2022 should be eligible for procurement related to emergency reliability.

III. Rather than recycling previous demand response programs, the Emergency Load Reduction Program should be developed to support the enhanced demand response resources, as proposed by CESA.

The opening testimony submitted by many parties highlighted many of the challenges and tradeoffs of leveraging the immense capacity potential of DR resources without deterring increased customer participation in these programs and portfolios, subjecting customers to frequent DR events and thus contributing to customer attrition, and reflecting the different opportunity costs of customers with different capabilities or willingness to curtail load. This has led to the challenge of parsing through aggregate DR performance data in the aftermath of the August/September 2020 heatwave events when programs are subject to different program limits, dispatch triggers, etc.¹ In our view, The Utility Reform Network (“TURN”) captures the crux of CESA’s concern well and serves as the underlying driver for proposing an ELRP that can support enhanced DR resource deployment and operations:²

“The inherent problem for a utility’s Demand Response (DR) offerings is that they are governed by tariff provisions that must treat all similarly-situated customers equally. The utility may offer a few, or even many, of such tariffs, but they still represent a “one size fits all” approach to a customer base whose individual needs and preferences

¹ Opening Prepared Testimony of the DR Coalition (“Exhibit No. DR Coalition-01”) at 33-34 and Pacific Gas and Electric Company Emergency Reliability OIR Prepared Testimony, Chapter 4 Modifications to Demand Response Programs and Miscellaneous Issues at 16.

² Prepared Direct Testimony of Michel Peter Florio (“Exhibit No. TURN-01”) at 9.

1 may differ widely. Incentive payments and dispatch conditions must be
2 the same for all customers on that tariff.”

3 To drive at some of the concerns from the Commission, CAISO, and other stakeholders on
4 how we can advance the very type of enhanced DR resources that are fast-start and frequently
5 dispatchable, especially during times of grid stress, CESA proposed an ELRP that would support the
6 deployment and operation of such resources, which are typically relatively more capital-intensive
7 projects such as energy storage, thermal energy storage, permanent load shifting (“PLS”), and vehicle-
8 to-grid (“V2G”) resources, among others. In requesting for a second phase of their Virtual Power Plant
9 (“VPP”) pilot, which CESA generally supports, Southern California Edison Company (“SCE”) provided supporting evidence for the reliable performance expected of resources under CESA’s
10 proposed ELRP by highlighting how the solar-plus-storage resources participating in the pilot have
11 achieved 95% of the dispatch goals to date.³ Granted, this reporting of pilot results was made in
12 support of a Phase 2 of their VPP Pilot, but this also serves as an additional data point in support of the
13 Commission thinking more expansively of what the ELRP can be positioned to do.
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15 In contrast to CESA’s vision and proposal for the ELRP, Pacific Gas and Electric Company
16 (“PG&E”) and SCE propose ELRPs that fall within the Staff Proposal’s parameters to be out of market
17 and only involving after-the-fact pay-for-performance payments but largely mirror the since-
18 discontinued Demand Bidding Program (“DBP”), with a fixed \$0.75/kWh energy payment to
19 compensate performance during an ELRP dispatch.⁴ Separately, in lieu of the Commission’s proposed
20 ELRP, San Diego Gas and Electric Company (“SDG&E”) advocated for approval of its Emergency
21 Load Shed Pilot (“ELSP”), which is pending in an advice letter before the Commission for approval.⁵
22 Among other things, the ELSP would test out a performance-incentive-only without penalties to
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25 ³ Direct Testimony of Southern California Edison Company (“Exhibit No. SCE-01”) at 26.

26 ⁴ Exhibit No. SCE-01 at 8 and Pacific Gas and Electric Company Emergency Reliability OIR Prepared
27 Testimony, Chapter 3 Emergency Load Reduction Pilot at 2-7.

28 ⁵ Prepared Direct Testimony of San Diego Gas & Electric Company Regarding Demand Response Proposals
29 (“Exhibit No. SDGE-3”) at 3-8.

1 encourage emergency load reduction from its large commercial customers. CESA does not oppose any
2 of these proposals, or frankly any proposals to support the viability and success of existing DR
3 programs, but with the opportunity to develop a new ELRP, the Commission should more ambitiously
4 look to develop a new kind of enhanced DR program that can incentivize the type of fast-start,
5 frequently-dispatched resources needed for emergency reliability and future RA needs. The investor-
6 owned utilities' ("IOUs") proposals, on the other hand, add to the current suite of DR programs that
7 can only support resources under very specified parameters and limits. As the CAISO observed,
8 "[r]educing under-performance penalties and limiting use and availability requirements would make
9 CBP programs more used but less useful."⁶ While these comments were made in reference to the
10 Capacity Bidding Program ("CBP") in particular, this general sentiment can be broadly applied as
11 well. Instead of recycling old programs like the DBP with some tweaks to balance the trade-off
12 between more use versus usefulness, the ELRP should be created as an entire new category of program
13 that can support enhanced DR resources. Furthermore, CESA adds that the proposed \$0.75/kWh is
14 wholly insufficient to drive the participation of resources like storage and solar-plus-storage. Under a
15 10-in-10 baseline, assuming a 1 to 1.5 kW per hour load reduction per home and a four-hour response,
16 for example, this proposed incentive level would amount to around \$3.75 in performance payments per
17 event, which would only occur a few times per year – a minimal amount that makes it not worthwhile
18 to participate.

19 Importantly, a critical limitation of the IOUs' proposals for pay-for-performance energy
20 payments only is that it will not drive the type of committed participation unless a reservation or
21 capacity payment is offered as well, as pointed out by the DR Coalition.⁷ CESA agrees that an after-
22 the-fact payment alone will not drive customer participation, let alone customer investment decisions
23 in new hardware/software involved in energy storage projects. A bankable reservation or capacity

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26 ⁶ Opening Testimony of Karl Meeusen on Behalf of the California Independent System Operator Corporation at
27 15.

⁷ Exhibit No. DR Coalition-01 at 13.

1 payment is needed that is commensurate with the reliable and frequently-dispatchable response that
2 resources like energy storage can provide. While CESA agrees with many elements of the DR
3 Coalition’s version of the ELRP proposal (*e.g.*, dispatch ahead of reliability DR resources, forgoing *ex*
4 *ante* cost-effectiveness evaluations),⁸ our proposal is also different in that it structures enrolled
5 capacity payments that would support the entry of new-build resources.

6 Finally, CESA understands the feasibility of launching an entire new program can be
7 challenging in the short time between now and Summer 2021. PG&E explained that it can take three to
8 twelve months to develop a new pilot to be ready to offer for customer participation,⁹ which is
9 generally in line with our expectations and experience with other customer-oriented clean energy
10 programs. As a result, CESA can understand PG&E’s preference for simplicity for the initial rollout of
11 the ELRP for Summer 2021,¹⁰ but our proposal should not be dismissed as a result of this constraint.
12 As a multi-year pilot or program, the ELRP can be developed over time to address not only Summer
13 2021 emergency reliability needs but also future needs due to the increasing prevalence of heatwaves
14 and extreme weather.

15 To this end, CESA’s proposed ELRP could be developed and established in phases, with the
16 first phase (program startup) focusing on making energy-only payments to potentially enroll existing
17 distributed energy resources (“DERs”), including for their excess export capabilities, that are already
18 online but is not committed for any grid service or could provide an incremental grid service (*e.g.*, via
19 dual participation). Since this program would not be market integrated, this energy payment could
20 either be established as a pass through of CAISO wholesale energy prices at the time(s) of dispatch
21 and/or be administratively set based on expected prices. This energy component and direct metering of
22 output should be part of the compensation scheme in our ELRP proposal.

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26 ⁸ Exhibit No. DR Coalition-01 at 12 and 14.

⁹ Pacific Gas and Electric Company Emergency Reliability OIR Prepared Testimony, Chapter 3 Emergency
Load Reduction Pilot at 9.

¹⁰ *Ibid* at 1.

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2 **IV. Authorization of a supplemental Demand Response Auction Mechanism auction is an existing**
3 **mechanism to expeditiously bring incremental capacity online for Summer 2021 or Summer**
4 **2022.**

5 CESA agrees with the recommendations from the various demand response providers
6 (“DRPs”) that restoring the \$27-million DRAM budget is an immediate means to bring over 150 MW
7 of DR capacity online to support summer emergency reliability needs for 2021 or 2022, depending on
8 when a supplemental DRAM auction can be conducted.¹¹ As explained in their testimony, the increase
9 to \$27 million for the upcoming 2022 DRAM Request for Offer (“RFO”) would be in line with
10 previous DRAM budget levels and deliveries in 2019 and could support Summer 2022 reliability if
11 timely authorized in the March 2020 Proposed Decision,¹² as planned in this proceeding. The Public
12 Advocates Office (“PAO”), however, raised performance-related concerns related to the day-ahead
13 market scheduling rates of DRAM resources as well as redacted details regarding the poor
14 performance of DRAM resources relative to their qualifying capacity values.¹³ While any
15 performance-related issues warrant review and require improvements to the mechanism and contracts,
16 many of these refinements, such as a minimum dispatch requirement and reporting of marginal energy
17 cost and bid data to Energy Division,¹⁴ is planned for implementation for the 2021 DRAM that are
18 intended to make DRAM resources “more active” in the energy market.¹⁵ With these refinements in
19 place, CESA believes that the DRAM via higher budget authorizations of \$27 million can be
20 positioned to better address the emergency reliability needs as identified in this proceeding.

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24 ¹¹ Opening Prepared Testimony of Joint Demand Response Parties (“Exhibit No. JDRP-01”) at 9 and Exhibit
No. DR Coalition-01 at 6.

25 ¹² Exhibit No. JDRP-01 at 10.

26 ¹³ Opening Testimony of the Public Advocates Office, Chapter 2 Existing Demand Response Programs,
Witness Stephen Castello at 3.

27 ¹⁴ See OP 3 and 5-6 of D.19-12-040.

<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M322/K796/322796293.PDF>

28 ¹⁵ See D.19-12-040 at 16 and 24.

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2 **V. Any performance issues warrant review but bid price cap proposals should not be adopted for**
3 **Proxy Demand Resources and energy sufficiency and delivery issues should be addressed in**
4 **R.19-11-009.**

5 CESA agrees with SCE and others that a bid price cap proposal is premature and/or out of
6 scope at this time for Proxy Demand Resources (“PDRs”),¹⁶ which will lead to inefficient dispatch of
7 PDRs and decrease their participation or enrollment in various DR programs. Energy sufficiency and
8 energy deliveries are issues that are not unique only to PDRs and are being discussed as part of broader
9 reforms in Track 3B.2 of the current RA rulemaking, R.19-11-009. The premature adoption of bid cap
10 price proposals without substantive discussion would be unwise and would prescribe a solution that
11 could drive uneconomic dispatch and could be addressed through different, more optimal/efficient
12 approaches or a combination thereof, such as energy contracts outside of the RA framework, net
13 qualifying energy (“NQE”) requirements, load shifting CAISO market products, etc. To this point,
14 CESA finds that PG&E’s bid cap proposal for its CBP Elect Option is premature and unsubstantiated
15 for adoption at this time, especially as the only justification for supporting its adoption is that a
16 \$650/MWh bid cap would have had all CBP resources dispatched at least once during the August 2020
17 heat wave.¹⁷ The cap is arbitrarily set to ensure a minimum level of dispatch and fails to reflect the
18 varying opportunity and marginal costs of CBP Elect resources. This issue should be deferred for
19 further consideration in the appropriate proceeding (R.19-11-009, A.17-01-012, *et al.*).
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21 **VI. An agreed-upon procurement target or range should guide IOU procurement orders and**
22 **contract review to meet Summer 2021/2022 needs.**
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26 ¹⁶ Exhibit No. SCE-01 at 38-39 and Exhibit No. SDGE-3 at 19.

27 ¹⁷ Pacific Gas and Electric Company Emergency Reliability OIR Prepared Testimony, Chapter 4 Modifications
28 to Demand Response Programs and Miscellaneous Issues at 8 and 15.

1 CESA appreciates the comparative analysis conducted by the California Community Choice
2 Association (“CalCCA”) regarding the CAISO stack analysis and SCE’s loss-of-load expectation
3 (“LOLE”) analysis, both submitted in this proceeding to support the needs analysis.¹⁸ While CESA
4 agrees with CalCCA that a probabilistic analysis would represent a more rigorous needs assessment
5 and better inform procurement orders, the lead time to Summer 2021 makes this infeasible at this time.
6 However, whether CalCCA’s proposed 1,073 MW target or the 2,194 MW identified the CAISO’s
7 updated stack analysis,¹⁹ agreeing upon a more specific procurement range or target is needed to
8 support contract review and procurement approval and help the Commission and CAISO determine
9 whether the procurement is reasonable and sufficient to address emergency reliability needs. To this
10 end, CESA also reiterates our comments on the importance of establishing a needs assessment and
11 procurement order for Summer 2022 given short lead times. We echo the testimony from SDG&E that
12 the IOUs should have flexibility to pursue contracts for resources to meet a Summer 2022 commercial
13 online date (“COD”),²⁰ at least until the Commission provides further guidance on Summer 2022 needs
14 at a later time.

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16 **VII. Parameters of contract term length should follow guidance from D.19-11-016.**

17 CESA agrees with TURN that only incremental energy storage should be allowed to contract
18 for term lengths greater than three years,²¹ which is consistent with the guidance provided in D.19-11-
19 016.²² To align any procurement in R.20-11-003 to long-term decarbonization and Integrated
20 Resources Planning (“IRP”) goals, CESA believes that additional procurement parameters are needed

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23 ¹⁸ Direct Testimony of Nicholas J. Pappas, Michael Hyams, Matthew Langer, Mahayla Slackerelli, and
Samantha Weaver on Behalf of the California Community Choice Association at 2, 5, and 21.

24 ¹⁹ Opening Testimony of Jeff Billinton on Behalf of the California Independent System Operator Corporation at
25 12.

26 ²⁰ Prepared Direct Testimony of San Diego Gas & Electric Company Regarding Proposals for Increasing
Supply During Peak and Net Peak Demand Hours (“Exhibit No. SDGE-1”) at 3-4.

27 ²¹ Exhibit No. TURN-01 at 9.

28 ²² Ordering Paragraph (“OP”) 10 of D.19-11-016.

<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M319/K825/319825388.PDF>

1 beyond the ones included in a recent Proposed Decision directing the IOUs to seek contracts for
2 incremental capacity for Summer 2021 emergency reliability. As others noted in their opening
3 testimony,²³ the Commission should avoid outcomes where resources (*e.g.*, fossil generation) are
4 contracted longer than needed, including for System Resource Adequacy (“RA”), which is only
5 required to be contracted and committed up to three-year forward periods. In addition to incremental
6 energy storage, long-term contracting (*i.e.*, terms of 10 years or more) should be allowed for battery
7 hybridization options with existing gas fired generation,²⁴ demand-side solutions, and other clean
8 resources.

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10 **VIII. Energy-only resources that are on the path to reaching full capacity deliverability by Summer**
11 **2022 should be eligible for procurement related to emergency reliability.**

12 Due to the short lead time to bring incremental new resource capacity online and in line with
13 our testimony to allow pre-RA delivery of procured capacity, CESA supports SDG&E’s
14 recommendation to allow energy-only resources that may have deliverability at a later date be allowed
15 to be procured for 2022.²⁵ As SDG&E explained, additional energy provided by such resources may
16 still be valuable in addressing the emergency reliability needs in the net load peak periods. However,
17 CESA believes that this allowance should be conditioned such that these Energy-Only resources or
18 projects that have Partial Capacity Deliverability Status (“PCDS”) should still operate in accordance
19 with RA must-offer obligations in these pre-RA delivery periods and be on a path to achieving Full
20 Capacity Deliverability Status (“FCDS”). Specifically, these projects should have executed
21 Interconnection Agreements and be issued Notice to Proceed to interconnecting utility and scheduled
22 to achieve Commercial Operations by September 1, 2022. With these conditions, the Commission will
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26 ²³ See, *e.g.*, Prepared Opening Testimony of Luis Amezcua on Behalf of Sierra Club (“Exhibit No. SC-01”) at
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27 ²⁴ Exhibit No. SDGE-1 at 6.

28 ²⁵ *Ibid.*

1 have assurances that these resources will provide long-term RA, accommodate the long lead times to
2 achieve FCDS, and provide emergency reliability in the short term.

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4 **Q: Does this conclude your testimony?**

5 **A:** Yes. I appreciate the opportunity to submit this reply testimony on behalf of CESA.
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