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

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| Order Instituting Rulemaking Regarding Microgrids Pursuant to Senate Bill 1339 and Resiliency Strategies | Rulemaking 19-09-009 |
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# PETITION OF THE CALIFORNIA SOLAR & STORAGE ASSOCIATION TO MODIFY D.20-06-017 TO REMOVE AN ENERGY STORAGE SIZING LIMIT

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June 13, 2025

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

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Pursuant to Rule 16.4 of the Rules of Practice and Procedure of the California Public Utilities Commission (Commission), the California Solar & Storage Association (CALSSA) submits this petition (2025 PFM) for modification of Decision 20-06-017, *Decision Adopting Short-Term Actions to Accelerate Microgrid Deployment and Related Resiliency Solutions* (Decision).

The Decision temporarily removed a cap within the net energy metering (NEM) tariffs on the allowable size of energy storage systems, for a period of three years. At the end of that period, the utilities requested and were granted permission to continue the pause on the cap for an additional two years. This Petition recommends permanently removing the cap and approving the Joint IOUs' previously-stated conditions for their support for removing the cap.

## 1. Background

In a January 21, 2020 ruling, the Commission released *Short-Term Actions to Accelerate the Deployment of Microgrids and Related Resiliency Solutions* (Staff Report).[1] Among other problems, Energy Division identified the storage sizing rule in the net energy metering (NEM) tariff as a problem in need of "tariff modernization." This rule states that a storage system interconnected under NEM "shall have a maximum output power no larger than 150% of the NEM-eligible generator's maximum output capacity."[2] The Staff Report

[1] "Administrative Law Judge's Ruling Requesting Comments on Track 1 Microgrid and Resiliency Strategies Staff Proposal" (Staff Report), January 21, 2020.

[2] PG&E, Schedule NEM2, Special Condition 9 (c)(2)(iii).

recommended that the NEM tariff be modified to remove the storage sizing limit.[3]

In the Decision, the Commission chose to adopt this recommendation "on a trial basis."[4] Ordering Paragraph 6 of the Decision stated that the trial should last for a period of three years. One week before the three-year period was set to end, the Joint IOUs submitted a request to extend the temporary removal of the storage sizing rule for another two years.[5] The Commission granted the request on September 5, 2023.[6] The removal is now set to expire August 16, 2025.

CALSSA filed a petition to remove this cap on June 11, 2024 (2024 PFM).[7] The IOUs filed a response agreeing with the 2024 PFM, conditional on updated treatment for cost responsibility when grid upgrades are triggered by a system with storage that exceeds the previous sizing limit.[8] The Public Advocates Office filed a protest claiming that the 2024 PFM did not sufficiently justify lack of timeliness. In D.24-11-004, the Commission rejected the CALSSA petition on the grounds that it did not sufficiently justify lack of timeliness:

> *We agree with Cal Advocates that not only is the Petition untimely but also fails to justify why the Petition could not have filed its petition on time. The Petition lacks sufficient explanation that supports CALSSA's inability to present a petition for modification within one year of D.20-06-017's effective date. While CALSSA acknowledges that it did not meet the timeliness requirements, its argument that D.20-06-017 "created a condition for a three-year period" made it "premature to have submitted a petition in less than one year" is unpersuasive. CALSSA presents no new additional facts or information that justifies the delay other than stating the*

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3 Staff Report, p. 17.

4 D.20-06-017, p. 41.

5 PG&E, on behalf of itself, SCE and SDG&E, "Request for Extension of Time to Comply with Decision 20-06-017, Ordering Paragraph 6, to Temporarily Remove the Storage Sizing Limit for large NEM-Paired Storage" (letter to CPUC Executive Director Rachel Peterson), August 9, 2023.

6 Letter from Rachel Peterson to Sidney Bob Dietz II, PG&E, September 5, 2023.

7 "Petition of the California Solar & Storage Association to Modify D.20-06-017 Regarding Energy Storage Sizing Limits," June 11, 2024.

8 "Joint Response of IOUs to California Solar & Storage Association's Petition to Modify D.20-06-017 Regarding Energy Storage Sizing Limits", p. 5.

*lapse in time created valuable insight into "gather[ing] information about customer behavior while the sizing cap was not in effect" implying that CALSSA could have presented the petition much earlier than four years after the decision's effective date but did not do so.*[9]

The Commission is clear that to justify lack of timeliness CALSSA must provide new facts or information. This is further supported later in the Findings of Fact:

*In addition to untimely filing its petition, CALSSA has not provided new evidence or facts to show that modifying D.20-06-017 is reasonable.*[10]

Furthermore, the Commission stated that the 2024 PFM needed to propose specific wording changes to D.20-06-017:

*Finally, we also agree with Cal Advocates that the Petition does not meet Rule 16.4(b)'s other requirements to propose specific wording to carry out its requested modifications to D.20-06-017 and does not assert factual allegations supported by specific citations to the record or matters that could be officially noticed.* [11]

In this 2025 PFM, CALSSA meets these requirements by providing new evidence and facts and by proposing specific wording to carry out our requested modifications. This 2025 PFM also differs from the 2024 PFM in that CALSSA supports the Joint IOUs' recommendation regarding cost responsibility.

**2. Timing of this Petition**

The Decision was issued on June 17, 2020. Rule 16.4 states that a petition must justify lack of timeliness "[i]f more than one year has elapsed."

In adopting a three year pause in the sizing limit, the Commission found, "that it would be appropriate for the changes to the NEM tariff be in effect for three years while additional information about the impacts of the change can be collected and evaluated."[12] However, within that three year period, the NEM tariff changed. The net billing tariff (NBT) was adopted in December 2022, and since the final deadline to submit single-meter NEM2 applications was April 14, 2023, significant NBT volume did not begin to

[9] D.24-11-004, p. 85.

[10] D.24-11-004, Findings of Fact 85.

[11] D.24-11-004, p. 85.

[12] Decision, p. 41.

appear until the second half of 2023. Although the "changes to the NEM tariff" that the Decision references are the pause in the sizing limit, the changes to the underlying tariff are clearly material. Whether to end the pause in the sizing limit must be evaluated in the context of the NEM tariff that customers face at the time when the pause might expire.

At the time of the Decision, the successor to NEM2 was expected to be in place within the first three year period. The Commission opened the NEM3 proceeding two months after the Decision, and the normal course of a proceeding would have delivered a decision with enough time to begin evaluating a modest impact within a three-year period.[13] However, the decision creating NBT was not issued until nearly two and a half years after the proceeding was opened, and implementation happened four months after that. Even upon implementation, solar adoption was diminished to the extent that a lengthy period has been necessary to determine the impacts of the price signals created by the new tariff.

NBT was intended to incentivize paired storage installations over solar-only installations. Export compensation was generally reduced under NBT, with the remaining value being much more concentrated during times of peak load. Although the export structure encourages customers to install a battery so that exports can happen during times of peak load, it was unclear if this would simultaneously cause customers to install smaller solar systems. Due to the substantive shift in economics, it was unclear exactly how much storage customers would be installing with solar, and under what specific configurations. The Commission should expect that how customers react to NBT without a storage sizing limit may be different from how customers react to NEM without such a limit. Thus, stakeholders needed to gather sufficient data on the nature of this difference under NBT.

Unfortunately, since that transition to NBT, the customer solar market has been slow. This slow place meant that observers had to wait a few years to gather enough datapoints on market behavior. In the first year of NBT, from May 2023 – April 2024, there were only 52,632 residential solar installations under NBT. This compares to 167,301 installations under Net Energy Metering 2.0 (NEM2) in 2021, which was well

[13] The first scoping memo in R.20-08-020 targeted a final decision in November 2021. "Joint Assigned Commissioner's Scoping Memo and Administrative Law Judge Ruling Directing Comments on Proposed Guiding Principles," November 19, 2020.

before any surge from the end of NEM2. In the second year of NBT, from May 2024 – April 2025, there were 105,975 residential solar installations under NBT.[14] This is still only 63% of the pace of 2021. While still slow by historic standards, two years of experience is sufficient to have a clear picture of how customers are seeking to meet their needs in the current policy environment.[15] We can now see the on-site generation configurations that make sense for customers under NBT. This analysis and data is presented in Section 3.

Given these market factors, CALSSA could not have submitted this Petition within one year of the decision with enough data for the Commission to make an informed decision about customer needs under the NEM successor tariff that exists at the end of the pause period and that is expected to be in place for considerable time. If a petition had been submitted within one year, it would have been based on customer experience with a temporary tariff, with batteries attached to solar systems as an uncommon practice rather than as a standard configuration. This would not have given the Commission sufficient information to understand the practical implications of the storage sizing limit beyond a very limited timeframe.

Similarly, the IOUs have expressed the importance of a longer study period to determine the impacts of removing the storage sizing cap. In their response to the 2024 Petition, they stated, "the purpose of the August 2023 request to extend the removal of the cap was to allow the IOUs additional time to evaluate potential impacts, consistent with the Track 1 Decision originally removing the cap on a trial basis. As CALSSA quoted in the 2024 PFM, by the end of the initial 3-year removal of the cap, the Joint IOUs had not "identified adverse or unintended consequences … [and concluded] reinstituting the size limitation would impose burdens on customers, installers, and the Joint IOUs. While no adverse effects had been observed, the Joint IOUs felt more time was needed to confirm this analysis, and that three years was not long enough to collect

[14] California Distributed Generation Statistics, https://www.californiadgstats.ca.gov.

[15] The commercial solar market has been even slower under NBT, with 808 installations in the first two years, compared to 2,641 installations in 2019. However, project lead times are longer and there is no public data on projects under development. Anecdotally among project developers, even considering long lead times, project initiation remains extremely low under NBT.

sufficient data."[16] This reinforces the fact that CALSSA could not have submitted this Petition within one year of the Decision with enough information for the Commission to make a decision on permanently removing the sizing limit.

In addition, the Commission specifically requested a petition for modification in this time period. In the September 5, 2023 letter approving a two-year extension of the pause of the storage sizing limit, Executive Director Peterson granted the extension "with the understanding that the Joint IOUs will timely pursue a Petition to Modify D.19-01-030 or other processes that will seek a permanent change to D.19-01-030."[17] The IOUs have failed to follow that direction. In the past year, CALSSA has had at least six conversations with the IOUs about this issue. Those conversations included a stated intention from the IOUs that they would file a PFM with a long-term change to the sizing limit. CALSSA encouraged them to do so. However, the IOUs have not filed a PFM, and CALSSA is therefore submitting this Petition to enable the Commission to address this issue as it had intended to before August 2025. CALSSA is concerned that relying on the utilities to submit a petition at this time, even if entirely consistent with what CALSSA has included in the instant Petition, will delay any potential grant of the relief sought until after the size cap has been reinstituted, creating customer confusion and market uncertainty.

## 3. Removal of the Cap

### A. Overview

A cap on storage sizing is not necessary. It is obstructive to customers seeking resiliency solutions and limits the ability to provide grid value. Any concern about statewide cost impacts can be addressed with the IOU proposal on cost responsibility.

The storage sizing limit pertains only to the power rating, in kW, not the amount of stored energy, in kWh. It caps the rate at which a battery can be charged and discharged. Higher output power (rate of discharge) is important to cover customer loads with the onsite generating system. Solar can charge a battery over time, and that stored

[16] "Joint Response of IOUs to California Solar & Storage Association's Petition to Modify D.20-06-017 Regarding Energy Storage Sizing Limits", p. 2.

[17] Letter from Rachel Peterson to Sidney Bob Dietz II, PG&E, September 5, 2023, p. 2.

energy can then be used in larger surges. Alternatively, a battery can supplement solar charging with grid charging and ensure that the energy never returns to the grid.

Many energy storage systems are packaged units that include both an inverter and a battery. The inverter size determines the power (the rate of charging and discharging, in kW), and the battery size determines the energy capacity (the amount of energy that can be stored, in kWh). If a customer wants more stored energy to withstand a longer grid outage when using these modular units, it comes with added power even if the customer does not intend to do faster discharging.

The storage sizing limit was first imposed by D.14-05-033. That decision stated: "The goal of this requirement is to set sizing requirements that ensure that the NEM-paired storage system is sized in such a way that it primarily functions to augment the value of the NEM-generator."[18] Experience now shows two common scenarios that involve higher storage power. In one, customers seek to augment the NEM generator with the ability to use stored power to handle the surge in power needs that many appliances have when they are turned on. In the other, customers want a longer duration of energy storage and they use modular units to achieve it. Prohibiting these use cases would prevent the installation of storage systems that primarily function to augment the NEM generator.

These solar and storage systems will comply with the NBT Paired Storage rules. The rules state that the battery must either charge only from solar or not export to the grid. Customers cannot store energy from the grid and release the same energy back to the grid for export credit. Being able to discharge batteries at a higher rate does not violate that fundamental rule.

The storage sizing limit needs to be removed in all three customer generation tariffs – NEM1, NEM2, and NBT. While NBT is the tariff for new solar and storage systems, existing NEM solar customers without storage can add storage within the NEM tariff. Many of those customers are seeking resiliency solutions and will therefore need a higher power battery to handle surge loads.

[18] D.14-05-033, p. 14.

### B. Resiliency Benefits

Two years after implementation of NBT, data indicates that a common configuration for customers is to size the storage large enough both for load shifting according to NBT price signals and for backup power. In many cases, the inverter nameplate significantly exceeds the CEC-AC rating of the solar.

For backup power, larger battery discharge capacity is needed to address surge loads, which is the spike in consumption when a device first turns on. As explained by the Cooperative Extension at Virginia Tech, "Motors require four times as much power to start as they do to run."[19] A Cornell paper explains, "Electric motors draw three to five times as much electric current to start as they do to run."[20] A guide from HomeDepot shows that the startup power needs of refrigerators, furnace fans, air conditioners, and sump pumps are 2-3 times higher than the running power.[21] If a system cannot cover surge loads, it will not work in an outage.

Covering surge loads is especially important when providing whole home backup. Whole home backup is useful to customers because it avoids rewiring circuits to a new subpanel, which reduces installation costs.

One of the very purposes of this proceeding is for the Commission to follow through on its commitment to achieve resiliency goals. As the Commission explained:

> *The Commission initiated R.19-09-009 to design a framework surrounding the commercialization of microgrids pursuant to SB 1339, as well as to account for the Commission's commitment toward utilizing additional technologies and activities to achieve resiliency goals.*[22]

The Decision created the pause to the storage sizing limit in response to the Energy Division problem statement that the limit "restricts a customer's ability to

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[19] Virginia Cooperative Extension, "Select the Right Portable Generator After a Disaster," available at https://nasdonline.org/static_content/documents/1492/d001292.pdf.

[20] Cornell Cooperative Extension, "Save Operation of Emergency Generators," p. 2, available at https://albany.cce.cornell.edu/resources/safe-operation-of-emergency-generators.

[21] HomeDepot, "Choosing the Right Size Generator," available at https://www.homedepot.com/c/ab/choosing-the-right-size-generator/9ba683603be9fa5395fab901458f23e5.

[22] Decision, Finding of Fact 1.

simultaneously participate in the NEM tariff and also to maximize the resiliency benefits that larger storage systems could provide during an extended grid outage."[23]

If the 150% rule goes back into effect, the Commission will be unable to fulfill this primary goal of achieving and maximizing resiliency benefits.

### C. Additional Benefits

Some customers choose larger battery capacity because they have installed or intend to install heat pumps for water heating and space heating and cooling. With electrification, usage will increase but roof space will not. Larger batteries can facilitate electrification with resiliency. Installing solar and storage and changing appliances are often part of the same decision, even if the work is not done at the same time. Enabling customers to right size energy storage can facilitate electrification. Conversely, prohibiting larger battery power can hinder electrification.

A customer with a common 200 amp main service panel will frequently use 160 amps at one time. This is the amount of current that comes from 19.2 kW of generation. That is much larger than the amount of solar that is needed to offset the annual energy needs of most homes, yet it is a common need for instantaneous power at electrified homes. To avoid stressing the grid, and to allow operation when the grid is down, customers should be allowed to install this size of energy storage even if they do not need that much solar generating power.

At a commercial site, the customer is motivated to address peak loads to manage demand charges. This is a benefit to the grid. Demand charges exist to encourage customers to reduce their peak demand. The best way for a customer to reduce peak demand is with a storage system that has high power output. If a commercial customer sizes a storage system both for NBT load shifting price signals and to reduce peak demand, it will often be much larger than the solar system.

Whether it is a customer considering backup power, a customer considering electrification, or a commercial customer responding to demand charges, it is good for the grid that customers are willing to upsize their battery inverter beyond what is needed for TOU load shifting. Customers having the capacity to address their own loads reduces the need for grid expansion to cover those loads.

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[23] Staff Report, p. 15.

### D. Installation Data

Under NBT, 24% of paired solar and storage systems have exceeded the 150% threshold, a total of 20,206 systems. This percentage is increasing. From February-April 2025 (the most recent three months of available data), 39% of NBT paired storage systems installed exceeded the 150% threshold, a total of 5,248 systems.[24] While this is a substantial portion of systems, very few of them exceed the 150% limit by a large amount. Most commonly, these are customers using single storage units that have higher power output or multiple storage units that have an inverter with each battery.

For example, the Tesla Powerwall 3 (PW3) arrived in the market in late 2023 and has become one of the most popular systems on the market. The PW3 has a nameplate discharge rating of 11.5 kW, which is often significantly higher than the accompanying solar.[25] Other manufacturers have followed suit because it is clearly useful for customers to have batteries with higher output power. Savant Systems achieved CEC listing in December 2024 for the PS20 battery model, which has 12.5 kW of output power.[26] GoodWe has an 11.4 kW residential storage inverter.[27] Ecoflow has announced plans to release a 24 kW residential storage system this summer. These market trends demonstrate that customers are interested in storage systems with high output power.

These storage systems could not be used under NBT with many solar installations if the storage sizing limit goes back into effect. The average NBT residential solar system size across the three California IOUs is 6.6 kW.[28] Thus, the PW3 is 173% of the size of the average residential solar system. In other words, the typical customer seeking to install solar would be effectively prevented from using a storage system that is the size of the PW3 or competing products.

Few systems have extreme differences between the size of solar and storage. In PG&E and SCE service territories, there are only 105 installed NBT paired storage

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[24] California Distributed Generation Statistics, available at https://www.californiadgstats.ca.gov.

[25] Powerwall 3 Specification Sheet, available at https://bit.ly/4l4lHfg.

[26] Savant Power Storage 20 Specification Sheet, available at https://bit.ly/savantps20.

[27] GoodWe SW11K4-ES-US20 Specification Sheet, available at http://bit.ly/4kK1VG8.

[28] California Distributed Generation Statistics.

systems where the storage kW rating exceeds 500% of the solar.[29] This is 0.1% of all NBT paired storage systems. Many of these records may be incorrect entries in which small increases to existing solar capacity are recorded as the total solar system size. For those records where the data appears to be correctly entered, there seems to be two general trends. Either customers want long duration storage to maintain resiliency through an extended grid outage and are using modular storage units to achieve it, or customers need higher power storage units to provide the surge wattage necessary to back up their critical loads, including appliances like refrigerators and air conditioners that contain motors.

### E. Facilitating Growth in Energy Storage

Customer-sited energy storage systems have grown, but they should be encouraged to grow further to enable load shifting and reduce utility expenses to serve peak load. In 2024, 698 MW of customer-sited energy storage was interconnected in California, doubling the amount of total customer storage installed across the state.[30] Much of this growth depends on the 150% storage sizing rule being removed on a permanent basis. Although these trends could have been predicted in advance (and were predicted by the 2024 PFM), a decision now to remove the 150% storage sizing rule would be based on historic data.

The Joint IOU request for an additional two-year pause of the storage sizing limit stated, "reinstituting the size limitation would impose burdens on customers," and that "[t]he removal of the sizing limitation has provided more efficient interconnection processes and has resulted in higher customer satisfaction."[31] CALSSA agrees with these points.

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[29] California Distributed Generation Statistics. Seventeen records were removed because they were obvious errors, with a large number of solar panels listed but a tiny system size. Of the remaining 105, some are likely to be similar errors but we did not discard them because they are not extreme. Data is not available for SDG&E because SDG&E enters solar and storage as separate records even when they are one paired system.

[30] California Distributed Generation Statistics.

[31] Letter from Sidney Bob Dietz II, "Request for Extension of Time to Comply with Decision 20-06-017, Ordering Paragraph 6, to Temporarily Remove the Storage Sizing Limit for large NEM-Paired Storage," August 9, 2023.

The letter further stated, "The Joint IOUs currently plan to consult with industry participants regarding a further submittal to the Commission to permanently remove the storage size limitation imposed by D.19-01-030." The IOUs did engage with CALSSA with an intention to propose a long-term solution, though they have failed to actually make a proposal.

**4. Cost Responsibility**

In its response to the 2024 PFM, the Joint IOUs stated:

*The Joint IOUs do not object to customers' interests in installing oversized energy storage systems for enhanced resiliency, but the costs of upgrades triggered by such projects to enable aggregate grid charging capacity of more than 150 percent (or any potential larger cap determined and set by the Commission in the future) of the paired NEM generator should be the responsibility of the customer. With the conditions discussed above, the Joint IOUs do not object to approval of the Petition.*[32]

CALSSA agrees that customers installing storage that is much larger than the solar size and is capable of charging from the grid should bear cost responsibility for grid upgrades that are triggered by the interconnection. All NEM/NBT customers pay for grid equipment that is classified as "interconnection facilities" because their only purpose is to facilitate the interconnection. However, when the upgrade serves multiple customers, it is classified as a "grid upgrade" even if it is the same type of equipment as an interconnection facility. NEM/NBT customers with systems smaller than 1 MW do not have cost responsibility for grid upgrades.[33] This proposal would change that rule such that customers with systems smaller than 1 MW have cost responsibility for grid upgrades if their energy storage system charges from the grid and can discharge at more than 150% of the power of the solar system.

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[32] "Joint Response of IOUs to California Solar & Storage Association's Petition to Modify D.20-06-017 Regarding Energy Storage Sizing Limits", p. 7.

[33] PG&E Rule 21, Table E.2.

## 5. Conclusion

CALSSA appreciates the Commission's ongoing attention to this issue. This petition is timely because of developments in the solar and storage market that began in 2023 and needed time to observe the impacts. Nearly a quarter of installed NBT paired storage would have been ineligible if the 150% rule had been in effect. This trend gives concrete new evidence that the 150% rule is outdated and obstructive to resiliency, electrification, and the development of customer-sited renewables.

Permanently removing the cap would be consistent with the core NEM/NBT Paired Storage rule that storage either charges entirely from solar or does not export to the grid. Systems with storage power that is much larger than solar output will not receive additional NEM credits due to the size of the storage power. Furthermore, the IOUs have clearly stated that they needed multiple years to evaluate any adverse effects on the grid when the cap is not in place. Now that those years have passed, the Commission is in a position to approve a petition to remove the cap and replace it with cost responsibility for grid upgrades for customers with energy storage systems that charge from the grid and have a power rating that is more than 150 percent of solar generating capacity.

Respectfully submitted,

By: /s/ *Kevin Luo*
Kevin Luo

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June 13, 2025

**Appendix – Recommended Language Changes to D.20-06-017**

New FoF. During the pause of the 150% storage sizing limit, many customers installed systems with storage capacity greater than 150% of solar capacity.

FoF 25. Removing the storage sizing limit for large NEM-paired storage while maintaining existing metering requirements ~~may also~~ would facilitate interconnection of energy storage systems to provide resiliency benefits.

CoL 22. It is reasonable to require PG&E, SCE, and SDG&E to modify their NEM tariffs to ~~temporarily~~ remove the storage sizing limit for large NEM-paired storage ~~for a period of three years~~ and replace it with cost responsibility for grid upgrades for systems above the same size threshold that charge from the grid and maintain existing metering requirements.

CoL 23. It is reasonable to require PG&E, SCE, and SDG&E, within 30 days of the date of issuance of this decision, each to submit a Tier 2 Advice Letters proposing the necessary modifications to their NEM tariffs to make the changes that ~~temporarily~~ remove the storage sizing limit for large NEM-paired storage ~~for a period of three years~~, replace it with cost responsibility for grid upgrades for systems above the same size threshold that charge from the grid, and maintain existing metering requirements. Such Advice Letters shall be served on current and prior NEM proceeding Service Lists.

OP 6. Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), and San Diego Gas & Electric Company (SDG&E) shall each submit a Tier 2 Advice Letter within 30 days of the date of issuance of this decision, that propose necessary modifications, in compliance with Section 4.2.3 of this decision, to their Net Energy Metering (NEM) tariffs that ~~temporarily~~ remove the storage sizing limit for large NEM-paired storage ~~for a period of three years~~ and replace it with cost responsibility for grid upgrades for systems above the same size threshold that charge from the grid, while maintaining existing metering requirements. In this Advice Letter submittal, PG&E, SCE,

and SDG&E shall reference compliance with this decision pursuant to Ordering Paragraph 6.

P. 41. We note that Proposal 1 is identical to Proposal 2 with the exception that Proposal 1 requires systems to be capable of islanding. We depart from Staff's and parties' recommendation and adopt Proposal 2 ~~on a trial basis~~. In adopting Proposal 2, we reduce the risk of implementation complexity that the islanding requirement presents. At this point in time, the islanding requirement presents a potential risk of causing undue delays in providing resiliency in the face of the upcoming wildfire season and potential grid outage events. For the long-term, adding the islanding requirement appears to be appropriate for Commission consideration with further development of implementation details. ~~In order to balance the risk of undue delays against the possibility of adverse long-term consequences, we find that it would be appropriate for the changes to the NEM tariff be in effect for three years while additional information about the impacts of the change can be collected and evaluated. We may further consider this topic in Track 2 or Track 3 of this proceeding.~~

Within 30 days upon date of issuance of this decision, the utilities are directed to submit Tier 2 Advice Letters proposing the necessary modifications to their NEM tariffs to make the changes described in Tariff Modernization Problem 2, Proposal 2 (removing the storage sizing limit for large NEM-paired storage and maintaining existing metering requirements). ~~The Advice Letter should clearly state that the change would remain in effect for three years.~~

**BEFORE THE PUBLIC UTILITIES COMMISSION**
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| Order Instituting Rulemaking<br>Regarding Microgrids Pursuant to<br>Senate Bill 1339 and Resiliency Strategies. | Rulemaking 19-09-009 |

**DECLARATION OF BRAD HEAVNER**
**IN SUPPORT OF PETITION FOR MODIFICATION**

I, Brad Heavner, declare as follows:

1. I am the Executive Director at the California Solar & Storage Association ("CALSSA"). My business address is 1107 9th St. #820, Sacramento, CA 95814. I have a personal knowledge of the facts and representation herein and, if called upon to testify, could and would do so, except for those facts expressly stated to be based upon information and belief, and as to those matters, I believe them to be true.

2. I provide this declaration in support of "Petition of the California Solar & Storage Association to Modify D.20-06-017 to Remove an Energy Storage Sizing Limit," filed on behalf of CALSSA.

3. Analysis of the Interconnected Project Sites Data Set from California Distributed Generation Statistics shows that from May 2023 – April 2024 there were 52,632 residential solar installations under the net billing tariff (NBT). This compares to 167,301 installations under net energy metering in 2021. In the second year of NBT, from May 2024 – April 2025, there were 105,975 residential solar installations under NBT. This is 63% of the pace of 2021.

4. Most solar project developers that focus on commercial customers have reported to CALSSA that project initiation under NBT has remained extremely low.

5. The investor-owned utilities (IOUs) met with CALSSA about the storage sizing limit in the customer generation tariffs at least six times in the past year. In these meetings, the IOUs indicated an intention to file a petition for modification to alter or remove the limit, which CALSSA encouraged.

6. A common solar and storage configuration for customers under NBT is to size the storage large enough both for load shifting according to NBT price signals and for backup power.

7. Installing solar and storage and installing electric appliances are often two aspects of one decision by a customer to modernize the energy consumption of their home. Because home improvements are expensive, customers often undertake these installations at different times. When they do that, it makes sense to install the generation first to avoid purchasing increased electricity consumption from the utilities at high rates.

8. A customer with a common 200 amp main service panel will frequently use 160 amps at one time. This is the amount of current that comes from 19.2 kW of generation.

9. Analysis of the Interconnected Project Sites Data Set from California Distributed Generation Statistics shows that under NBT, 24% of paired solar and storage systems have exceeded the 150% threshold, a total of 20,206 systems. From February-April 2025, 39% of NBT paired storage systems installed exceeded the 150% threshold, a total of 5,248 systems. The average NBT residential solar system size across the three California IOUs is 6.6 kW. In PG&E and SCE service territories, there are 105 installed NBT paired storage systems where the storage kW rating exceeds 500% of the solar. This is 0.1% of all NBT paired storage systems. In 2024, 698 MW of customer-sited energy storage was interconnected in California, doubling the amount of total customer storage installed across the state.

10. Ecoflow has announced plans to release a 24 kW residential storage system this summer, and there is strong excitement among solar installers for this product.

I declare under penalty of perjury of the laws of the State of California that the foregoing is true and correct. Executed on this 13th day of June, 2025 in Sacramento, California.

/s/ *Brad Heavner*

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