

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

Order Instituting Rulemaking to
Revisit Net Energy Metering Tariffs
Pursuant to Decision D.16-01-044, and
to Address Other Issues Related to
Net Energy Metering.

Rulemaking 20-08-020
(Filed August 27, 2020)

**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON THE
PROPOSED DECISION REVISING NET ENERGY METERING TARIFF AND
SUB-TARIFFS**

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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 *Proposed Decision Revising Net Energy Metering Tariffs and Sub-Tariffs* (“PD”), issued by Administrative Law Judge (“ALJ”) Kelly A. Hymes on November 10, 2022.

I. INTRODUCTION.

CESA appreciates the Commission’s efforts in developing and releasing a new PD on the successor to the Net Energy Metering (“NEM”) 2.0 tariff, the Net Billing Tariff (“NBT”). This new PD contains significant improvements compared to the original PD released in December 2021, where the NBT will better achieve the Commission’s goals of ensuring that customer-sited renewable generation continues to grow sustainably, while having a non-discriminatory tariff better aligned with the costs and benefits of customer-sited solar and storage systems. CESA especially supports the removal of discriminatory fixed charges from this decision and agrees that conversations around fixed charges and the collection of non-bypassable charges is more appropriately considered in the Advanced Demand Flexibility Rulemaking, where this question can be answered for all customers with similar load profiles.

The NEM tariff has been the backbone of the behind-the-meter (“BTM”) generation and storage market, facilitating customer adoption of clean resources that can provide customer value (e.g., bill management, resiliency) as well as system value through exports to the grid. Overall, this PD helps to move to the BTM generation market from a predominantly solar-only market to a solar + storage hybrid market, a direction which is universally supported by parties.¹ The Commission has acknowledged many benefits of BTM hybrid systems, including the ability to reduce renewable curtailment and provide capacity during general times of grid need (*i.e.*, the net peak).² While not explicitly acknowledged in this PD, BTM storage is also a dispatchable resource that can respond to grid emergencies or shape modify customer load shapes in dynamic and incremental ways to provide further system value.

CESA agrees that the transition to a BTM hybrid market will take time, especially given the current inflationary macro-economic conditions and supply chain constraints and delays for battery storage resources, which will make an immediate and significant shift toward hybrid-only BTM systems to be challenging. Further, in the long term, there are also questions as to how competition for battery storage technologies will play out between the electric vehicle and stationary storage markets, such that reasonable transitions through glidepaths and/or supporting mechanisms should be carefully considered. While discussion of all storage incentives has been moved to the Self-Generation Incentive Program (“SGIP”), special consideration must be given in the NBT to allow customers to make informed choices around investments and maximize the value from their BTM storage systems. To this end, CESA offers the following feedback and recommendations:

¹ PD at 94.

² PD at 95-96.

- All NBT customers, including both residential and non-residential customers as well as customers taking service under the NBT at any time it is effective, should have their export compensation fixed for nine years.
- The NBT legacy period should be extended to at least 15 years to support financial investment certainty.
- The interconnection application date definition needs to be clarified for non-residential customers.
- The Commission should add “NBT integrity” and NBT interconnection requirements as an additional scoping item for the next phase of this proceeding in the interest of supporting emergency supply capacity needs.

II. ALL NBT CUSTOMERS, INCLUDING BOTH RESIDENTIAL AND NON-RESIDENTIAL CUSTOMERS AS WELL AS CUSTOMERS TAKING SERVICE UNDER THE NBT AT ANY TIME IT IS EFFECTIVE, SHOULD HAVE THEIR EXPORT COMPENSATION FIXED FOR NINE YEARS.

In the new PD, the Commission continues to propose using the Avoided Cost Calculator (“ACC”) as the basis for determining the export compensation rate (“ECR”). For the first five years of the NBT, customers would receive a “lock-in” of the nine-year schedule of the ACC for residential customers and the five-year schedule of the ACC for non-residential customers. Customers that sign up for the NBT after the five-year glidepath transition time will not receive any ACC lock-in period. For residential customers, the Commission states that these lock-in periods are justified since they will cover the predicted residential solar-only payback period of nine years.³ For non-residential customers, the Commission chooses a five-year lock-in “to provide

³ See PD at 138-139, “This timing aligns with the customer payback period and will assist in ensuring sustainable growth of the industry during the transition time and enabling solar providers to predict customer savings leading to increased financial certainty for the customers as well as the industry.”

some degree of certainty while ensuring these customers transition in a timely fashion to the most current version of the Avoided Cost Calculator.”⁴ This lock-in period is chosen despite predicted payback periods of 5.8 to 9.4 years, depending on IOU territory and whether storage is attached.⁵ These models also do not consider recent cost inflation and the strong likelihood that the costs of solar + storage systems, especially the energy storage equipment, has been and may continue to increase in the near term.

CESA believes that the nine-year lock-in for residential customers is an improvement over the initial five-year lock-in proposed in the original PD released in December 2021. This nine-year lock-in period should be extended to non-residential customers as well. While non-residential customers are forecasted to have shorter payback periods, a five-year lock-in is not sufficient to provide the confidence needed for any customer to invest in a BTM solar + storage system, especially for customers who finance their systems. Third-party ownership of systems has been declining nationwide as customer loan options have increased, and in California third-party ownership in the small and large non-residential sectors are low, indicating that customers have accessed other financing options to install the system.⁶ With many loan terms longer than five years and lasting up to 20 years and beyond, CESA believes that it is appropriate to extend the lock-in period to at least 9 years for the non-residential sector. This will provide certainty to these customers during their payback periods, all of which are longer than 5 years and are likely to increase in the near-term given inflation and supply chain constraints.

⁴ PD at 139.

⁵ PD at B5-B6.

⁶ See Lawrence Berkeley National Lab *Tracking the Sun: Pricing and Design Trends for Distributed Photovoltaic Systems in the United States* published September 2022, at p.17. Available at: https://emp.lbl.gov/sites/default/files/2_tracking_the_sun_2022_report.pdf

Additionally, CESA has concerns about a lack of lock-in period for any customer taking service under the NBT after the first five years of its adoption. Customers will have very little ability to confidentially predict their returns, and financing costs are likely to increase as the risk of these investments increases. Although the Commission claims that the ACC export values are consistent, there are a number of factors that could lead to volatility in the ACC values, such as changes to: forecasted weather and load/grid conditions; selected portfolios based on policy determinations or cost assumptions for candidate resources; and the underlying model itself used in the Integrated Resource Planning (“IRP”) process and the ACC. As the Commission continues this proceeding to discuss items related to consumer protections, CESA encourages additional scrutiny on the dependability of the ACC to remain consistent and how to protect both residential and non-residential customers from large swings in export compensation values, particularly during common financing periods.

III. THE NBT LEGACY PERIOD SHOULD BE EXTENDED TO AT LEAST 15 YEARS TO SUPPORT FINANCIAL INVESTMENT CERTAINTY.

While certainty in the payback period of a BTM system will be tied to the ECR, certainty surrounding the adopted successor tariff elements is equally as important. The PD sets a nine-year legacy period whereby the NBT will be available to enrolled residential customers nine years from the interconnection date.⁷ This still allows import rates and the ACC-based export compensation rate to change over time, but locks in elements surrounding the structure of the ECR (*e.g.*, time granularity, how the ACC values will be averaged), netting, true-up periods, and other important elements. While language in the PD is unclear, CESA is concerned that the PD has failed to explicitly specify that non-residential customers will also receive a legacy period, given that the

⁷ PD at 156.

language in the PD includes elements that pertain solely to residential customers such as legal partners.⁸

Like the ACC lock-in period, the legacy period is also designed around a nine-year residential payback period.⁹ However, the modeling of the PD already shows that Southern California Edison (“SCE”) commercial customers will face payback periods longer than nine years for solar-only systems. SCE and Pacific Gas and Electric (“PG&E”) solar + storage residential CARE customers have modeled payback periods between 8.5 and 9 years. CESA is concerned that with current cost increases, the modeled storage cost of \$1,764 per kW-AC is already and will continue to be inaccurate for the next 3 to 5 years, pushing payback periods beyond 9 years. Therefore, the Commission should extend the NBT legacy period to at least 15 years for both residential and on-residential customers. This will give some amount of certainty to customers that are making these upfront investments, especially in the first years of the NBT, while still allowing underlying import and export rates to change over time.

IV. INTERCONNECTION APPLICATION DATE DEFINITIONS NEED TO BE CLARIFIED FOR NON-RESIDENTIAL CUSTOMERS.

In the PD, the NEM 2.0 sunset timeline is defined as 120 days after the adoption of a final decision, and “eligibility for inclusion in the Sunset Period [is] based on the interconnection application date,”¹⁰ with the definition of interconnection application date being “the submission date of an application that is free of major deficiencies and includes a complete application, a signed contract, a single-line diagram, a complete California Contractors License Board Solar

⁸ PD at 156-157.

⁹ See PD at 156, “The adopted successor tariff elements (Section 8.4 and Section 8.5) will be available to an enrolled customer for a period of nine years from the interconnection date (i.e., the legacy period) to allow for sufficient time for the customer to pay for their investment while protecting other ratepayers from undue financial burden.”

¹⁰ PD at 186.

Energy System Disclosure Document, a signed California Solar Consumer Protection Guide, and an oversizing attestation (if applicable).”¹¹ CESA agrees that this is a reasonable definition of interconnection application for residential customers; however, this is not a reasonable application definition for non-residential customers. For example, the California Contractors License Board Solar Energy System Disclosure Document and Solar Consumer Protection Guide are exclusively applicable to residential customers. Additionally, contracts for non-residential solar or solar + storage systems are typically signed many months after the submission of an interconnection application. Therefore, CESA recommends that the definition of application submission date for nonresidential customers be “the submission date of an application that is free of major deficiencies and includes a complete application and an oversizing attestation (if applicable).”

V. **THE COMMISSION SHOULD ADD “NBT INTEGRITY” AND NBT INTERCONNECTION REQUIREMENTS AS AN ADDITIONAL SCOPING ITEM FOR THE NEXT PHASE OF THIS PROCEEDING IN THE INTEREST OF SUPPORTING EMERGENCY SUPPLY CAPACITY NEEDS.**

The NBT has been created to comply with the statutory requirements in Public Utilities Code § 2827, which mandates that the Commission create a net energy metering tariff or other tariff for “eligible customer-generators with a renewable electrical generation facility.”¹² Energy storage can be considered an addition or enhancement to a renewable generation facility if it is integrated into the facility, meaning that the energy storage can only charge from renewable generation, or directly connected to the facility, where only the electricity delivered from the renewable generator can receive NEM credits.

¹¹ PD at 186.

¹² Public Utilities Code §2827.1(b)

To preserve “NEM integrity” and prevent customers with paired storage from receiving export bill credits for energy that was taken from the grid, D.14-05-033 established different requirements for storage charging restrictions and metering. Storage of all sizes can be part of a NEM system if it is integrated into the generator – *i.e.*, can only charge from the NEM-generator. For storage larger than 10 kW-AC, directly connected storage must either be non-exporting or have metering to measure the output of the NEM-generator; the most common configuration for metering compliance is to install a net generation output meter (“NGOM”) directly to the NEM generator. However, the costs of installing NGOM systems are quite high; for example, in 2019, PG&E estimated costs ranging from \$400 to \$1,400 for the NGOM itself, not including other special facility or installation costs.¹³ To reduce the cost burden of installing complex metering systems on smaller systems and customers, an estimation methodology is permitted for paired storage 10kW-AC or smaller. This methodology estimates monthly solar production to determine the maximum allowable NEM bill credits.

Previously, this cutoff was reasonable, as many customers, particularly residential customers were installing systems smaller than 10 kW. However, system sizes have begun to increase, especially for customers looking to have whole-home backup systems. For example, in SGIP, the average size for residential energy storage installed has increased from 6.5 kW in 2017 to 8.2 kW in 2021.¹⁴ In the Equity Resiliency Budget, where customers are explicitly installing systems for backup power needs, average residential system sizes are almost 11 kW. Electric load is also expected to grow due to electrification of vehicles and other building gas uses, which this

¹³ *PG&E Paired-Storage Interconnection Webinar* presented on March 29, 2019 at slide 27. Slides available at: https://www.pge.com/pge_global/common/pdfs/solar-and-vehicles/net-energy-metering/Paired-Storage-Webinar-032919.pdf

¹⁴ Data from SGIP Real-time Public Report accessed on November 12, 2022. Available at: <https://www.selfgenca.com/home/resources/>

PD supports by allowing customers to install systems that meet expected load growth.¹⁵ For customers that install systems larger than 10 kW, the high costs of NGOMs lead many to restrict their storage to solely charge storage from the NEM generator.

Throughout this proceeding, the Commission has emphasized the need to transition the current solar market to a solar + storage market, acknowledging that “the addition of storage provides greater benefits to both the customer and the grid.”¹⁶ BTM storage, as a dispatchable resource, can provide many grid services and has been working to become a resource that can respond to grid needs through participation in Demand Response (“DR”), including market-integrated Proxy Demand Response (“PDR”) portfolios, the Emergency Load Reduction Program (“ELRP”), and unique load-modifying and/or virtual power plant (“VPP”) programs created by load-serving entities (“LSEs”). However, limiting the ability of BTM storage to charge only from onsite solar greatly diminishes the dependability of these resources to serve during times of grid need or commitments. Currently, a net peak in the evening hours and larger grid needs during hotter days largely allows BTM storage to be charged to respond during extreme grid emergencies. While working for current emergency DR programs and RA constructs where response is estimated for the availability assessment hours (“AAH”) of 4-9pm, increased flexibility will likely be needed in the future. As California transitions to a slide-of-day (“SOD”) framework, BTM resources can be used to meet unique LSE needs, such as morning peaks. This more flexible use of BTM storage to provide grid services may necessitate grid charging at nighttime or at other moments of low-solar production, such as during cloudy days.

¹⁵ The PD currently proposes to allow customers to oversize systems to accommodate load growth up to 150% of current demand. *See* PD Conclusion of Law 14, “The Commission should adopt SEIA/Vote Solar’s proposal to allow customers to oversize their systems by 50 percent, while maintaining the current net surplus generation compensation rate, to promote electrification.”

¹⁶ PD at 95.

CESA supports NEM/NBT-integrity and does not propose providing NBT export credits for grid charged energy. At the same time, the current NGOM requirements and costs pose such a large barrier that many customers are forced to only charge their storage from solar or to install non-exporting storage. Neither configuration allows storage to perform up to its full potential, especially in support of system grid-service needs.

CESA acknowledges that NEM/NBT integrity has not been discussed much in this proceeding thus far, and modification to the use of the estimation methodology or NGOM and other metering requirements will have implications for both the NBT tariff and Rule 21. Now knowing the Commission's near-final direction on the NEM successor tariff, it may be a good time to consider any modifications to the NBT and resulting implications of enabling BTM hybrid systems taking service under the new NBT to be positioned for supporting these system-wide needs for supply capacity. Therefore, CESA recommends that the Commission continue to discuss this issue as an additional scoping item of this proceeding, alongside consumer protection requirements.

VI. CONCLUSION.

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

Respectfully submitted,



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