

# Rooftop Solar Energy Tug of War, Part 4, Final Resolution

*By John Benson*

*December 2022*

## 1. Introduction

Even as I was writing parts 1 and 2 of this series, and thus reviewing the original ruling (issued about a year ago), there was no doubt in my mind that the chances of this ruling standing intact were slim to none. This perception was mainly because the solar industry felt that this ruling was highly unfair to them and was likely to seriously hurt future rooftop solar energy deployments. Also, the solar industry is strongly viewed as a positive environmental influence in our state, is financially very powerful, and thus strongly influences many political leaders. Thus, this decision was set aside last summer, and the CPUC (on Nov 10) issued a new proposed decision. Shortly thereafter, I released a brief review of that proposal, and the CPUC's efforts to sell it to the public. This is linked below.

### Rooftop Solar Energy Tug of War, Part 3, Proposed Resolution?

<https://energycentral.com/c/cp/rooftop-solar-energy-tug-war-part-3-proposed-resolution>

On December 15, the CPUC approved the proposed decision that the above review is based on, but with mark-ups. I downloaded the marked-up decision, and skimmed through it, and although nothing looks like a major change, there are significant changes. I've referenced the clean version PDF of the decision here.<sup>1</sup>

Note that I went through the main parts of the decision on Dec 18 and 19 to update this paper (vs. the paper linked above). However I used the markup for this review as indicated by some of my comments below. The clean version of this decision is referenced above, and the reference contains a link to the decision.

## 2. Decision

A CPUC Decision (this one is called "Decision Revising Net Energy Metering Tariff and Subtariffs") has a generally consistent format. This is described in the bullets below:

- Front matter: Table of contents
- Summary: this is basically the body of the decision, where all of the discussion among the participating parties is inserted along with a few comments from the administrative law judge (ALJ) managing the proceeding (see below) and many references. Near the end of the Summary (in this case starting on page 85) is the development of the Decision (in this case the "Successor Tariff" that will replace the Net Energy Metering (NEM) 2.0 Tariff):
  - Policies for the Successor Tariff
  - Elements to Include in the Successor Tariff

---

<sup>1</sup> Proposed Decision of ALJ Hymes, "Decision Revising Net Energy Metering Tariff and Subtariffs," Agenda ID #21141 (Rev.1), Ratesetting, 12/15/2022 Item #45, <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M499/K921/499921246.PDF>

- The Successor Tariff
- Related Issues and Tariffs
- Implementation of the Successor Tariffs (mainly a schedule)
- Evaluation and Next Steps
- Comments
- Assignment (assignment of the proceeding to an Administrative Law Judge (ALJ Kelly A. Hymes, who developed this decision) and Commissioner (Alice Reynolds) going forward.

The body ends on page 207.

- The next section is Findings in Fact. This basically lays the groundwork using the procedure's findings for the rulings in this decision. This decision has 250 findings.
- The next section is Conclusions in Law. This basically lays the groundwork using existing law for the rulings in this decision. This decision has 57 conclusions.
- The next section is the Order. This is the meat of the decision, and starts with the words "IT IS ORDERED that:" followed by numbered orders. This decision has 13 orders, and some of these are quite lengthy. The Order starts on page 237. In this case it is 8 pages long.
- At the end of the decision is the signature of (at least) the ALJ responsible for this ruling.
- End-matter generally consisting of tables, figures and appendices

With my summary below I will start with the orders and work backward into the document as needed. I will also leave some information from my last post on this decision after verifying it with the final decision.

### 3. Orders

#### 3.1. Successor Tariff Elements

*A net billing tariff is adopted. Imports and exports will be calculated based on no netting of consumption and production and will be trued-up on an annual basis. Bill credits will be applicable toward import charges from any time of use time period. Net billing tariff customers shall comply with Electric Rule No. 21 Sections L.2-L.4 and Section L.7. for interconnecting to the electrical grid. Interconnection fees apply and remain as identified in Electric Rule 21. Net billing tariff customers must pay all incurred charges monthly. The net billing tariff shall contain the following adopted elements:*

**Author's comment:** Note "...no netting of consumption and production ...import charges from any time of use time period." Thus the Successor Tariff will be mainly a time-of-use tariff, with bill credits (much lower than TOU rates) used to offset the TOU rates (to a degree). Thus this is no longer a net energy metering (NEM) tariff.

- a) *Retail Export Compensation Rates based on hourly Avoided Cost Calculator values averaged across days in a month, differentiated by weekdays and weekends/holidays. For the first five years of the successor tariff, i.e., the glide path transition time, retail export compensation rates for residential and nonresidential net billing tariff customers will be based on a nine-year schedule of values for each hour from the most recent Avoided Cost Calculator, adopted as of January 1 of the calendar year of the customer's interconnection date. Following the locked in period, retail export compensation rates will be based on averaged hourly avoided cost values from the most recent Avoided Cost Calculator, adopted as of January 1. Tariff customers enrolling after the five-year glide path will not receive a lock-in period for Avoided Cost Calculator values.*
- b) *An Avoided Cost Calculator Plus (ACC Plus) adder, based on a cents per kilowatt-hour exported. The ACC Plus will be available to net billing tariff customers during the first five years of the successor tariff, as a glide path. The adopted ACC Plus adders, as indicated in the table below, will remain constant for a customer for nine years from the customer's interconnection date. For purposes of the net billing tariff, low-income customers are defined as one or more of the following: (i) residential customers enrolled in California Alternate Rates for Energy and the Family Electric Rates Assistance programs; (ii) resident-owners of single-family homes living in disadvantaged communities (as defined in Decision (D.) 18-06-027); and (iii) residential customers who live in California Indian Country (as defined in D.20-12-003).*

<b>Adopted Avoided Cost Calculator Plus Adders</b>			
<b>Customer Segment</b>	<b>PG&amp;E</b>	<b>SDGE</b>	<b>SCE</b>
<i>Residential</i>	<i>\$0.022 / kWh</i>	<i>\$0/kWh</i>	<i>\$0.040/kWh</i>
<i>Low-Income</i>	<i>\$0.090/kWh</i>	<i>\$0/kWh</i>	<i>\$0.093/kWh</i>
<i>Non-Residential</i>	<i>\$0/kWh</i>	<i>\$0/kWh</i>	<i>\$0/kWh</i>

*The adder will decrease by 20 percent annually, for newly enrolled tariff customers, as measured by the first-year adder rate until the adder reaches zero. The adder will be a discrete line on the customer's utility bill, will apply to all charges, and will apply to future bills until the credit is used. Funding for the adder will be provided by all ratepayers through the Public Purpose Program charge.*

*The ACC Plus is not available to: (i) customers transitioning from the NEM 1.0 tariff or the NEM 2.0 tariff at the end of their legacy period; and (ii) customers who have purchased a building with an existing system.*

- c) *Highly differentiated time-of-use rates as provided in the following table. Additional eligible rates may be added by utility request through submittal of a Tier 3 advice letter or through its general rate case Phase 2 or rate design window. NetAll net billing tariff residential customers are required to enroll in these eligible rates, or they may choose to enroll in critical peak pricing or peak day pricing rates.*

<b>Eligible Time Of Use Rates by Utility</b>			
	<b>PG&amp;E</b>	<b>SDGE</b>	<b>SCE</b>
<b>Eligible Rate</b>	<i>E-ELEC</i>	<i>EV-TOU-5</i>	<i>TOU-D-PRIME</i>

**Author's comment:** Since my electric service provider is PG&E, looked in their tariff site for the above rate description. I expect SDGE and SCE rates are similar to PG&E's.

The text below is a summary for this rate, and the link at the end of this sentence is to the whole rate description (5 pages).<sup>2</sup>

*This optional schedule applies to individually-metered electric service to residential customers who have one or more of the following qualifying electric technologies:*

- *Electric vehicle charging;*
- *Energy storage; or*
- *Electric heat pump for water heating or climate control (space heating and/or cooling)...*

#### **RATES:**

*Base Services Charge (\$ per meter per day) \$0.49281*

<i>Total Energy Rates (\$ per kWh)</i>	<i>PEAK</i>	<i>PART-PEAK</i>	<i>OFF-PEAK</i>
<i>Summer Usage</i>	<i>\$0.53159</i>	<i>\$0.36971</i>	<i>\$0.31303 (N)</i>
<i>Winter Usage</i>	<i>\$0.30007</i>	<i>\$0.27798</i>	<i>\$0.26412 (N)</i>
<i>California Climate Credit (per household, per semi-annual payment occurring in the April and October bill cycles)</i>			<i>(\$39.30)</i>

**TIME PERIODS:** *Times of the year and times of the day are defined as follows:*

*All Year:*

*Peak: 4:00 p.m. to 9:00 p.m. every day including weekends and holidays.*

*Partial-Peak: 3:00 p.m. to 4:00 p.m. and 9:00 p.m. to 12:00 a.m. every day including weekends and holidays.*

*Off-Peak: All other hours.*

**SEASONAL CHANGES:** *The summer season is June 1 through September 30 and the winter season is October 1 through May 31. When billing includes use in both the summer and winter periods, charges will be prorated based upon the number of days in each period.*

<sup>2</sup> "Electric Schedule E-ELEC, Residential Time-of-Use (Electric Home) Service For Customers With Qualifying Electric Technologies, [https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC\\_SCHEDULES\\_E-ELEC.pdf](https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_SCHEDULES_E-ELEC.pdf)

The following is a continuation of the above order.

- d) *For Customers enrolled in the California Alternate Rates for Energy (CARE) and Family Electric Rates Assistance (FERA), the CARE and FERA discount will shall not be applied to the retail export compensation rate.*
- e) *System sizing requirements. Customers of Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company enrolling in the net billing tariff are permitted to oversize their generation systems by no more than 50 percent with two requirements. First, the measurement of oversizing will be in comparison to the past 12 months of usage unless the customer does not yet have 12 months of usage or attests to having more recently increased their usage, and that customer must attest to expecting to increase their usage to correspond with the system size within 12 months of interconnection. Second, net surplus generation will be compensated at the current net surplus compensation rates.*
- f) *Non-bypassable charges. The four charges are the public purpose program charge, nuclear decommissioning charge, competition transition charge, and the Wildfire Fund Non-Bypassable Charge.*
- g) *Minimum bill or fixed charges. Net billing tariff customers are subject to any minimum bill or fixed charge that is contained in a customer's applicable rate.*
- h) *True-up Dates. Customers taking service under the net billing tariff may make a one-time request that their annual true-up date be changed going forward.*
- i) *Legacy Period. The terms of the net billing tariff will be available to net billing tariff customers for a period of nine years. The legacy period is linked to the customer who originally causes the system to be installed, not to the system. If the original customer moves away within nine years from the system's interconnection date and another utility customer takes control of (e.g., buys, leases, or pays a power purchase agreement for) the system, the subsequent utility customer does not have a legacy period. The exception is when the subsequent customer is or was the legal partner (e.g., spouse or domestic partner in the case of residential customers or, in the case of nonresidential customers, the account-holding entity continues to be majority controlled by the same underlying individuals or entities from the time the legacy system was installed) of the original customer. For this latter group, the legacy period maintains its original interconnection date and length of nine years.*

### **3.2. Oversizing Attestation Form**

*Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company (Joint Utilities) shall work together to develop a standard oversizing attestation form for net billing tariff customers planning to oversize their systems for net billing. Joint Utilities shall make this available to net billing customers no later than 120 days from the adoption of this decision.*

### **3.3. True-up Date Change Process**

*San Diego Gas & Electric Company (SDGE) develop a standard process by which net billing tariff customers may request that their true-up date be changed. SDGE shall make this available to net billing customers no later than 120 days from the adoption of this decision.*

### **3.4. Adjustment Factors**

*Within 90 days of the adoption of this decision, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company (Joint Utilities) shall submit a Tier 3 advice letter that proposes adjustment factors calculated using the difference in each utility's residential stand-alone solar customers' net exports under no netting versus interval netting in the last year. Joint Utilities shall update adjustment factors in a Tier 1 advice letter due annually thereafter.*

### **3.5. Transfer of Customer System Control**

*Within 120 days from the adoption of this decision, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company shall work together to create a uniform attestation for legal partners to use when taking control of an original customer's system for purposes of continuing the nine-year legacy period for the net billing tariff.*

### **3.6. CARE and FERA Net Billing Tariff Enrolments**

*Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company shall report on the number of new net billing tariff enrollments by customers enrolled in California Alternate Rates for Energy (CARE) and the Family Electric Rates Assistance (FERA) and the tenancy of those interconnected customers in the CARE and FERA programs. This documentation shall occur in the Joint Utilities' annual interconnection cost advice letters, which are currently filed in accordance with the directions in Decision 14-05-033 and Resolution E-4610. This advice letter shall now be known as the "Net Energy Metering and Net Billing Tariff Annual Reporting Advice Letter."*

### **3.7. Energy Division Evaluation**

*Energy Division is authorized to conduct an evaluation of the net billing tariff adopted in Ordering Paragraph 1 (section 3.1) above.*

### **3.8. Virtual Net Energy Metering Subtariff Evaluation**

*The Virtual Net Energy Metering subtariff for low-income eligible households shall remain unchanged until review in this proceeding of additional findings from Rulemaking 18-07-006 and the evaluation of the Solar on Multifamily Affordable Housing program.*

### **3.9. Virtual Net Energy Metering Subtariff Modifications**

*The Virtual Net Energy Metering (VNEM) general subtariff shall remain pending further review in this proceeding with the following modifications: (a) the VNEM subtariff is revised to allow multiple solar arrays on one property to be treated as one generator, with credits allocated across the property.; and (b) for customers applying to interconnect to VNEM after the NEM 2.0 tariff Sunset Date, this decision reduces the legacy period to nine years to align with customers of the net billing tariff.*

### **3.10. Multiple Solar Arrays**

*Within 90 days from the adoption of this decision, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company shall each submit a Tier 2 advice letter that updates each of their general market Virtual Net*



*Metering tariffs to allow multiple solar arrays on one property to be treated as one generator for billing purposes, with credits allocated across the property.*

### **3.11. NEMA subtariff**

*The Net Energy Metering Aggregation (NEMA) subtariff shall remain unchanged pending further review in this proceeding with the following modifications: (i) for customers applying to interconnect to NEMA after the NEM 2.0 Sunset Date, this decision reduces the legacy period to nine years to align with customers of the net billing tariff and (ii) for customers applying to NEMA after the NEM 2.0 sunset date, NEMA eligibility is restricted to customers who already had two or more meters.*

### **3.12. Implementation**

*Implementation of the changes adopted in the previous ordering paragraphs of this decision shall occur in the following steps:*

- a) *Step 0: NEM 2.0 Sunset Period begins with adoption of this decision. Customers submitting a completed interconnection application prior to the end of the Sunset Period will be considered applicable for the current NEM 2.0 tariff.*

*Step 1: Within 30 days of the adoption of this decision Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company (Joint Utilities) shall each submit a Tier 1 advice letter within 30 days of the adoption of this decision requesting to establish a memorandum account to record costs for implementation of and marketing, education, and outreach for the successor tariff. The memorandum account should record utility costs for marketing, education, and outreach efforts described in Section 8.6.4 and for the data collection, administrative support, and execution of the third-party evaluation outlined in Section 8.8.*

*Descriptions of the above costs are copied across below.*

*Section 8.6.4: ... Additionally, in the Rulemaking to Advance Demand Flexibility Through Electric Rates (R.22-07-005), the Commission will consider the question of how to reform fixed charges for recovery of certain authorized utility costs. As stated in D.16-10-044, the 20-year legacy period applies only to service under the net energy metering successor tariff, not to any other aspect of the customer's bill, for example a minimum bill. As previously stated, the Commission considers this new rulemaking to be a more appropriate venue to consider the issue of an income-graduated fixed charge applicable to all customers, which will include NEM 1.0 and NEM 2.0 customers. Further, "customers do not have any entitlement to the continuation of any particular underlying rate design, or particular rates."<sup>3</sup>*

*Section 8.8: Previously, this decision stated that the successor tariff will be evaluated, with an emphasis on evaluating equity, affordability, and grid benefits. Below, this decision describes the intentions of the evaluation. The evaluation will collect three years of data after full implementation of the successor tariff and will follow a similar process as conducted in the Lookback Study, reviewing the entire successor tariff but with a focus on affordability, equity, and grid benefits. Given the Commission's desire to promote solar paired with storage, this decision adds to the*

---

<sup>3</sup> D.16-01-044 at 100-101.

*evaluation an analysis of battery dispatch trends. To be clear, it is the intention of the Commission to collect data from the successor tariff for three years and then analyze the data and provide a draft evaluation within five years of implementation of the successor tariff. Following the issuance of the draft evaluation, parties will have an opportunity to provide comment prior to the issuance of a final evaluation. The Commission will consider the contents of the evaluation and associated party comments in a future proceeding to determine whether changes to the successor tariff or any of its elements are necessary.*

*The record of this decision does not contain the specifics of the evaluation. As such, a ruling will be issued following the adoption of this decision to assist the Commission in better defining the parameters, determining the amount of funding, authorizing funding, and creating an implementation plan for the evaluation. A future decision in this proceeding will consider these details. In comments to the proposed decision, Joint Utilities assert it is appropriate and essential for the Commission to track and publicly report the annual cost shift as part of its evaluation of the successor tariff.<sup>4</sup> Cal Advocates makes two related recommendations: (1) direct the utilities to include a line item on residential customer bills indicating the portion of the bill attributable to the subsidy for rooftop solar; and (2) direct the Energy Division to track and report cost shifting on an actual basis to enable parties to assess how rate increases and other rate design changes impact the cost shift.<sup>5</sup> CALSSA opposes the requirement to include the cost shift as a line item on a customer's bill, asserting such an analysis would be highly contested. CALSSA proposes to instead produce annual whitepapers regarding rate affordability.<sup>6</sup> The Commission agrees that the data related to costs allocated across customers should be tracked annually as part of the evaluation. As previously stated, the details of the evaluation will be addressed in a subsequent ruling and decision. The Commission declines to require a customer bill line item indicating the cost shift.*

- b) Step 2: Within 45 days of the effective date of this decision, Joint Utilities shall each submit a supplemental Tier 2 advice letter to provide the details of the successor tariff and all subtariffs, as adopted in this decision. Joint Utilities shall coordinate before submitting the advice letters to ensure language uniformity to the extent possible. The individual advice letters shall summarize Joint Utilities' interpretation of how the successor tariff will be structured and include indicative levels of price components and containing rate factors based on the applicable revenue and associated tariff sheets. Joint Utilities shall ensure language uniformity.*
- c) Step 3: Commission's Energy Division disposes of the advice letters from Step 1 and Step 2.*
- d) Step 4. No later than 120 days after the effective date of this decision, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company will implement a tariff sunset on the prior net energy metering tariff, known as NEM 2.0, after which time, no additional customers will be permitted to take service under the NEM 2.0 tariff. Customers with an interconnection application date after this Sunset Date will take service and be billed on the NEM 2.0 tariff on an interim basis and transition to the net billing tariff, once it is operational. These*

---

<sup>4</sup> Joint Utilities Opening Comments to November 10, 2022 Proposed Decision at 5-6.

<sup>5</sup> Cal Advocates Opening Comments to November 10, 2022 Proposed Decision at 13-14.

<sup>6</sup> CALSSA Reply Comments to November 10, 2022 Proposed Decision at 5.



*customers shall take service on the retail import rates available to NEM 2.0 tariff customers during this interim period and then be moved to retail import electrification rates adopted in this decision when fully transitioned to the net billing tariff. The NEM 2.0 tariff legacy period is not applicable in this case. The interconnection application date for residential customers is defined as 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 State License Board Solar Energy System Disclosure Document, a signed California Solar Consumer Protection Guide, and an oversizing attestation (if applicable).*

*The interconnection application date for nonresidential customers is defined as the submission date of an application that is free of major deficiencies and includes a complete application, a signed Authorization to Act on a Customer's Behalf, the selection of a single-line diagram, and an oversizing attestation (if applicable.) Joint Utilities are granted the discretion to give NEM 2.0 tariff eligibility to a customer if a delay in meeting the Sunset Date is caused by the utility. Joint Utilities shall work collaboratively to address challenging situations in deeming applications complete. Joint Utilities are directed to pause transition of NEM 1.0 customers to NEM 2.0 until the commencement of Step 5.*

- e) *Step 5: Twelve months following adoption of this decision, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company shall complete alignment of related necessary billing systems and transition to full implementation of the net billing tariff.*

*Twelve months following the adoption of this decision, Pacific Gas and Electric Company shall complete alignment of related necessary billing systems and transition to full implementation of the net billing tariff for residential customers.*

*Eighteen months following the adoption of this decision, Pacific Gas and Electric Company shall complete alignment of related necessary billing systems and transition to full implementation of the net billing tariff for nonresidential customers.*

- f) *Step 6: Three years from the application submission, all customers seeking to interconnect to the NEM 2.0 tariff shall submit final building permit sign off and electrical clearing by the authority having jurisdiction. Pacific Gas and Electric Company, San Diego Gas & Electric Company and Southern California Edison Company have the discretion to apply NEM 2.0 eligibility to customers who fail to meet this deadline due to utility-caused delay.*

### **3.13. Outstanding Issues**

*Rulemaking 20-08-020 remains open to address outstanding issues in the Scoping Memo and continuing matters related to this decision.*

## **4. Evaluations**

Note that this section will is drawn from the prior post on this decision (linked in the Introduction), but I've reviewed the content below vs. the final decision to confirm this content is still accurate.

**Payback calculations:** The cost of installing a PV system used in evaluating payback was increased from \$2.34 per watt to \$3.30 per watt. This may have been mainly

derived by including the cost of financing a project, however the delay in this decision added an extra year of price reductions for PV systems which (on average) is ongoing.<sup>7</sup>

**Glide Path:** This is a complex issue. There are basically two approaches here (1) Market Transition Credit and (2) Avoided Cost Calculator Plus Adder (ACC Plus). The prior ruling included a four year glide path via a stepped down Market Transition Credit. The proposed decision seems to favor an Avoided Cost Calculator Plus (ACC Plus) with a 5-year glide path. The approach of the adapted glide path described below and in Order 1 (section 3.1) of the final decision above, including the final adders for this approach.

*Excerpt from section 8.5.2: As described in the May 9, 2022 Ruling, the proposed ACC Plus would provide a fixed cents per kilowatt-hour (¢/kWh) export adder on top of the Avoided Cost Calculator-based hourly export credits. For example, a residential customer who enrolls in the successor tariff in Year 1 of the glide path would be compensated for any energy exported to the grid based on the corresponding hourly Avoided Cost Calculator value + X ¢/kWh (adder). The ACC Plus would step-down over time for prospective customers, providing a glide path that ends at Avoided Cost Calculator values...*

#### **4.1. Self-Generation Incentive Program (SGIP)**

The SGIP was not mentioned in the Findings in Fact nor the Orders, so it is assumed that this program will not be a part of this decision. This is a program in California for all self-generating consumers, including those that use PV or PV+storage.

---

<sup>7</sup> Administrative Law Judge Kelly A. Hymes, California Public Utilities Commission, Proposed Decision Revising Net Energy Metering Tariff and Subtariffs, Nov 10, 2022, <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M498/K526/498526033.PDF>