

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



FILED
09/14/21
04:59 PM

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)

REPLY BRIEF OF THE INDEPENDENT ENERGY PRODUCERS ASSOCIATION

GOODIN, MACBRIDE,
SQUERI & DAY, LLP
Brian T. Cragg
bcragg@goodinmacbride.com
505 Sansome Street, Suite 900
San Francisco, California 94111
Telephone: (415) 392-7900
Facsimile: (415) 398-4321

Attorneys for the Independent Energy Producers
Association

Dated: September 14, 2021

TABLE OF CONTENTS

	<u>Page</u>
I. WHAT INFORMATION FROM THE NET ENERGY METERING 2.0 LOOKBACK STUDY SHOULD INFORM THE SUCCESSOR AND HOW SHOULD THE COMMISSION APPLY THOSE FINDINGS IN ITS CONSIDERATION	3
II. WHAT METHOD SHOULD THE COMMISSION USE TO ANALYZE THE PROGRAM ELEMENTS IDENTIFIED IN ISSUE 4 AND THE RESULTING PROPOSALS, WHILE ENSURING THE PROPOSALS COMPLY WITH THE GUIDING PRINCIPLES?	5
III. WHAT PROGRAM ELEMENTS OR SPECIFIC FEATURES SHOULD THE COMMISSION INCLUDE IN A SUCCESSOR TO THE CURRENT NET ENERGY METERING TARIFF?	5
A. Fairly compensate successor tariff customers.....	6
1. Compensation for NEM Exports	6
2. Net Billing.....	8
3. Netting Period	9
4. Lock-in Period	10
5. Rates for Electrical Service.....	11
6. Avoiding Overpaying Successor Tariff Customers	12
7. Sizing/Oversizing of NEM Installations	17
B. Require Successor Tariff Customers to Pay a Grid Benefits Charge to Cover Their Fair Share of Grid Costs.....	20
C. Monthly True-Up	23
D. Support Low-Income Customers	24
E. NEM 1.0 and 2.0 Transition Rules	25
F. Interim Transition Tariff.....	26
IV. WHICH OF THE ANALYZED PROPOSALS SHOULD THE COMMISSION ADOPT AS A SUCCESSOR TO THE CURRENT NET ENERGY METERING TARIFF AND WHY? WHAT SHOULD THE TIMELINE BE FOR IMPLEMENTATION?	27
V. OTHER ISSUES THAT MAY ARISE RELATED TO CURRENT NET ENERGY METERING TARIFFS AND SUBTARIFFS, WHICH INCLUDE BUT ARE NOT LIMITED TO THE VIRTUAL NET ENERGY METERING TARIFFS, NET ENERGY METERING AGGREGATION TARIFF, THE RENEWABLE ENERGY SELF-GENERATION BILL CREDIT TRANSFER PROGRAM, AND THE NET ENERGY METERING FUEL CELL TARIFF	28
VI. CONCLUSION.....	29

TABLE OF AUTHORITIES

Page

STATUTES

Public Utilities Code Section 2827 18, 25
Public Utilities Code Section 2827.1 4, 6, 12, 18
Public Utilities Code Section 739.9 22

DECISIONS OF THE CALIFORNIA PUBLIC UTILITIES COMMISSION

D. 08-12-058 13
D. 11-06-016 6, 7, 18
D. 14-03-041 18, 19
D. 15-07-001 25
D. 16-01-044 12

FEDERAL STATUTES

Federal Power Act 17, 19
Public Utility Regulatory Policies Act of 1978 (PURPA) passim

OTHER AUTHORITIES

MidAmerican Energy Co., 94 FERC ¶ 61340 18
Standardization of Generator Interconnection Agreements and Procedures,
Order No 2003-A, FERC Stats. & Regs. ¶ 31,169 18

SUMMARY OF RECOMMENDATIONS

The Independent Energy Producers Association respectfully recommends that the Commission should:

- Structure the successor NEM tariff to reduce the cost-shift from nonparticipants to participants and from low-income customers to well-off customers that has occurred under the NEM 1.0 and NEM 2.0 tariffs.
- Adopt the proposals of the Joint Recommendations, including:
 - Compensation for NEM exports based on the Avoided Cost Calculator;
 - Net billing, rather than net metering;
 - Instantaneous netting, or if that is not possible, hourly netting;
 - A lock-in period for export compensation of no more than 10 years;
 - A Grid Benefits Charge to recover NEM customers' share of fixed costs and nonbypassable charges;
 - Targeted support for participation by low-income customers.
- Honor the commitment made to NEM 1.0 and NEM 2.0 customers, rather than requiring these customers to transition to the successor tariff.
- Adopt an interim transition tariff that can be made available to customers within 90 days of the Commission's decision while the details of the successor tariff are worked out.

**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)

REPLY BRIEF OF THE INDEPENDENT ENERGY PRODUCERS ASSOCIATION

In its Opening Brief, the Independent Energy Producers Association (IEP) highlighted the two concerns that drove its participation in this proceeding. First, IEP was concerned that a false conflict between rooftop solar resources and the grid-scale solar resources developed by IEP's members was leading some advocates to overstate the benefits of rooftop solar while simultaneously exaggerating the costs of grid-scale solar. Because the energy that rooftop solar provides to the grid is virtually indistinguishable from the energy grid-scale projects provide,¹ it was important to provide the Commission with an accurate understanding of the costs and benefits of both rooftop and grid-scale solar resources as it considers the successor Net Energy Metering (NEM) tariff and other reforms to the NEM program.

Second, IEP was concerned that the subsidies borne by ratepayers who did not participate in the NEM program would lead to high electric rates that would frustrate progress

¹ The product provided by grid-scale resources is superior to the product of NEM installations in many respects. In addition to renewable energy, grid-scale solar resources provide Renewable Energy Credits that can be used to meet Renewables Portfolio Standard requirements. Grid-scale resources are dispatched by the California Independent System Operator to respond to system conditions and are subject to curtailment or negative market prices when energy supply exceeds demand. (Transcript (Tr.) Vol. 8, p. 1407, l. 5 – p. 1409, l. 2 (SEIA/VS-Beach).)

toward the electrification of the transportation and building sectors needed to meet California's greenhouse gas (GHG) emission-reduction goals. A related concern was that participation in the NEM program skewed toward higher-income customers, with the inequitable result that low-income nonparticipants are paying higher electric rates so that higher-income NEM customers can install facilities to decrease their electric bills.

These concerns continue to be the focus of this Reply Brief. As noted in IEP's Opening Brief, the Joint Recommendations sponsored by IEP and other independent parties provide a moderate and balanced package of proposals that will (1) begin to reduce the current cost-shift that relieves benefiting NEM participants from bearing the full cost of the NEM program, at the direct expense of nonparticipants, and (2) reflect a better balance of the costs and benefits of the NEM program.² The Joint Recommendations include a proposal for an interim transition tariff that could take effect quickly and that would begin the transition to the successor tariff while details of that tariff were being worked out.

IEP's Reply Brief will focus on the arguments made by parties who understate or even deny the existence of the cost-shift from nonparticipants to participants that was clearly identified in the Lookback Study. Because IEP represents the developers, owners, and operators of grid-scale renewable generation and storage facilities, IEP is particularly sensitive to arguments that attempt to inflate the value of NEM resources by making false comparisons between rooftop and grid-scale solar facilities. The challenges California faces in electrifying the transportation and building industries will require renewable resources of all types and sizes, requiring significant contributions by both customer-sited and grid-scale renewable resources.

² IEP supports the Joint Recommendations with one exception, as stated in section III.D of IEP's Opening Brief.

But meeting California’s electrification and GHG emission-reduction goals will be frustrated unless the costs of meeting those goals is moderated. The current cost-shift, amounting to billions of dollars annually, is not sustainable, and the Commission’s first order of business in reforming the NEM program must be to begin to reduce the cost-shift. The Joint Recommendations, if adopted by the Commission, make that beginning.

As instructed by Administrative Law Judge Kelly Hymes, IEP’s Reply Brief will be structured around the issues identified in the “Joint Assigned Commissioner’s Scoping Memo and Administrative Law Judge Ruling Directing Comments on Proposed Guiding Principles,” issued on November 19, 2020.

I. WHAT INFORMATION FROM THE NET ENERGY METERING 2.0 LOOKBACK STUDY SHOULD INFORM THE SUCCESSOR AND HOW SHOULD THE COMMISSION APPLY THOSE FINDINGS IN ITS CONSIDERATION

There is an unusual consensus among the parties that the Lookback Study pointed out the need to reform the NEM program. Even one of the parties that strongly favors distributed solar generation, Solar Energy Industries Association/ Vote Solar (SEIA/VS), agreed that “there seems to be little debate among the parties” about the need for reform.³ SEIA/VS also acknowledged that “reduction of the impact of solar adoption on non-participating ratepayers should be addressed through the successor tariff.”⁴ Despite this agreement, the parties differ on how fast and how far the needed reform should proceed.

In a sense, the issues in this proceeding revolve around the Legislative instruction that customer-sited renewable distributed generation, such as NEM facilities, should “grow

³ SEIA/VS Opening Brief, p. 8.

⁴ SEIA/VS Opening Brief, p. 8.

sustainably.”⁵ Parties favoring a slower pace for NEM reform focus on conditions that will promote growth of the NEM program, including favorable financial terms that will encourage investment in NEM facilities. Other parties are concerned that a cost-shift that transferred billions of dollars from nonparticipants to NEM participants who tend to be financially well-off cannot be sustained, and more rapid NEM reform is needed to sustain *any* rate of growth of the NEM program. This is a real concern, grounded in arithmetic as well as policy. If the NEM program grows and more customers become participants, the pool of nonparticipants will shrink. If the NEM program continues to require significant subsidies from nonparticipants to participants, the financial burden on the shrinking pool of nonparticipants will become unbearable and unsustainable.

Moreover, unless the NEM program is reformed, the burden of the increasing cost-shift will fall disproportionately on lower-income ratepayers. Participation in the NEM program is disproportionately greater among higher-income customers. The Lookback Study concluded that “areas with higher incomes show higher percentages of NEM installations relative to California’s population.”⁶ That conclusion was confirmed and refined in an analysis of Lawrence Berkeley National Laboratory (LBNL) data performed by the witness for the Natural Resources Defense Council (NRDC). His analysis separated LBNL data by income quintiles and showed that the customers with the lowest 20% of income make up only about 3.5% of rooftop solar customers, and customers in the 20-40% income percentile constitute only about 9.5% of rooftop solar adopters. Thus, only about 13% of NEM customers come from the

⁵ Public Utilities Code § 2827.1(b)(1).

⁶ Lookback Study, Exh. PCF-15, p. 32.

lowest 40% of income. On the other hand, customers in the top 20% of income make up 43% of rooftop solar adopters.⁷

The Lookback Study provided the Commission with valuable information about the costs and benefits of the earlier NEM tariffs. The Commission can use this information as it confronts the difficult responsibility the Legislature gave it—deciding how and how fast to bring the costs and benefits of the NEM program in better alignment.

II. WHAT METHOD SHOULD THE COMMISSION USE TO ANALYZE THE PROGRAM ELEMENTS IDENTIFIED IN ISSUE 4 AND THE RESULTING PROPOSALS, WHILE ENSURING THE PROPOSALS COMPLY WITH THE GUIDING PRINCIPLES?

While each of the tests included in the Standard Practice Manual, when properly applied, can provide the Commission with relevant information about NEM tariff proposals, the Ratepayer Impact Measure (RIM) takes on particular importance in light of the cost-shift that has resulted from the current NEM tariffs. The RIM provides a measure of the effect of a proposal on all customers, particularly the nonparticipants who are required to pay for the cost-shift. The Participant Cost Test is also useful to evaluate the value of NEM proposals from the participants' perspective.

The Avoided Cost Calculator (ACC) has been developed to measure the value of distributed resources and should be a critical consideration in determining export compensation.

III. WHAT PROGRAM ELEMENTS OR SPECIFIC FEATURES SHOULD THE COMMISSION INCLUDE IN A SUCCESSOR TO THE CURRENT NET ENERGY METERING TARIFF?

The Joint Recommendations cover many of the program elements that the Commission should include in the successor tariff.

⁷ Exh. NRD-01, p. 5.

A. Fairly compensate successor tariff customers

Public Utilities Code section 2827.1(b)(1) requires the Commission to develop a NEM tariff that allows customer-sited renewable distributed generation to “grow sustainably.” A necessary element for sustainable growth is fair compensation to the customers that invest in renewable energy facilities. Fair competition, however, does not mean overcompensation, and the compensation for NEM customers should not exceed the value they provide to the electrical system. Moreover, the Commission has determined that a net surplus compensation rate must comply with the Public Utility Regulatory Policies Act of 1978 (PURPA),⁸ which sets compensation for net exports at avoided costs and thereby limits overcompensation.

1. Compensation for NEM Exports

Most of the parties to this proceeding recognize that the export payments under the NEM 2.0 tariff are too high and have contributed to the cost-shift.⁹ Parties differ on the pace and extent of the needed reduction in export compensation.

The California Solar and Storage Association (CalSSA) and SEIA/VS both propose a phased step-down in the export compensation rate. CalSSA, for example, proposes to step down from the current rate in a series of five steps over about eight years. New NEM customers at each step would lock-in the rate for that step for 20 years. At the end of this five-step process, export compensation would be set by the ACC.¹⁰ SEIA/VS similarly proposes to step down export compensation rates by 80% by 2030 for Pacific Gas and Electric Company

⁸ Decision (D.) 11-06-016.

⁹ Protect Our Communities Foundation (PCF) asserts that the benefits of NEM 2.0 exceed the costs and appears to believe that the current export rates are acceptable.

¹⁰ CalSSA Opening Brief, pp. 87-90.

(PG&E) and San Diego Gas & Electric Company (SDG&E) and by 50% by 2030 for Southern California Edison Company (SCE).

Both proposals include a tacit recognition that current NEM rates are very high and that some other measure, like the ACC, is appropriate for determining export rates. While the export rates would slowly decline under CalSSA's and SEIA/VS's proposals, however, nonparticipants would continue to pay billions of dollars in subsidies to participating customers.

The Joint Recommendations, on the other hand, would base export compensation on either the ACC (with a lock-in option of up to 10 years), or on the ACC with the energy cost component based on prices in the day-ahead or real-time energy markets of the California Independent System Operator (CAISO).¹¹ The ACC-based export rate would be updated every January 1, and to mitigate the variability of the ACC (which changes annually to reflect changes in the inputs), export compensation would be based on the two most recent adopted ACCs. Export rates would be differentiated by hour or time-of-use (TOU) period, so that compensation would reflect system conditions and would encourage the addition of storage facilities paired with the solar generation resource.

The Joint Recommendations offer a significant movement toward making NEM exports more valuable to the system by varying the level of export compensation to reflect system conditions. The option of basing the energy cost segment of the export rate on prices set in the CAISO's day-ahead or real-time markets would encourage even more valuable and market-responsive behavior by NEM resources. Under the NEM 2.0 tariff, NEM solar

¹¹ "Exports" refers to generation produced by the NEM facility that offsets the NEM customer's consumption. Generation in excess of the customer's consumption after the true-up of generation and consumption (net surplus) is subject to PURPA and is compensated based on prices set in the CAISO's energy markets at the utility's default local aggregation point. D.11-06-016, pp. 26-30.

resources, unlike grid-scale solar projects, are not dispatchable by the CAISO, are not curtailable by the CAISO, and are not subject to negative prices for deliveries.¹² Incorporating a more market-based energy cost segment into the export rate would begin to bring the pricing and value of NEM solar resources closer to the pricing and value of grid-scale solar resources. Either option better aligns the export compensation to the avoided cost requirements of PURPA; the cost that a utility avoids by not needing to produce or procure power.

The Joint Recommendations also propose an interim tariff that could be implemented 90 days after the Commission's final decision and that would instantly begin to reduce the magnitude of the cost-shift from nonparticipants to participants.

2. Net Billing

Under net billing, billing for a NEM customer's consumption is separated from the payment for exports, so that exports are properly valued and consumption is subject to retail rates (and a Grid Benefits Charge in the Joint Recommendations' proposal). By contrast, net metering allows for compensation of most exported power based on the customer's retail rate. As a result, exports are overvalued and compensated in excess of avoided costs, resulting in the significant cost-shift from nonparticipating customers to NEM customers.

SEIA/VS joined the parties to the Joint Recommendations in recognizing that net billing is an important structural change to the NEM program that will help reduce the cost-shift.¹³

¹² Tr. Vol. 8, p. 1407, l. 5 – p. 1409, l. 2 (SEIA/VS-Beach).

¹³ SEIA/VS Opening Brief, p. 4.

Requiring net billing in the successor tariff is one relatively uncontroversial step the Commission can take to reduce the cost-shift and put the successor tariff on a more sustainable basis.

3. Netting Period

SEIA/VS and CalSSA argue against instantaneous netting that would accurately reflect the extent to which a NEM customer's electric consumption is supplied by generation from the NEM facility. These parties argue that estimating the benefits of a NEM installation will be more difficult if the Commission adopts instantaneous netting.

Any netting period other than instantaneous netting would result in NEM customers being credited for offsetting consumption (and reducing payments to the serving utility) more than happens in reality. Instantaneous netting would result in a better alignment between the physical reality of NEM power flows and the accounting for the financial aspects of NEM transactions. For that reason, the Joint Recommendations urge the Commission to require instantaneous netting in the successor tariff. The Public Advocates Office (Cal Advocates) presented testimony that instantaneous metering is possible with the current generation of smart meters,¹⁴ but the Joint Recommendations recognize that instantaneous netting might not always be possible, in which case hourly metering should be the default.

The objections of CalSSA and SEIA/VS to instantaneous netting have to do with the availability of data.¹⁵ Those concerns can be overcome as the Commission and the solar industry gain more experience with instantaneous netting.

¹⁴ Exh. PAO-01, pp. 3-5 to 3-7; see also IOU Opening Brief, p. 67.

¹⁵ SEIA/VS Opening Brief, pp. 71-72.

4. Lock-in Period

CalSSA and SEIA/VS urge the Commission to adopt the same 20-year lock-in period that the Commission adopted for NEM 1.0 and NEM 2.0.¹⁶ Although IEP recommends honoring the commitments made in the earlier NEM tariffs, IEP also noted that the current and future cost-shift is to a large extent the product of these 20-year commitments. The lesson of the Commission's experience with the earlier NEM tariffs is that a long lock-in period can result in large and growing cost-shifts from nonparticipating customers to NEM customers. The 20-year lock-in period of NEM 1.0 and NEM 2.0 failed to anticipate the rapid decline in the price of solar installations, resulting in an unwarranted overcompensation for NEM exports from those customers' systems.

CalSSA and SEIA/VS argue that a long lock-in period promotes investment in NEM facilities. It is certainly true that investment is encouraged by certainty, but it is also true that greater certainty for NEM customers means greater risk for nonparticipants. When allocating the risk of the NEM program between customers who choose (and have the resources) to invest in NEM facilities and who reap the benefits of lower electricity bills, on the one hand, and nonparticipants who neither choose to invest in NEM facilities nor benefit from lower electricity rates (and in fact face higher rates to cover the costs of the NEM program), on the other, the Commission should keep in mind that the certainty desired by NEM advocates comes at a cost—a significant cost—to nonparticipants. The solar parties seem to want to eliminate all risks of investing in NEM facilities, while demanding returns that are usually associated with much higher-risk investments. These parties seem to ignore the fact that nonparticipants will

¹⁶ CalSSA Opening Brief, pp. 169-170.

bear the costs of both the reduced risk to NEM customers and the high returns the NEM advocates propose.

Nonparticipants have literally paid the price of the Commission's earlier commitments to NEM customers, and avoiding a similar outcome should be a major consideration for the successor tariff. Lock-in periods should be much shorter than 20 years. The Joint Recommendations would limit the lock-in period to no more than 10 years (up to 15 years for the interim transition tariff).

The rooftop solar advocates seem to focus on ensuring that solar installers have the ability to provide their customers with long-term financial forecasts associated with an investment in NEM facilities. Nonparticipating customers would also like certainty about their electric service and would also desire to avoid overcompensating NEM participants. The indulgence that the solar parties ask the Commission to give NEM customers should not be allowed to interfere with the Commission's responsibility to oversee the cost of utility service for all customers.

5. Rates for Electrical Service

Many parties agree that residential customers on the successor tariff should be required to take service on a TOU or steeply differentiated TOU "electrification" rate that would create an incentive for using the NEM facility in ways that create greater benefits for the electric system, such as adding storage that charges and discharges at times that maximize the value to the grid.¹⁷ The Joint Recommendations further propose to switch NEM 1.0 and NEM 2.0 customers to electrification rates within five years of the date of the interconnection of the NEM resource to the grid.

¹⁷ See SEIA/VS Opening Brief, p. 18.

As IEP explained in its Opening Brief, the Commission should honor the commitment it made to the earlier NEM customers. However, the Commission has stated that its commitment is to the terms of the NEM tariff, which it views as an “overlay to the customer’s otherwise applicable tariff.” The underlying tariff is subject to change, just as tariffs for service to nonparticipants are subject to change. SEIA/VS seeks to expand the Commission’s commitment to the NEM tariff to include the customer’s underlying tariff,¹⁸ but that argument is contradicted by the Commission’s clarification in D.16-01-044:

To avoid any misunderstanding, we reiterate our observation in D.15-07-001 that [NEM] customers do not have any entitlement to the continuation of any particular underlying rate design, or particular rates. The 20-year period we designate applies only to a customer-generator’s ability to continue service under the NEM successor tariff established by this decision.¹⁹

To encourage behavior that will result in more valuable use of the NEM facilities and reduce the extent of the cost-shift, the Commission should accept the Joint Recommendations on this issue and require NEM 1.0 and NEM 2.0 customers to switch to an electrification tariff within five years of the date of the interconnection of the NEM resource to the grid.

6. Avoiding Overpaying Successor Tariff Customers

Because section 2827.1(b)(4) requires the Commission to ensure that the total benefits of the NEM tariff is approximately equal to the total costs, and because the total costs of the existing NEM tariffs are so high, some parties go to great lengths to inflate the benefits of the NEM program.

¹⁸ SEIA/VS Opening Brief, pp. 124-125.

¹⁹ D.16-01-044, pp. 100-101.

PCF, for example, makes several unsuccessful attempts at demonstrating that NEM projects avoid significant transmission projects. First, PCF offers a calculation that purports to show that each NEM facility avoids over \$1,000 year of investments in transmission facilities, based on the cost of the Sunrise transmission project.²⁰ However, PCF's calculation depends on a comparison of the capacity factors of the NEM solar resources (22%) to the capacity factors of the renewable resources that PCF's calculation proposed to replace with NEM resources (27%). This calculation makes the unsupported and unrealistic assumption that the Sunrise project is reserved exclusively for the transmission of renewable energy from large-scale projects. When the Commission approved the Sunrise project, however, it rejected a proposal that would have required a minimum level of renewable energy to be served by the project (and even that minimum level was well below the full capacity of the line).²¹ PCF's analysis fails to account for the fact that although the Sunrise project was intended to facilitate the development of renewable power in Imperial Valley, the line can transmit energy generated by resources of all types and technologies (except coal²²) 24 hours a day on a continuous basis up to its full capacity. By assuming that the total capital, operation and maintenance cost of the Sunrise project should be allocated only to the power generated by grid-scale renewable projects, and not to all the power flowing through the line, PCF's analysis greatly overstates the costs avoided by NEM projects and the value those projects provide to the grid.

²⁰ PCF Opening Brief, p. 18, citing Exh. PCF-24.

²¹ D.08-12-058. See dissenting opinion of Commissioner Grueneich.

²² SDG&E's President committed not to contract with coal resources that would transmit power over the Sunrise project. D.08-12-058, p. 265.

PCF similarly gives NEM solar projects unwarranted credit for the CAISO's cancellation of \$2.6 billion of proposed transmission projects in PG&E's service area.²³ PCF presents a calculation designed to show that each NEM installation avoided \$625 per year of transmission costs, but ignores the fact that the CAISO provided a detailed rebuttal of a similar argument made by SEIA in the Commission's distribution resource plan proceeding.²⁴ Although the project cancellations resulted from a multiyear review the need for projects that had been approved as early as 2008, CAISO noted that "SEIA erroneously attributes project cancellations only to recent decreases in load forecasts, which it in turn erroneously assumes to be solely driven by growth in DERs [distributed energy resources]."²⁵ PCF makes the same errors, leading to the same erroneous conclusions.

PCF also cites a similar claim made by the Agricultural Energy Consumers Association/California Farm Bureau Federation (AECA/CFBF) that NEM resources have deferred over 6,500 MW of transmission capacity since 1998, but that claim doesn't hold up under scrutiny.²⁶ As illustrated by the figure from AECA/CFCB's testimony, reproduced below, the statistical analysis supporting that claim was based on a comparison between the rate of *increase* in peak load from 1998 to 2006 and the rate of *decrease* in peak load from 2006 to 2020. But that analysis was distorted because both the rate of increase (thin blue line) and the rate of decrease (thin dashed purple line) hinged on 2006, when a lengthy and extraordinary heat storm drove peak load to about 10% higher than any previous year. But ending the period used

²³ PCF Opening Brief, pp. 18-19.

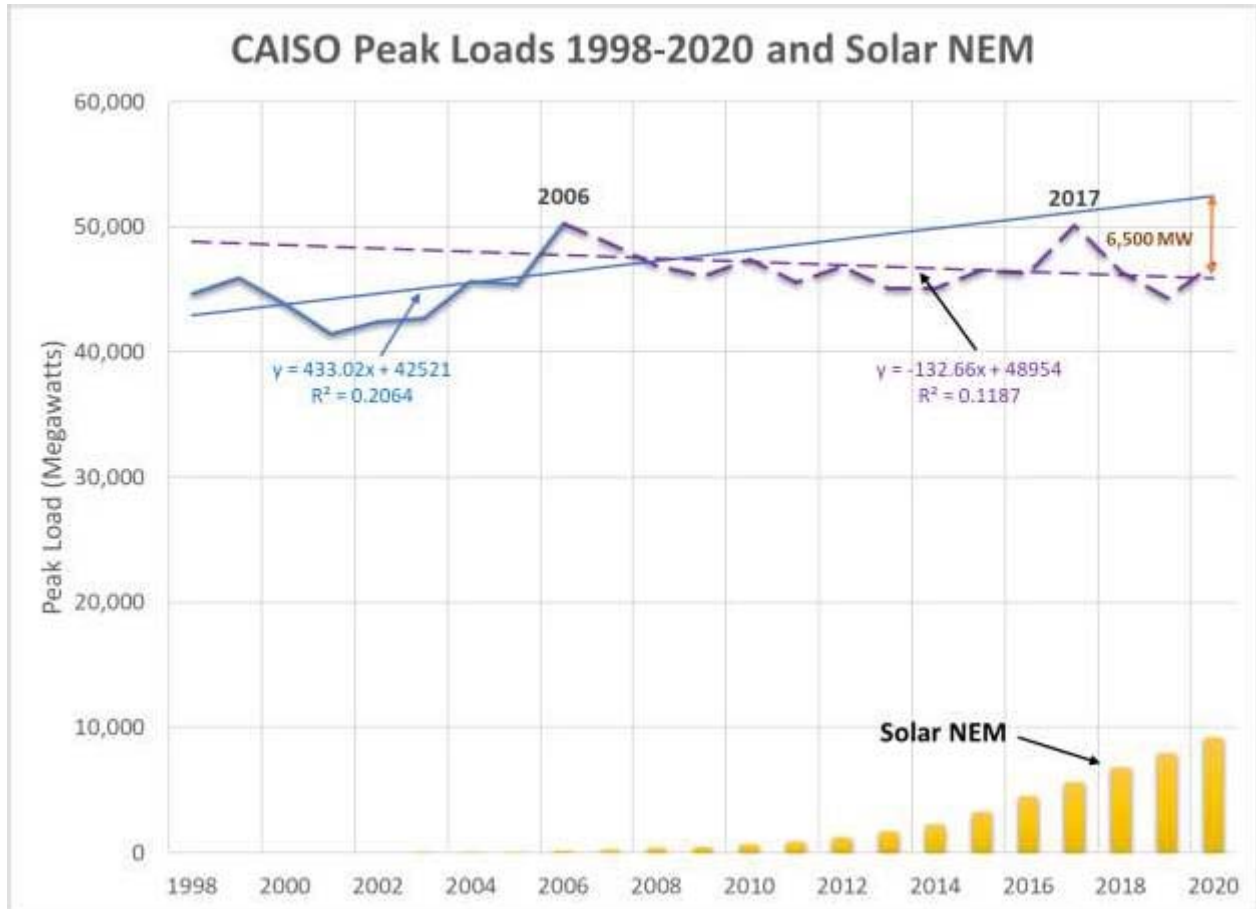
²⁴ Exh. IOU-07.

²⁵ Exh. IOU-07, p. 3.

²⁶ See Exh. AEC-01, pp. 9-10, especially Agricultural Parties Figure 1 on p. 10, reproduced below. The peak load data for this table appear to be from Exh. PCF-06.

to calculate the rate of increase at the year of the highest peak load in history will result in an abnormally high rate; and starting the period used to calculate the rate of decrease at the year of highest peak load will exaggerate the rate of decrease.

Figure Agricultural Parties 1, from Exh. AEC-01



The distortion inherent in this analysis can be shown from the same data. If the same analysis had been performed for a five-year period starting in 2013, the results would show an even steeper rate of increase in peak load, from 45,097 MW in 2013 to 50,116 MW in 2017. This analysis would show a steep increase in peak load *during the same period* when the number of NEM solar installations, also graphed in the figure above, was growing rapidly. From this

correlation, one might conclude, with the same validity that applies to AECA/CFBF's conclusions, that NEM resources were responsible for the rapid increase in peak load during this period. IEP is not, of course, contending the NEM resources increased peak load, but this illustration shows the need for the Commission to evaluate these claims, and the data that support them, very carefully.

The fact is that peak loads have been relatively stable since 2007, decreasing by only about 1000 MW according to a best fit trend line,²⁷ and many factors in addition to the increase in NEM solar facilities contributed to that decline. Without a more detailed analysis, the exact contribution of NEM solar development to this decrease is unclear.

PCF also claims that the ACC understates avoided transmission costs. PCF supports this claim by noting that the documentation for the ACC shows that the transmission expenditures of the investor-owned utilities (IOUs) for 2020-2025, the input to the ACC, totaled \$481.7 million, while the IOUs' transmission revenue requirement for 2021 was over \$4 billion.

PCF then concludes:

There is a gross mismatch between the transmission costs input by the Avoided Cost Calculator—i.e., almost \$500 million over five years—and the utilities' actual transmission spending—over \$4 billion in one year alone. This mismatch between inputs into the Avoided Cost Calculator and actual costs further suggests that the Avoided Cost Calculator does not adequately account for NEM solar's transmission-related benefits.²⁸

PCF confuses plans for *future* spending, used to develop marginal costs, from recovery of *past* expenditures, which make up the transmission-related revenue requirement. Unless PCF is making the absurd contention that NEM resources can avoid past expenditures for

²⁷ Exh. PCF-01, p. 6.

²⁸ PCF Opening Brief, p. 21.

transmission projects that are already built, the ACC correctly reflects the marginal costs of transmission that has a potential to be avoided.

Finally, the issue of whether NEM customers are overcompensated needs to include a base comparison with the price paid to grid-scale renewable resources. The Padilla report on Renewables Portfolio Standard (RPS) generation stated that the market cost of RPS generation in 2019 was 2.8 cents per kWh, far lower than the prices paid for NEM exports.²⁹ Cal Advocates calculates that the average cost of NEM 1.0 and NEM 2.0 energy was 7.8 times and 5.7 times the cost of energy from RPS contracts in 2019 and 2020, respectively.³⁰ The compensation paid to NEM customers under the successor tariff simply must come down if the Commission hopes to retain ratepayer support for both the NEM program and electrification efforts.

7. Sizing/Oversizing of NEM Installations

SEIA/VS urges the Commission to allow oversizing of new NEM installations by up to 50% of the customer's load.³¹ As the IOUs point out, however, the proposal is contrary to federal and state law and the Commission's precedents on NEM.

At the federal level, NEM solar installations in most cases meet the definition of Qualifying Facilities that are subject to the requirements of PURPA.³² However, the Federal Energy Regulatory Commission (FERC) has ruled that NEM facilities are not subject to its jurisdiction, grounded in the Federal Power Act and PURPA, because NEM arrangements are

²⁹ Exh. SVS-03, Attach. RTB-4, p. 4.

³⁰ Exh. PAO-01, pp. 2-29 to 2-30. The comparison between RPS and NEM costs is graphically illustrated in Figures 2-1 and 2-2 on p. 2-29 of Exh. PAO-01.

³¹ SEIA/VS Opening Brief, pp. 46-47; Exh. SVS-03, p. 40.

³² SEIA/VS Opening Brief, p. 61.

billing arrangements. FERC's determination was based on the assumption that a NEM installation is not designed to result in a net sale to the utility, a wholesale power sale that would trigger FERC jurisdiction.³³ FERC elaborated on its understanding of net metering in Order 2003-A:

Net metering allows a retail electric customer to produce and sell power onto the Transmission System without being subject to the Commission's jurisdiction. A participant in a net metering program must be a net consumer of electricity -- but for portions of the day or portions of the billing cycle, it may produce more electricity than it can use itself. . . . Since the program participant is still a net consumer of electricity, it receives an electric bill at the end of the billing cycle that is reduced by the amount of energy it sold back to the utility. Essentially, the electric meter "runs backwards" during the portion of the billing cycle when the load produces more power than it needs and runs normally when the load takes electricity off the system.³⁴

California statutes have respected FERC's approach. Public Utilities Code section 2827, an early NEM statute, defined "eligible customer-generator" to refer to a customer with small renewable generation facility that is "intended primarily to offset part of all of the customer's own electrical requirements."³⁵ That definition was carried over into a later statute, section 2827.1.³⁶

The Commission's decisions on NEM have repeated this limitation. In D.11-06-016, for example, the Commission ruled that "NEM customers are required to size their systems to be no larger than onsite load."³⁷ D.14-03-041 allowed modified or repaired systems to

³³ MidAmerican Energy Co., 94 FERC ¶ 61340, 62262 (2001).

³⁴ Standardization of Generator Interconnection Agreements and Procedures, Order No 2003-A, FERC Stats. & Regs. ¶ 31,169, p. 744.

³⁵ Public Utilities Code § 2827(b)(4)(A).

³⁶ Public Utilities Code § 2827.1(a).

³⁷ D.11-06-016, p. 34.

continue to be eligible for NEM, even if the capacity increased by up to 10%, as long as the facilities continued to be “sized to meet but not exceed the customer’s annual onsite load.”³⁸

SEIA/VS’s oversizing proposals runs counter to a long line of FERC precedent, state statutes, and Commission decisions. If exports from a NEM installation are more than incidental, the NEM customer would be engaging in wholesale sales and would potentially become a public utility subject to FERC jurisdiction under the Federal Power Act. While most NEM facilities would be Qualifying Facilities with a limited exemption from FERC jurisdiction under PURPA, any sales the NEM customer, as a QF, made to the utility would be required to be priced at the utility’s avoided cost, as defined in PURPA and the FERC regulations.

In short, retail electricity customers who want to install renewable generators on their own property must choose whether to size their systems to serve their own loads as NEM generators under the Commission’s jurisdiction or to engage in wholesale transactions as FERC-jurisdictional QFs. They cannot have it both ways.

In addition, to the extent oversizing results in sales of a wholesale energy product, it is a product that is inferior in quality to the product provided by grid-scale renewable generators. As SEIA/VS’s witness acknowledged, grid-scale renewable generators, unlike NEM facilities, are dispatchable by the CAISO to respond to system conditions, are subject to curtailment by the CAISO,³⁹ and are subject to market prices that can be negative at times when the supply of energy exceeds demand.⁴⁰ NEM facilities produce power even when additional supply of energy is not needed and can create significant problems for the system operator.

³⁸ D.14-03-041, p. 39.

³⁹ PURPA allows for curtailment of QFs under some circumstances, but because NEM generators are not subject to the CAISO’s requirements, there is no effective mechanism for curtailing generation from NEM installations.

⁴⁰ Tr. Vol. 8, p. 1407, l. 5- p. 1409, l. 2 (SEIA/VS-Beach).

B. Require Successor Tariff Customers to Pay a Grid Benefits Charge to Cover Their Fair Share of Grid Costs

One of the more controversial issues in this proceeding is whether NEM customers should be subject to a Grid Benefits Charge (GBC) to cover their fair share of the fixed transmission and distribution costs of the system and nonbypassable charges.

CalSSA argues that NEM customers should be subject only to rates reflecting the incremental cost the utility incurs to serve NEM customers.⁴¹ CalSSA asserts that there has been no showing that the utilities incur additional uncompensated costs as a result of serving NEM customers. SEIA/VS echoes these objections and argues that a Grid Benefits Charge imposed on NEM customers but not on nonparticipants violates PURPA.

SEIA/VS contends that NEM customers should not be subject to additional charges either for power the utility delivers for the NEM customer's consumption or for power the NEM customer exports to the grid. IEP will address both aspects of SEIA/VS's contention.

Electricity Consumed by the NEM Customer: SEIA/VS first argues that because NEM customers pay retail rates for the power they import from the utility, NEM customers are bearing their fair share of the utility's cost of service, and therefore no additional charges are justified.

The flaw in this argument is that it ignores the fact that the quantity of energy that is delivered by the utility and consumed by the customer is offset by power that the NEM facility generates. Except for those rare moments when the NEM generation is exactly equal to the customer's consumption, a NEM customer is either receiving power from the utility or exporting power to the grid. But the customer is not paying the full retail rate for all of the power it

⁴¹ CalSSA Opening Brief, pp. 125-132.

receives from the utility. In the NEM accounting, the quantity of energy the customer receives from the utility is reduced by the amount that the NEM facility generates. Put differently, the quantity of electricity the customer physically receives from the utility is much larger than the quantity of electricity the customer actually pays for.

CalSSA and SEIA/VS sidestep the fact that a large proportion of a utility's cost of service consists of fixed costs of the transmission and distribution system and other costs that are unaffected by a customer's decision to self-generate—for example, the costs of wildfire mitigation and hardening or undergrounding portions of a utility's distribution and transmission system.⁴² These costs are recovered from nonparticipant residential customers in volumetric rates. The fact that NEM customers make use of the utility system except for those rare moments when the customer's NEM generation exactly equals the customer's electric demand is masked by NEM rate design that offsets consumption and exports over long periods of time, rather than at the instant when the balancing of the customer's NEM generation and consumption could potentially occur. Combined with the reliance on volumetric rates to recover fixed costs from residential customers, the long netting periods means that NEM customers avoid paying their full share of the system's fixed costs that are normally recovered in volumetric rates and NEM customers are not bearing their fair share of the utility's fixed costs to serve them. Net billing and instantaneous netting will reduce some of this distortion, but NEM customers will still avoid paying some of their fair share of fixed and transmission and distribution costs.

Electricity Exported to the Grid: SEIA/VS's second argument is that NEM customers do not make use of the grid because the utility takes title to exported power at the meter. Therefore, SEIA/VS asserts:

⁴² See TURN Opening Brief, pp. 80-81.

Solar customers are not responsible for and do not have to pay the utility to deliver the generation that they sell to the utility at the meter. Once the power passes the meter, the kilowatt-hours are the utility's to be delivered to other customers. The utility is fully compensated for this delivery service by the customers who consume the exported power.⁴³

However, the utility's taking title to the energy produced by the NEM facility does not alter the fact that the NEM customer is relying on the grid to deliver the power. Cavalierly stating that "[s]olar customers are not responsible for and do not have to pay the utility to deliver the generation that they sell to the utility at the meter" does not mean that NEM customers do not benefit from use of the grid. In the extreme case, if no grid to receive the exported power existed beyond the customer's meter, the value of the exported power would be zero. NEM customer's exported power acquires value precisely because the grid exists to deliver energy to other customers. And to further assert that the fixed costs of the system used to deliver the NEM customer's exported power should be borne by "other customers" calls into question SEIA/VS's desire to reduce the cost-shift and develop a more equitable sharing of the costs of the NEM program.

CalSSA seems to acknowledge that a rate design that recovers fixed costs through volumetric rates allows NEM customers to evade responsibility for paying their fair share of the system's costs: "If the Commission determines that higher fees are needed for specific grid access costs in order to ensure that utilities are able to recover their full cost of service equitably from all their customers, it can approve a monthly service charge for all residential customers or increase the level of the minimum bill."⁴⁴ However, current statute prohibits the Commission from authorizing fixed monthly charges of more than \$10 per month, adjusted for inflation,⁴⁵

⁴³ SEIA/VS Opening Brief, p. 60.

⁴⁴ CalCCA Opening Brief, p. 136.

⁴⁵ Public Utilities Code, § 739.9(f).

which is an insufficient amount to recover utilities' fixed distribution, and transmission costs. In the absence of an amendment to this provision, the GBC is the best way to equitably recover the fixed costs of the utility system . The GBC also avoids a minimum bill's regressive effect on customers smaller residences and with lower incomes.⁴⁶

Rather than being a cause of discrimination, the GBC removes the existing discrimination that results in nonparticipants bearing more of the fixed costs of the utility system than NEM participants. The GBC is not designed to recover the incremental cost of serving NEM customers, as CalSSA argues. Instead, it is intended to ensure that all customers, NEM participants and nonparticipants alike, bear their fair share of the fixed costs required to provide reliable service to all customers. A properly calculated GBC would result in similar contributions to the utility's fixed costs by similar customers, regardless of whether the customers' contribution was in the form of a volumetric rate or a monthly charge.

That last point also shows why a GBC would not violate PURPA by charging discriminatory rates to NEM resources that are also Qualifying Facilities under PURPA. The GBC is not designed as an added charge that is imposed only on NEM customers. Rather, it is a way to ensure that similarly situated customers make similar contributions to the utility's cost of providing electric service.

C. Monthly True-Up

Some of the effects of the NEM accounting discussed in the last section can be mitigated by a monthly true-up, as the IOUs propose. Under this proposal, a NEM customer's consumption and exports would be calculated for each month. If the customer's consumption exceeded its exports, the customer would receive a bill from the utility for the excess

⁴⁶ Tr. Vol. 10, pp. 1864 1.10 – 1865, 1.11 (NRDC-Chhabra).

consumption. If the customer's exports are greater than the customer's consumption, the customer would receive a payment for the excess at the net surplus compensation rate, and there would be no carryover of the excess from month to month.

A monthly true-up not only limits a customer's exposure to receiving a large bill when the current annual true-up is performed, but it also promotes a closer temporal alignment of the customer's consumption and generation. The prohibition of a carryover of excess generation from month to month, combined with export compensation based on hourly or time-of-use periods, will promote a closer match between the value of NEM generation to the system and the compensation paid for that generation.

D. Support Low-Income Customers

As noted in IEP's Opening Brief, the Joint Recommendations, if adopted, will support low-income customers in two ways: First, by reforming NEM rates and export compensation, the Joint Recommendations will reduce the cost-shift that requires low-income customers to subsidize NEM customers who disproportionately have higher income levels. Second, the Joint Recommendations include provisions designed to help low-income customers participate in the NEM program.

To encourage greater participation by low-income customers, the Joint Recommendations propose to exempt California Alternate Rates for Energy (CARE) and Family Electric Rate Assistance (FERA) successor tariff customers from the Grid Benefits Charge. This exemption is justified because the retail tariff-based compensation under the NEM 1.0 and NEM 2.0 tariffs had the effect of inhibiting low-income customers from participating in the NEM program.

The Joint Recommendations also propose collection of a monthly Equity Charge to create a fund to promote equity in the NEM program, including potential initiatives to reduce the initial installation costs of NEM facilities.

E. NEM 1.0 and 2.0 Transition Rules

As discussed in IEP's Opening Brief, IEP believes that the Commission should honor the commitments it made to NEM 1.0 and NEM 2.0 customers, and not force these customers to shift to a different tariff or terminate the benefits originally offered by these tariffs. For that reason, IEP does not support Section 5, Part 2b of the Joint Recommendations. Rather than requiring existing NEM customers to migrate to the successor tariff, the Commission should shorten the term of any future regulatory commitments.

However, the Commission can encourage NEM 1.0 and NEM 2.0 customers to voluntarily change tariffs or accept modifications to the applicable tariff. The Commission should provide reasonable incentives to encourage voluntary conversion to the NEM 3.0 tariff.

As discussed earlier, the Commission has clarified that its commitment extends only to the NEM tariff, which the Commission has described as an "overlay to the customer's otherwise applicable tariff,"⁴⁷ and NEM 1.0 and NEM 2.0 customers are still subject to changes in the underlying tariffs for electric service.⁴⁸ Thus, NEM 1.0 and NEM 2.0 customers may be required to take service under time-of-use rates or at rates different from the ones that existed when they became NEM participants.

The Commission should use its authority over tariffs to reduce the cost-shift to the extent possible, consistent with the 20-year commitment it made to existing NEM customers by

⁴⁷ D.15-07-001, p. 149.

⁴⁸ NEM 1.0 customers are to be provided electric service at essentially the same terms and conditions as similarly situated nonparticipants. See section 2827(g), (h)(2)(B).

requiring NEM customers to switch to a time-of-use or electrification tariff and to pay a properly structured Grid Benefits Charge. The analysis included with the Joint Recommendations shows that the Commission could reduce the cost-shift by nearly \$22 billion (net present value) without backing down on the commitments made in the NEM 1.0 and NEM 2.0 tariffs.

F. Interim Transition Tariff

The Joint Recommendations recognize that it might take some time for the details of the successor tariff to be worked out and for the successor tariff to take effect. The Joint Recommendations include a proposal for an interim transition tariff that would (1) be open to new NEM customers until the successor tariff is available and (2) represent a significant improvement over the NEM 2.0 tariff.

The interim tariff would provide the Commission with an alternative to the lengthy glidepaths proposed by CalSSA and SEIA/VS that would perpetuate the cost-shift for decades to come. The interim tariff connects to the structure of the existing NEM 2.0 tariff while taking significant steps to reduce the magnitude of the cost-shift and to ease the transition to the successor tariff.

The interim tariff would be mandatory for new NEM customers after it becomes effective within 90 days of the date of the Commission's final decision on the successor tariff and would remain as the NEM tariff option until the new successor tariff is ready for implementation no later than January 1, 2024. The interim tariff includes the following features that ease the transition to the successor tariff:

- Residential customers would be required to take service on an electrification rate that will encourage installation of storage.
- Export rates would be tied to rates in the underlying electrification tariff. Tying export rates to the tariff for electric service echoes the structure of

existing export rates and encourages behavior that increases exports during times when the grid is more likely to need additional resources.

- Export rates will provide for a simple payback period of 8 to 9 years (11 years for SCE's CARE customers) and an Internal Rate of Return of 10-11% for non-CARE customers and 6-9% (due to lower underlying service rates) for CARE customers. These levels are sufficient to encourage customers to invest in NEM facilities and to sustain the growth of the NEM program.
- Export rates can be locked-in for up to 15 years for customers of PG&E and SCE and 10 years for customers of SDG&E, a shorter period than under the existing NEM tariff, and will be fixed at the initial 2022 levels, with no escalation. NEM customers will have certainty about the level of export compensation but excessive compensation due to changing circumstances will be mitigated.

The proposed interim tariff provides a reasonable balance of the need to begin to reduce the cost-shift that has resulted from previous NEM tariffs and the need to allow the NEM program to grow sustainably. The interim tariff is a reasonable step that Commission can take now to begin to address the cost-shift while providing time for the solar industry to adjust to the requirements of the successor tariff.

IV. WHICH OF THE ANALYZED PROPOSALS SHOULD THE COMMISSION ADOPT AS A SUCCESSOR TO THE CURRENT NET ENERGY METERING TARIFF AND WHY? WHAT SHOULD THE TIMELINE BE FOR IMPLEMENTATION?

Rather than adopting any of the proposals presented by parties in March or in testimony in this proceeding, the Commission should adopt the package of proposals incorporated in the Joint Recommendations. The Joint Recommendations reflect the collaborative judgment of parties that are neither utilities nor promoters of rooftop solar. The Joint Recommendations balance the statutory directive to allow distributed generation to grow sustainably while reducing the enormous cost-shift that has resulted from the existing NEM tariffs.

From IEP's individual perspective, a NEM successor tariff that focused more on fair competition in wholesale energy markets and on a NEM program that was more consistent with the least-cost dispatch approach of the CAISO would be preferable. Nevertheless, IEP supports the package of proposals presented in the Joint Recommendations as a reasonable step toward fair competition. Nonparticipating customers should not be forced to pay high prices for energy produced by distributed energy resources merely because they are distributed, when renewable energy is available from grid-scale resources at much lower prices. By reducing the cost-shift, the Joint Recommendations move toward a better alignment between the subsidies nonparticipating customers make to NEM customers and the true value NEM resources provide to the grid and to other customers.

V. **OTHER ISSUES THAT MAY ARISE RELATED TO CURRENT NET ENERGY METERING TARIFFS AND SUBTARIFFS, WHICH INCLUDE BUT ARE NOT LIMITED TO THE VIRTUAL NET ENERGY METERING TARIFFS, NET ENERGY METERING AGGREGATION TARIFF, THE RENEWABLE ENERGY SELF-GENERATION BILL CREDIT TRANSFER PROGRAM, AND THE NET ENERGY METERING FUEL CELL TARIFF**

Increasing the reach of the NEM program through virtual net energy metering (VNEM) or NEM aggregation (NEM-A) to facilitate the installation of solar or other renewable technologies to serve multiple tenants or multiple meters on the same property is a worthwhile effort, but the existing programs contribute to the cost-shift because compensation for the output from these systems is based on the full retail rate. Because the generation facilities under these tariffs are treated as in-front-of-meter installations, their production does not offset customers' measured load through simultaneous production and consumption of the electricity produced onsite. Under VNEM and NEM-A, all kWh generated are exports. Once the value of export credits is reduced to avoided cost calculated by the ACC, as proposed in the Joint

Recommendations, no additional GBC will be necessary for the benefitting accounts of VNEM and NEM-A systems.

But promoting the VNEM and NEM-A programs will not solve the underlying problems of the NEM program. Many customers that are the targets of these programs will remain nonparticipants and will still be required to pay the excessive costs of the NEM tariffs to NEM participants.

VI. CONCLUSION

Throughout this proceeding, parties have seemed to present the Commission with a binary choice between NEM solar generation and grid-scale renewable resources. But as IEP has stated, California will need a mix of grid-scale and distributed renewable resources if it is to meet its GHG emission-reduction goals. If the NEM program is to grow sustainably, the costs required to support it will need to decrease, so that other customers are not called on to pay unreasonable subsidies that are inconsistent with PURPA to NEM customers. At the same time, new grid-scale renewable and renewable energy + storage projects can make a significant contribution to decarbonizing the grid at the lowest prices currently available.

The key questions facing the Commission in this proceeding are how fast and how far to reform the NEM program. Nearly all parties recognize the need for some significant reforms to the NEM program, because the status quo is unsustainable. While some parties would put off meaningful reform until the end of this decade, others, including IEP, see a need for much quicker action by the Commission to address the underlying flaws in the existing NEM program that had led to a multi-billion-dollar wealth transfer from nonparticipants to typically well-off NEM participants. The Joint Recommendations offer a sort of middle ground, that will take

some near-term steps to address some significant problems with the NEM program while providing a transition period to allow for adjustments by the solar industry and customers.

For the reasons stated in this brief, the Independent Energy Producers Association respectfully urges the Commission to adopt the positions proposed in the Joint Recommendations, except for the proposed transition of existing NEM 1.0 and NEM 2.0 customers to the successor tariff. For those customers, the Commission should honor the commitment it made concerning the duration and structure of the NEM tariffs, while taking steps to encourage these customers to voluntarily transition to the successor tariff and reforming the tariffs for electric service to reduce the magnitude of the cost-shift.

Respectfully submitted September 14, 2021, at San Francisco, California.

GOODIN, MACBRIDE,
SQUERI & DAY, LLP
Brian T. Cragg
505 Sansome Street, Suite 900
San Francisco, California 94111
Telephone: (415) 392-7900
Facsimile: (415) 398-4321
bcragg@goodinmacbride.com

By: /s/ Brian T. Cragg

Brian T. Cragg

Attorneys for the Independent Energy
Producers Association