

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

Order Instituting Rulemaking Regarding Policies
Procedures and Rules for the California Solar
Initiative, the Self-Generation Incentive Program
and Other Distributed Generation Issues.

Rulemaking 12-11-005
(November 8, 2012)

**COMMENTS OF THE SOLAR ENERGY INDUSTRIES ASSOCIATION
AND THE ALLIANCE FOR SOLAR CHOICE ON PROPOSED DECISION
ESTABLISHING A TRANSITION PERIOD PURSUANT TO ASSEMBLY BILL 327
FOR CUSTOMERS ENROLLED IN NET ENERGY METERING TARIFFS**

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Pursuant to Rule 14 of the Rules of Practice and Procedure of the California Public Utilities Commission (Commission), the Solar Energy Industries Association (SEIA)¹ and the Alliance for Solar Choice (TASC) comment on the Proposed Decision Establishing a Transition Period Pursuant to Assembly Bill 327 for Customers Enrolled in Net Energy Metering Tariffs issued in the above captioned proceeding on February 20, 2014 (Proposed Decision or PD).

I. INTRODUCTION

As appropriately recognized in the Proposed Decision:

[A]dopting a transition period that denies customer-generators the opportunity to realize their expected benefits would not be in the public interest, to the extent that it could undermine regulatory certainty and discourage future investment in renewable distributed generation.²

Accordingly, in considering the appropriate transition period for customers enrolled in the current formulation of the NEM tariffs, the Commission appropriately found that:

Given both the limitations of existing estimates of the reasonable payback period,³

¹ The comments contained in this filing represent the position of the Solar Energy Industries Association as an organization, but not necessarily the views of any particular member.

² Proposed Decision, p. 20.

³ SEIA / TASC interpret Findings of Fact 2 and 3 to regarding the recovery of cost of installing a renewable distributed generation system to refer to the time period to recover the initial capital investment.

as well as the desirability of ensuring that customers have an opportunity to receive a return somewhat consistent with their expectations, it is reasonable to adopt a transition period that is based on a conservative estimate of the equipment's expected life, and that ensures reasonable payback that includes some return on the customer's initial investment.⁴

Having made such determination, the Commission, however, erroneously concludes that 20 years is "consistent with the expected useful life of NEM PV systems."⁵ The record of this proceeding does not support such conclusion.⁶ To the contrary, the record clearly evidences that the expected useful life of solar installations is more than 25 years. The PD must be modified to correct this error and find that the transition period afforded renewable generation systems installed by customers prior to July 1, 2017, or the date on which a utility reaches its NEM transition trigger level, whichever comes first, shall remain on their previously applicable NEM rate structure for, at minimum, 25 years from the original year of interconnection.

In addition, SEIA / TASC fully support the PD's determination to reject a vintage approach to grandfathering under which customers that interconnect after a certain date (e.g. January 1, 2016) would be given a shorter transition period relative to customers that interconnect prior to that date. SEIA / TASC submit that there are a number of compelling reasons, beyond those offered in the PD, to support this approach and encourages the Commission to augment the rationale contained in the decision accordingly.

Finally, in order to ensure consistency with the NEM Statute, the PD must be modified to ensure that if the IOU has not already met its MW cap, then a customer who submits a completed NEM application by June 1, 2017 will be grandfathered under the current NEM construct.

⁴ Proposed Decision, p. 20.

⁵ *Id.*, p. 21.

⁶ As noted in the Proposed Decision (p. 6) the comments which were submitted in response to the November 27, 2013 Assigned Commissioner's Ruling in this proceeding "constitute the record on which this decision is based."

II. THE RECORD OF THE PROCEEDING SUPPORTS A MINIMUM TWENTY-FIVE YEAR USEFUL LIFE FOR SOLAR INSTALLATIONS

In order to draw the conclusion that 20 years is consistent with the expected life of the “majority of systems taking service under NEM,”⁷ the PD asserts that such is reflected in (1) “most Residential Power Purchase Agreements;” (2) “some government Power Purchase Agreements;” and (3) “many third party financing agreements.”⁸ The portions of the record to which the PD cites as support for its conclusion do not, in fact, provide such support. To the contrary, as illustrated below, they support an expected useful life of a minimum of 25 years.

First, the PD cites to TASC’s comments as support for the assertion that most Residential Power Purchase agreements reflect a 20-year useful life of the solar installation. TASC’s comments however, state that “the terms in [such] PPAs are typically set at 20 years, *with options for the customer to extend the agreement up to 30 years.*”⁹ This effectively guarantees the customer a 30-year term if it so desires. The same holds true for third party financing arrangements. Thus, while the PD cites to SEIA’s comments for the proposition that such financing arrangements support a 20-year useful life, SEIA’s comments were in fact making the same point as TASC’s -- *i.e.*, that while the initial terms of the lease may be set at 20 years, the vast majority of those leases renew automatically after the initial term or provide the customer with the option to extend the agreement beyond the initial term for up to 10 additional years; again effectively guaranteeing a 30-year useful life.¹⁰

⁷ Id., p. 21.

⁸ *Id.*

⁹ Opening Comments of The Alliance for Solar Choice Regarding the Establishment of a Net Energy Metering Transition Period, R. 12-11-005 (December 13, 2013) (TASC Opening Comments), p. 9 (emphasis added)

¹⁰ Comments of the Solar Energy Industries Association and the Vote Solar Initiative Regarding the Establishment of a Net Energy Metering Transition Period, R. 12-11-005 (December 13, 2013), p. 5.

Finally, the PD relies on the comments of the Net Energy Metering Public Agency Coalition (NEM-PAC) as support for the assertion that some government agency PPAs reflect a 20-year useful life. While that may be true, NEM-PAC's comments illustrate that just as many if not more government agency PPAs reflect expected useful lives of 25 to 30 years.¹¹ Moreover, based on their full analysis NEM-PAC concluded that 30 years "represents the best estimate for the reasonable expected payback period of a solar PV system."¹²

In addition to misinterpreting the record evidence on the interrelation between expected useful life of NEM systems and terms of power purchase and third-party lease agreements, the PD also fails to take into account the other record evidence which lends towards the conclusion that a 25 to 30 year transition period is consistent with the expected useful life of NEM PV systems. For example, the PD fails to account for the fact that the National Renewable Energy Laboratory (NREL) has estimated photovoltaic systems' expected lifetimes at 30 years based on a systematic analysis of the published literature, as highlighted in the comments of both the Farm Bureau and CalCAN.¹³ Similarly, the PD fails to account for the record evidence regarding warranties for PV systems. As detailed by TASC:

¹¹ See Reply Comments by City of Benicia, Lemon Grove School District, NLine Energy, Inc., Padre Dam Municipal Water District, Rancho California Water District, San Diego Unified School District, Terra Verde Renewable Partners, LLC, Valley Center Municipal Water District and Western Municipal Water District (NEM-PAC), R. 12-11-005 (December 23, 2013), pp. 4-6. (e.g., the Rancho California Water District expected to save approximately \$11 million over the 25-year life of its solar PV system installed at the Senegal Doherty Pump Station; Terra Verde Renewable Partners evaluated the expected energy savings over a 25-year period).

¹² Opening Comments of NEM PAC, R. 12-11-005 (December 13, 2013), p. 9.

¹³ See Opening Comments of the California Climate and Agriculture Network on the Assigned Commissioner's Ruling Regarding the Establishment of a Net Energy Metering Transition Period, R. 12-11-005 (December 13, 2013), pp. 3-4, *citing* "Life Cycle Greenhouse Gas Emissions from Solar Photovoltaic," NREL (November 2012), <http://www.nrel.gov/docs/fy13osti/56487.pdf>; Comments of the California Farm Bureau Federation on the Assigned Commissioner's Ruling Regarding the Establishment of a Net Energy Metering Transition Period Pursuant to Assembly Bill AB 327, R. 12-11-005 (December 13, 2013) *citing* same.

[M]ainstream PV panel manufacturers' warranties typically are 25 years, with some warranties set "so the power output at the end of the final year of the 25-year warranty period will be at least 87% of the Minimum Peak Power rating." That is, PV panel manufacturers ensure, at a minimum, that not only will customer-generators continue to receive energy deliveries for 25 years but that those energy deliveries will be substantially similar to deliveries in the first few years of the system's life. Given these guarantees, it is reasonable to assume substantial energy deliveries will continue from an onsite solar system beyond 25 years.¹⁴

The California Solar Energy Industries Association provides additional information detailing the warranties afforded typical solar installations and the interrelation with the expected useful life of such installations.¹⁵

Finally the Commission overlooks the assessment of expected useful life embedded in the information on the cost-effectiveness of solar available on its own website. Specifically, as highlighted in NEM PAC's comments, the Go Solar California! program, a joint venture between the Commission and California Energy Commission, provides interested consumers with numerous calculators on its website to determine whether a PV system is economic. At least one of these calculators expresses savings on an annual basis over the 25-year expected life of the system.¹⁶

In total, the record of the proceeding supports a determination that expected useful life of a solar installation is a minimum of 25 years, not the 20 years upon which the PD relies. The PD must be modified to correct this error.

¹⁴ TASC Opening Comments, pp. 8-9.

¹⁵ Comments of the California Solar Energy Industries Association Regarding the Establishment of a Net Energy Metering Transition Period, R. 12-11-005 (December 13, 2013), pp. 3-5.

¹⁶ NEM-PAC Opening Comments, p. 6, *citing* <http://www.gosolarcalifornia.ca.gov/tools/calculators.php>

III. THE PD'S DETERMINATION TO ESTABLISH A SINGULAR TRANSITION PERIOD FOR ALL SYSTEMS IS APPROPRIATE AND WILL MITIGATE THE RISK OF MARKET DISRUPTION

The Proposed Decision appropriately establishes a single transition period for all systems that interconnect before the earlier of the NEM cap being reached or July 1, 2017. In declining to adopt a shorter transition period for customers who enroll in NEM between January 1, 2016 and the implementation of a successor tariff, the Commission reasoned that:

Though these customers will be aware that a new tariff will be implemented in 2017, and can use this information in their decision-making, we find that it will be administratively simpler and more transparent to treat all customers enrolling in NEM before the implementation of a successor tariff in a consistent way. We find that the "Gold Rush" concern is significantly mitigated by the existing NEM transition trigger level, which places a known limit on the amount of load that can be served under the existing NEM structures.¹⁷

SEIA /TASC do not disagree with the PD's analysis and, as stated above, supports the PD's approach on this issue. However, there are a number of other compelling reasons that further support the PD's determination to establish a singular transition period, as explained below.

First, establishing two or more differing transition periods -- for example one for customers enrolled in NEM prior to January 1, 2016 and one for those who enroll after that date - is inconsistent with the statute. AB 327 clearly directs the Commission to establish a singular transition period applicable to *all* customers taking service under the NEM tariff prior to the earlier of July 1, 2017, or when an IOU's NEM cap is reached. Section 2827.1 (a)(6) states that the Commission must "[e]stablish a [*emphasis added*] transition period during which eligible customer generators taking service under a net energy metering tariff or contract prior to July 1, 2017, or until the electrical corporation reaches its net energy metering program limit pursuant to

¹⁷ Proposed Decision, p. 23.

subparagraph (B) of paragraph (4) of subdivision (c) of Section 2827, whichever is earlier, shall be eligible to continue service under the previously applicable net energy metering tariff for a length of time to be determined by the commission by March 31, 2014.”

Second, the market impacts of establishing two distinct transition periods are likely to be severe. A vintaging approach where customers who install systems on or after a certain date (e.g., January 1, 2016) would receive a far shorter transition period, through only July 1, 2017, such as the IOUs had proposed,¹⁸ will result in substantial customer confusion and uncertainty, significantly complicating customer decisions regarding whether or not to pursue customer generation. Specifically, given the potential delays in a solar installation process, especially with government entities and other non-residential customers that may have longer project lead times of as much as 24 months, it can be difficult to accurately predict when a system will be installed and interconnected. This makes a binary NEM transition period problematic and could impact projects already under development as well as future customer commitment. For example, if a school district is contemplating a potential solar installation in June 2014 and the customer is unsure as to whether its system will be completed and interconnected before the end of 2015, then the customer may decide to delay an investment decision as project economics and expected energy bill savings could differ significantly depending on the transition period for which the installation is eligible. Accordingly, the Proposed Decision’s determination to rely on a singular transition period for all customers eligible for service under the NEM program cap or July 1, 2017 cut-off avoids the damaging uncertainty and gridlock in the market over the next two years that would result under a vintaging approach.

Finally, AB 327 codifies the Commission’s May 2012 decision establishing the correct methodology for calculating the 5% NEM cap by setting forth minimum megawatt requirements

¹⁸ *Id.*

for each IOU.¹⁹ The legislation does not indicate that customers under that cap should be subject to different rules depending on when their system was installed or interconnected. Establishing a shorter transition period for certain customers who take service under the current NEM program would circumvent a critical provision of AB 327 and effectively render the 5% NEM cap meaningless. This approach has been appropriately rejected in the Proposed Decision.

IV. THE PD MUST BE MODIFIED TO ENSURE CONSISTENCY BETWEEN THE ADOPTED TRANSITION PERIOD AND THE NEM STATUTE

The PD should be modified to ensure consistency between the commencement of the transition period and the current requirements of the NEM statute (PU Code section 2827). With respect to the start of the transition period, the PD states that it “will be measured from the year the individual system was interconnected, indicated by the date on which the system received permission to operate,”²⁰ *i.e.*, the date of the Permission to Operate Letter. In accordance with the NEM Statute, the Permission to Operate Letter should be issued by the IOU within 30 days of submission of a completed application.²¹ Thus, assuming that the IOU has not reached its NEM program caps, a customer undertaking the necessary analysis to determine the cost effectiveness of installing a solar system should be able to assume that completion and submission of its NEM application to the IOU by June 1, 2017 would assure applicability of the current NEM rules. However, the reality of the marketplace is that Permission to Operate Letters are often delayed beyond the statutorily mandated 30 day period. Under the PD’s current structure a customer submitting its completed application to the IOU in a timely fashion (*i.e.*,

¹⁹ Public Utilities Code section 2827(c)(4)(B).

²⁰ Proposed Decision, p. 22.

²¹ Public Utilities Code Section 2827(e)(1) (Every electric utility shall ensure that requests for establishment of net energy metering and net surplus electricity compensation are processed in a time period not exceeding that for similarly situated customers requesting new electric service, but not to exceed 30 working days from the date it receives a completed application form for net energy metering service.)

prior to June 1, 2017) could be denied the applicability of the current NEM rules -- the rules which it utilized to determine the cost effectiveness of its solar installation- as a result of the IOU failing to abide by the required 30 day interconnection period.

In order to provide certainty to the market over the next couple of years and to ensure consistency with the current NEM statute, the PD should be modified to provide that if a customer submits a completed NEM application by June 1, 2017 (assuming that the IOU has not already met its MW cap), then that customer will be grandfathered under the current NEM rules.

V. CONCLUSION

For the reasons above stated, a NEM transition period based on the expected useful life of a PV installation must be set at a minimum of 25 years. The PD should be modified accordingly. In addition, the PD should be augmented to set forth a more complete analysis regarding the establishment of a single transition period and to clarify the commencement of the adopted transition period, as set forth above.²²

Respectfully submitted this March 12, 2014, San Francisco, California.

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²² Appended to these comments are recommended changes to the Findings of Fact and Conclusions of Law necessary to effect these necessary modifications.

ATTACHMENT

Recommended Changes to Findings of Fact and Conclusions of Law

Findings of Fact

1. The costs and payback periods for installed PV systems have been steadily decreasing since the inception of NEM in California.
2. Since 2010, average residential customers in California recover the costs of installing a renewable distributed generation system within 8 to 12 years.
3. Since 2010, typical commercial customers make back their initial investments in 8 to 18 years.
4. The Governor's message to the legislature when signing AB 327 encourages the Commission to protect customers for the expected life of their NEM-eligible systems.
5. ~~Twenty~~ Twenty-five years constitutes a reasonable payback period as contemplated in AB 327, in that existing analyses show that customers of all customer classes are likely to achieve full payback for system installation costs in this timeframe.
6. A ~~20-~~ 25-year transition period is consistent with the expected useful life of NEM PV systems as reflected in several contexts, including PPAs and financing agreements.
7. Maintenance and repair of existing systems should not make systems ineligible for the otherwise applicable transition period.
8. It is reasonable to allow replacement and repair of system parts with comparable parts, even if those parts slightly increase as system's output due to increases in the efficiency of the equipment or other technological changes.
9. It is reasonable for the full transition period to apply to transitioning distributed generation systems that remain in the same location, whether or not those systems are transferred to new owners.
10. Interconnection of a distributed generation system requires planning and consideration of many factors that may be location-specific, including the likely productivity of a system given the weather and sun exposure in a certain area, and the safety of the system installation.
11. Interconnection, even of existing equipment, at a new location would require entering into a new interconnection agreement.
12. Outstanding issues related to the circumstances under which energy storage systems will be eligible for NEM interconnection exemptions will be addressed in another Commission decision.

13. To the extent that eligible energy storage systems are granted interconnection exemptions under NEM, they should be treated in the same way, and subject to the same transition period, as the underlying renewable generation system to which it is connected.

14. Because the installation of a renewable distributed generation system requires time and planning, there may be a significant delay between the time that a customer decides to install such a system and the date that the system actually becomes operational.

15. Creating two varying transition periods, one for those who enroll in NEM prior to January 1, 2016 and one for those who enroll after that date, could create uncertainty and potential market gridlock.

~~15~~ 16. Customers motivated to install their systems due to the terms of pre-transition NEM could install systems but not qualify for NEM because the transition trigger level has been reached.

~~16~~ 17. It is reasonable to require the large investor-owned utilities to post information on the NEM transition clearly on their Web sites along with other information about NEM terms, eligibility, and progress towards the statutorily mandated transition trigger level.

~~17~~ 18. Disclosures provide customers with the information that they need to make educated decisions about their future electric service.

Conclusions of Law

1. Pub. Util. Code § 2827.1(b)(4) requires the Commission to consider a reasonable payback period in setting a transition period for existing customers to move to a successor tariff.

2. A transition period of ~~20~~ 25 years from the date of interconnection of a renewable generation system is consistent with Pub. Util. Code § 2827.1(b)(4).

3. If a customer submits a completed NEM application to the investor owned utility on or before June 1, 2017, and assuming the utility had not met its NEM MW cap, then that customer will be eligible for the NEM rate structure in effect prior to July 1, 2017.

3.4. It is contrary to state energy policy goals to discourage maintenance and repair of otherwise productive renewable generation systems.

5. Establishing two transition periods, one for those who enroll in NEM prior to January 1, 2016, and one for those who enroll after that date, would be inconsistent with Pub. Util. Code § Section 2827.1 (a)(6).

4.6. Allowing significant additions to transitioning systems to be eligible for transition on the same terms as the original system would circumvent the legislatively mandated NEM transition trigger level, and is inconsistent with the direction to adopt a new tariff structure for load that is

interconnected after the NEM transition trigger level is reached or July 1, 2017, whichever comes first.

~~5.~~ 7. To the extent that eligible energy storage systems are granted interconnection exemptions under NEM, we find that they should be treated in the same way, and subject to the same transition period, as the underlying renewable generation system to which they are connected.

~~6.~~ 8. Pub. Util. Code § 2827(c)(4)(C) requires the large investor-owned utilities to report their progress towards the NEM transition trigger level to the Commission on a monthly basis.

~~7.~~ 9. Solar installers have a legal responsibility to disclose to their customers the terms that will apply to renewable distributed generation systems for the foreseeable future, including the applicable tariffs as well as the timing and terms for transition to a successor tariff.