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 (Filed November 8, 2012)

COMMENTS OF INTERSTATE RENEWABLE ENERGY COUNCIL, INC. ON THE ASSIGNED COMMISSIONER'S RULING REGARDING THE ESTABLISHMENT OF A NET ENERGY METERING TRANSITION PERIOD

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Pursuant to the Assigned Commissioner's Ruling Regarding the Establishment of a Net Energy Metering Transition Period ("Ruling") issued on November 27, 2013 and Administrative Law Judge Katherine MacDonald's ruling granting an extension to the deadline for opening comments to December 13, 2013, the Interstate Renewable Energy Council, Inc. ("IREC") respectfully submits these comments on the transition period for the net energy metering ("NEM") program of California's investor-owned utilities ("IOUs").

IREC proposes that a fair and simple transition period is one that (1) provides a single date where the existing NEM tariff will no longer be available for each IOU territory, (2) applies to all customers taking service under a NEM tariff before July 1, 2017 or the time that an IOU meets its NEM cap, and (3) respects both the Legislature's and customers' expectations that NEM systems would be long-lived assets that support California's energy policy goals. While AB 327 requires the Commission to consider a fairly complex set of factors in determining what constitutes a reasonable expected

payback period, the Commission retains the discretion to choose a simpler solution that accounts for the full range of motivations that drive customers' decisions to become customer-generators. IREC encourages the Commission to set a transition period that is based on the expected system life of a solar photovoltaic ("PV") system, and is sufficiently long to respect customers' investments and to support the state's long-term energy policy goals.

I. Background

In 2012, the Commission addressed the future of the NEM program by establishing how the total program capacity limit, as described in Public Utilities Code Section 2827[1], should be calculated. In D.12-05-036, the Commission clarified how the NEM cap would be calculated, but also directed that the NEM program would be suspended beginning at the end of 2014, if the Commission had not considered or adopted new NEM rules by that time.

In 2013, the Legislature enacted Assembly Bill 327 (2013, Perea), which among other things, lifted the Commission's potential suspension of the NEM program at the end of 2014, established specific rate reforms for the residential class, codified the method of calculating the NEM cap and set NEM capacity limits for each IOU, and directed the Commission to develop a standard offer or tariff for customer-generators (which may include NEM as an option) by December 31, 2015.[2] Large electrical corporations must begin offering this standard offer or tariff to customer-generators by July 1, 2017.

[1] All statutory references are to the Public Utilities Code, unless otherwise noted.
[2] Section 2827.1(b).

To protect existing NEM customers, AB 327 directs the Commission to establish a transition period under which eligible customer-generators would be able to continue service under the existing NEM tariff "for a length of time to be determined by the commission by March 31, 2014."[3] The transition period would allow customer-generators that take service under a NEM tariff prior to July 1, 2017—or the time that an IOU reaches its NEM cap (if that event occurs before July 1, 2017)—to continue service under the existing NEM tariff for the length of the transition period determined by the Commission.

II. Basing the Transition Period on Expected System Life, and Not Expected Payback Period, Would Respect NEM Customers' Expectations That They Have Changed Their Relationship to the IOUs from Customers to Customer-Generators for the Life of Their Systems.

The Ruling's first issue for comment poses a normative question about what customer-generators expect when they participate in NEM and how long those customers should be guaranteed to enjoy their existing rights under the law:

> How long should customers who take service under a NEM tariff prior to the earlier of July 1, 2017, or the attainment of their respective utility's NEM cap, be guaranteed to receive the NEM tariff currently in place? Is this proposed transition period related to a reasonable expected payback period, expected system life, or some other factor?[4]

IREC suggests that the length of the transition period should satisfy two criteria: (1) the Legislature's expectation of how NEM would fit within the broader state energy policy framework; and (2) customers' expectations of the type of right they would enjoy when they decided to invest in onsite generation and become a customer-generator.

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[3] Section 2827.1(b)(6).
[4] Ruling at p. 3.

IREC proposes that a transition period based on the expected life[5] of a NEM system using solar PV technology will satisfy both criteria. The NEM statute was enacted to encourage investment in long-lived facilities and the continued operation of those facilities to the benefit of the state policy goals. For the customer perspective, IREC encourages the Commission to keep in mind that the decision to invest in solar PV—for the purpose of participating in NEM—is not just a financial decision. This decision also involves a customer's choice to change the basic relationship with his or her utility by taking direct responsibility for how the electricity he or she consumes is generated. A customer-generator expects to remain in this new relationship—and to have the ability to consume self-generation through the NEM billing mechanism—for as long as they have the system.

A. Section 2827 Envisions a Mechanism that Encourages Private Investment in Long-Lived Generation Facilities.

The legislative intent of the NEM Statute, as expressly declared in Section 2827(a) of the Public Utilities Code, describes long-term objectives that are realized by encouraging "substantial private investment in renewable energy resources." Beyond the immediate impact of "stimulat[ing] in-state economic growth", the Legislature expects customer-generators to "reduce demand for electricity during peak consumption periods, help stabilize California's energy supply infrastructure, enhance the continued diversification of California's energy resource mix, reduce interconnection and

[5] IREC considers a reasonable life cycle of solar PV to be approximately thirty years from the date the system is initially put into operation, as discussed later in these comments.

administrative costs for electricity suppliers, and encourage conservation and efficiency."[6]

The longer that customer-generators operate their NEM systems, the longer they help reduce peak demand, stabilize energy supply, and enhance California's movement to a diverse generation portfolio. These goals would not necessarily be furthered if NEM were designed to support short-term investment in renewable resources, or if customers had the expectation at the outset that their ability to continue participating in NEM may be phased out and replaced with some unknown alternative at any point in the future. It is reasonable for customers to expect that the Legislature intended the NEM mechanism as a long-term arrangement to provide stable assumptions for customers to invest in renewable generation resources. Under the previous NEM cap, existing customers could expect to continue net metering indefinitely, it was only new applicants that would be denied the right to participate in NEM once the cap was reached.

Instead of allowing customers to operate NEM systems indefinitely once they are eligible for and take service under the NEM tariff, the transition period contemplated by AB 327 seeks to establish a firm end point at which customers will have the option of transitioning to a new program or tariff. IREC suggests it is reasonable, as is the case under the existing NEM program, for eligible customer-generators to continue to have the right to net meter for at least the life of the installed system, as they expected to do when first enrolling in NEM. It is also reasonable for this expectation to be incorporated into the transition period for customers that take service under the NEM tariff prior to the beginning of the transition period.

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[6] Section 2827(a).

In order to rely on the NEM program to support any of the stated, long-term energy policy goals, the Legislature must have intended and expected that Section 2827 would lead customers to rely on their ability to utilize the NEM mechanism over the full system life as a justification to invest in renewable generation.

B. Customers that Choose to Become Customer-Generators Expect to Change Their Relationship with Their Utility for the Life of the System.

Customer decisions to install onsite, distributed generation are based on a variety of factors, but chief among them is the expectation that installing the system will produce benefits—in the form of bill savings and reduced purchases from the grid—over the entire life of the system (i.e., from day one to at least year 30). IREC suggests that, in addition to encouraging a rational economic response to market conditions that determine the value stream for customers (i.e., available incentives, tax credits, rate structures, panel costs, etc.), NEM provides a way for customers to fundamentally change the way they interact with their utilities. This psychological or behavioral element is likely common in the decisions of most customers who have or will install solar PV to participate in NEM and is important to consider in determining the length of the NEM transition period.

While IREC agrees that the economic rationale for investment in solar PV, alone, is compelling, it would be an oversimplification to reduce the appeal of NEM to merely that of a financial investment. Assuming that customers' expectations are protected so long as they receive payback over a reasonable period, alone, would ignore the fact that customers may have had parallel motivations to displace consumption of grid-delivered electricity with their own 100% renewable source of electricity.

Indeed, the underlying appeal of NEM—and the factor that distinguishes investment in solar PV for purposes of participating in NEM from any other alternative

financial investment—is that it allows customers to generate their own electricity. The essence of the NEM mechanism, and the narrative for its success in encouraging distributed generation across the country, is that it enables a customer to enjoy the full benefit of his or her system through a simple billing mechanism, even at hours of the day when the system is not producing. The practice of netting gives customers practical ownership of at least some of the grid-delivered electricity they consume.[7] This means of self-reliance provides a powerful psychological rationale for installing solar PV that should not be ignored or subsumed into the purely economic consideration of a reasonable payback period.

At a minimum, IREC suggests that the Commission can safely assume that customers investing in solar PV expect to do more than just break even and expect additional benefits to continue to flow after system payback is achieved. Accordingly, it is also safe to assume that customers investing in solar PV for the purposes of participating in NEM count on the continued existence of NEM after system "payback" to realize this value, whether the value is economic, psychological, or some other category of personal benefit. Put another way, customers investing in solar PV to participate in NEM expect that the **mode** of achieving payback (i.e., the NEM mechanism of bill credits for exported kWhs) will also be the mode by which they realize any of the additional benefits that helped justify the investment.

If customers knew that they might have to surrender the right to **use** the entire output of their systems after 6 to 8 years (as a rough approximation of a break-even

[7] Consistent with FERC precedent, the practice of netting does not involve a sale if the customer consumes more than they generate over the applicable billing period. Bill credits (i.e., exported kWh), in this way, allow NEM customers to treat electricity imported from the grid as if it were their own generation.

period for a residential solar PV system), IREC suggests that the NEM program would be less successful in delivering the significant amounts of capacity that the Legislature hoped to encourage through Section 2827. Basing the transition period on the life of the system would satisfy customers' expectation that they would be able to use their system for the purpose (or mode) they initially intended for the entire life of the system.

C. A "Reasonable Expected Payback Period" Is Not the Same as a Break-Even Point.

Since the Commission is obligated to consider whether a reasonable payback period should be the basis for the transition period, IREC encourages the Commission to take a practical view of what "reasonable expected payback period" means in this context. The concept of "payback period", standing alone, would appear to describe the moment in time that the bill savings realized by a NEM system equal the overall costs of installing the system. Under the concept of a "reasonable payback period", simply achieving a break-even point at some future time would not be sufficient to justify installation of a NEM system. Rather, "reasonable payback period" implies that a customer will reach the break-even point early enough in the life of the system that they can expect to enjoy a significant amount of the useful life of that system after it is effectively paid off.

As discussed in Section IV of these comments, a "reasonable payback period" could be understood, thus, as the time it would take for a customer to reach the break-even point plus the time it would take to realize a reasonable return on that investment.

III. The Reasonable Expected Life of a Solar PV System Should Be Based on Industry Experience and Could Be Deemed to Begin When Customer-generators Receive Permission to Operate.

In the second question in the Ruling, the Commission asks parties if "calculation of the reasonable expected life of a system should be based on the warranty of ten years as required by California Publ. Util. Code §387.5(d)(4), or should other factors, such as the Original Equipment Manufacturer's warranty, be taken into account?"[8]

IREC notes that Section 2854[9] requires that a solar energy system has "a warranty of not less than 10 years" as a condition of receiving ratepayer funded incentives. IREC would consider ten years to be an absolute minimum floor and notes that 10 years is far below what the industry would expect as a reasonable expected life of a system. Solar PV, which is relevant because it is the most prevalent technology used to net meter, is ordinarily expected to have a useful life of 25 to 30 years. While it is true that solar PV panels tend to degrade slowly over time, solar panels tend to operate at or around 80% of their original output even after 25 years of service.

In response to the third issue raised at the top of page 4 of the Ruling, IREC suggests that the reasonable expected life of a system could be deemed to begin when the utility has granted a customer permission to operate. However, as explained above, a key goal in establishing a transition period should be to keep administration as simple as possible and uniform for all participating NEM customers. One way to achieve this is to base the end of the transition period for all customers on the reasonable expected life of a solar PV NEM system (30 years) starting from the earlier of July 1, 2017 or the time that an IOU reaches its NEM cap. IREC recommends that all of an IOU's customers enrolled in NEM at the beginning of the transition period share the same transition period end date, and be treated as if they were given permission to operate at the beginning of the

[8] Ruling at p. 3.
[9] Section 387.5 was renumbered Section 2854 by Assembly Bill 2227 (2012, Bradford).

transition period. It would be impractical and administratively inefficient to ask the utilities to police what will likely exceed 200,000 customer-generators and to ask the IOUs to inform each customer-generator when their particular transition period ends.

IV. AB 327 Requires the Commission to Consider Customers' "Reasonable Expected Payback Period" Based Upon the Year of Installation, But Leaves the Commission Discretion to Choose a Less Complex Basis for the Transition Period.

The law provides the Commission the discretion to create a complicated framework to determine a transition period for customers that take service under a NEM schedule by the earlier of July 1, 2017 or the point at which the IOUs reach their respective NEM caps. AB 327 provides that "[a]ny rules adopted by the commission shall consider a reasonable expected payback period based on the year the customer initially took service under the tariff or contract authorized by Section 2827."[10]

The framing of the fourth question in the Ruling—of what constitutes a "reasonable expected payback period"—suggests the deeper complexity that this method of determining a transition period involves:

> What is a "reasonable expected payback period?" Does a reasonable expected payback period for customer-owned[11] systems differ by customer sector such as residential, commercial, or school and other government host sites? Does the expected payback period vary with system size or other factors?

Payback period of a system could depend on factors such as the host customer's usage profile, the size and production capability of the NEM system, the customer's underlying rate schedule, financing and installation costs, and the availability of direct

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[10] Section 2827.1(b)(6)

[11] IREC notes that the question addresses "customer-owned" systems. Given the fact that a majority of the recent installations in California have been accomplished using models of third-party financing, IREC assumes that the Ruling did not intend to exclude third-party-owned systems from its consideration.

incentives or tax benefits, among others. Based on the many customer-specific variables, the range of payback periods is likely to be quite diverse, even within customer classes. Given the range of payback periods throughout the population of NEM customers, there would be a natural desire to rely on an average reasonable expected payback period as the basis for the transition period. IREC cautions, however, that relying on such an average might result in a large number of customers—with payback periods that exceed the average—never reaching their break-even points. If the Commission is going to consider basing the transition period on these factors, it should ensure that all participating customers would have the opportunity to achieve a reasonable payback.

Moreover, to the extent payback periods are influenced by the customer's applicable rate schedule, it is important to consider that AB 327-related rate reforms could have a significant impact on residential customer payback periods by allowing a fixed customer charge of up to $10 and by consolidating or lowering the existing upper-tier residential rate. Any reliance on reasonable expected payback period as the basis for a transition period should account for the likely changes to residential rates, including the IOUs' interim rate design proposals currently being considered in Phase 2 of R.12-06-013. [12]

Lastly, it is significant to consider that AB 327 requires consideration of a "reasonable expected payback period" in developing the transition period rules, but that it does not require the Commission to establish the transition period solely based on the finding of a reasonable expected payback period for a typical NEM system. The Commission has sufficient discretion within the language of the statute to instead choose

[12] IREC intends to provide analysis of the impact of these proposals on existing NEM customers in R.12-06-013.

to establish a uniform, single end date for the transition period for all NEM customers. It would be reasonable for the Commission to avoid administratively cumbersome *ad hoc* determinations of when NEM eligibility ends, especially in light of the fact that the number of customer-generators in 2017 is likely to exceed 200,000.

V. Additions or Modifications to a NEM System On or After July 1, 2017 Should Be Governed by the Existing Tariff as It Applies to Eligible Customer-Generators.

Finally, the Ruling asks parties to respond to the following issue:

> Should the addition of solar panels or other modifications to an existing renewable electrical generation facility that increase its generating capacity occurring on or after July 1, 2017, be eligible for the NEM transition program? If not, how should such modifications be treated?

To the extent the Commission will "grandfather" the existing NEM tariff for customers taking service before July 1, 2017 (or the point that the relevant IOU reaches its NEM cap), IREC does not see a compelling reason to treat "additions" or "modifications" differently during the transition period than they are treated now. First, eligibility for NEM is addressed in the NEM tariffs, and any special conditions that might arise from additions or modifications to the existing system should be addressed within the terms of those tariffs. Second, additions in capacity to a NEM system are permitted now, so long as the total capacity of the system is under 1 MW and is sized not to exceed annual onsite load. Practically speaking, limitations in the existing tariffs reduce the opportunities for abuse, leaving no compelling reason to modify the specific policy regarding additions or modifications to a renewable electrical generation facility under the transition period tariff.

VI. CONCLUSION

IREC respectfully requests that the Commission choose a simple, date certain for the end of the transition period for all of an IOU's NEM customers. The length of this transition period would be based on a 30-year expected system life and the transition period would begin for all customers at the earlier date of either July 1, 2017 or the date that the relevant IOU reaches its prescribed NEM cap. Choosing this transition period will avoid the administrative complexity of identifying over 200,000 transition period end dates and respect the investment of customer-generators and the Legislature's intent for NEM to create long-lived assets to complement state energy policy.

Respectfully submitted at San Francisco, California on December 13, 2013,

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