Decision **PROPOSED DECISION OF COMMISSIONER PEEVEY**
(Mailed 2/20/2014)

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)

DECISION ESTABLISHING A TRANSITION PERIOD PURSUANT TO ASSEMBLY BILL 327 FOR CUSTOMERS ENROLLED IN NET ENERGY METERING TARIFFS

Table of Contents

Title **Page**

DECISION ESTABLISHING A TRANSITION PERIOD PURSUANT TO ASSEMBLY BILL 327 FOR CUSTOMERS ENROLLED IN NET ENERGY METERING TARIFFS
1. Summary 2
2. Background 3
   2.1. Policy Context 6
3. Issues Before the Commission 8
4. Summary of Party Positions 10
   4.1. Proposals Based on Reasonable Payback Period 10
   4.2. Proposals Based on Expected Useful Life 13
5. Discussion and Analysis 17
   5.1. Transition Period for Customers Taking Service Prior to July 1, 2017 or the Trigger Date, Whichever is Earlier 17
      5.1.1. Discussion 17
      5.1.2. Conclusion 20
   5.2. Treatment of System Modifications 25
      5.2.1. Discussion 25
      5.2.2. Conclusion 26
   5.3. Transferability of Transitional Treatment 28
      5.3.1. Discussion 28
      5.3.2. Conclusion 29
   5.4. Treatment of Energy Storage Systems 30
   5.5. Report Progress Towards Transition Trigger Level 30
   5.6. Disclosure Requirements 32
6. Comments on Proposed Decision 33
7. Assignment of Proceeding 35
Findings of Fact 35
Conclusions of Law 37
ORDER 38

ATTACHMENT 1

DECISION ESTABLISHING A TRANSITION PERIOD PURSUANT TO ASSEMBLY BILL 327 FOR CUSTOMERS ENROLLED IN NET ENERGY METERING TARIFFS

1. Summary

This decision establishes a transition period during which customers taking service under a Net Energy Metering (NEM) tariff or contract prior to July 1, 2017, or the date that a large electrical corporation reaches its statutorily required NEM program limit, whichever comes first, may remain on the previously applicable NEM tariff, consistent with the provisions of Assembly Bill 327 (Perea, 2013).[1] This decision also addresses several implementation issues related to the transition of renewable distributed generation systems, including the treatment of system additions and modifications made to transitioning systems after the implementation of a successor tariff.

Specifically, this decision establishes a transition period of 20 years, beginning with the year the system was interconnected, during which systems already on net energy metering tariffs on the earlier of July 1, 2017, or the date on which a utility reaches its statutorily required net energy metering "cap," or transition trigger level,[2] may continue to receive service on its previously applicable NEM tariff. Modifications to transitioning systems, including replacement of system components that result in non-material increases in system production, will not end a system's eligibility to remain on its previously

[1] Ch. 611, Stats 2013.

[2] Because reaching the enrollment limit (often referred to as the "NEM cap") for a particular utility before July 1, 2017, will trigger the end of existing NEM tariff structures and will begin the application of the NEM successor tariff, we will refer to the enrollment limit as the "trigger level" in this decision.

applicable tariff, but significant increases to the generating capacity of a transitioning system will not be eligible for service under those tariffs.

The timing and rules established in this decision for transitioning to the new tariff should ensure that customers who interconnect renewable distributed generation systems under the currently applicable net energy metering program have a reasonable opportunity to recoup the costs of their investment in those systems. In addition, a 20-year transition period is consistent with some estimates of the expected useful life of such systems, reflected in many existing power purchase agreements and financing arrangements for renewable distributed generation.

This proceeding remains open to address additional issues; future decisions in this proceeding are expected to focus on energy storage and collection of installation data for renewable distributed generation. The Commission will also address the design of a successor to existing NEM tariffs in a future decision in this or another proceeding.

2. Background

Net Energy Metering (NEM) tariffs, originally established in California in 1995 with the adoption of Public Utilities Code Section (Pub. Util. Code §) 2827, are intended to encourage installation of distributed generation on the customer side of the meter. Customers who install and operate small (1 megawatt (MW) or less) renewable generation facilities (referred to as "customer-generators") that meet certain technical requirements may choose to participate in a NEM tariff. Under NEM, customer-generators receive a financial credit for power generated by their onsite system that is fed back into the power grid for use by other utility customers. The credit is used to offset the customers' electricity bills. NEM is an important element of the policy framework supporting direct customer

investment in grid-tied distributed renewable energy generation, including customer-sited solar photovoltaic (PV) systems. The majority of NEM customers use on-site photovoltaic solar generators to provide some or all of their electricity, and feed power back to the power grid when they generate more than they need at a given time. Because the vast majority of NEM systems and usage are PV, the analysis in this decision focuses on PV systems, but the decision applies to all types of renewable distributed generation served under NEM tariffs.

On October 11, 2009, Governor Schwarzenegger signed into law AB 920,[3] requiring California utilities to compensate NEM customers for electricity produced in excess of on-site load over a 12-month period ("net surplus electricity compensation"). Consistent with this mandate, the Commission established a net surplus compensation rate representative of the amount paid by utilities per kilowatt-hour (kWh) to procure power at peak times, to be paid to NEM customers who produce more electricity than they consume over a 12-month period.

On October 7, 2013, Assembly Bill (AB) 327 (Perea) was signed into law by Governor Brown. The stated goal of the legislation is to give the Commission the ability to "address current electricity rate inequities, protect low income energy users and maintain robust incentives for renewable energy investments."[4] Among the provisions of the bill is a mandate providing that customers who took service under NEM before July 1, 2017, or prior to reaching the statutory net

[3] Ch 376, Stats. 2009.

[4] Letter to State Assembly Members regarding AB 327, from Governor Edmund G. Brown Jr., October 7, 2013. (Governor's Signing Statement)

metering transition trigger level, whichever is earlier, may continue to take service on existing NEM tariffs for a transition period to be determined by the Commission. AB 327 specifically directs the Commission to "consider a reasonable expected payback period based on the year the customer initially took service under the" NEM tariff. In signing AB 327, Governor Brown also directed the Commission to consider the expected life of the system.[5] Under AB 327, the Commission is required to determine the length of the transition period for existing NEM customers by March 31, 2014. AB 327 also contemplates that the Commission develop a successor to existing NEM tariffs, to be implemented by the large electric utilities on July 1, 2017, or when they reach the NEM program enrollment limit, whichever is earlier.[6] Pub. Util. Code § 2827(c)(4)(B)[7] sets the limit for enrollment in the large utilities' currently existing NEM tariff structures as 5 percent of the aggregate customer peak demand of those utilities, but specifies that the trigger level marking the end of current NEM tariffs may not be lower than absolute megawatt levels specified in the statute. This section further provides that the electrical corporations use a uniform method approved by the Commission to calculate the aggregate customer peak demand.

On November 27, 2013, an Assigned Commissioner's Ruling (ACR) in this proceeding provided parties with the opportunity to comment on various aspects

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[5] Governor's Signing Statement.

[6] Many parties to this proceeding refer to existing NEM tariff structures as NEM 1.0 and to the successor tariffs required in AB327 as NEM 2.0. We decline to refer to the new tariffs required by AB 327 as NEM 2.0 at this time because the details of that tariff have not yet been established. Instead, this decision refers to existing NEM tariff structures as "the current NEM tariff" and to the yet-to-be-developed replacement tariff as "the NEM successor tariff," or simply "the successor tariff."

[7] Unless otherwise stated, all references are to the California Public Utilities Code.

of a transition from existing NEM tariffs to successor tariffs, including the length of time existing NEM customers should remain on current NEM tariffs and the treatment of modifications or additions to renewable generation systems subject to NEM tariffs during this transition period. In December 2013 and January 2014, parties filed comments (17 sets), reply comments (15 sets), and supplemental reply comments (7 sets) reflecting a wide variety of positions on the appropriate schedule and terms on which NEM customers should transition to a successor tariff once one is developed.

In their individual reply comments, each large investor-owned utility[8] included an analysis of the cost for installing a system that could participate in NEM and the amount of time it would take for a customer to recoup those costs, a time-period that they assert should be considered equivalent to the "reasonable payback period" referenced in AB 327. The seven sets of supplemental reply comments focus on these analyses, and critique the methodologies used in each. These 39 sets of comments constitute the record on which this decision is based.

2.1. Policy Context

On October 28, 2013, the Commission issued a report on the costs and benefits of the NEM program,[9] in compliance with AB 2514 (Bradford, 2012). The study evaluated the costs and benefits of the NEM program using two separate measures: a cost-benefit analysis using the traditional California Standard

[8] Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), and Southern California Edison Company (SCE).

[9] California Net Energy Metering Ratepayer Impacts Evaluation, Prepared by California Public Utilities Commission Energy Division and Energy and Environmental Consultants, October 28, 2013 (NEM Evaluation).

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Practices Manual Ratepayer Impact Measure test, which estimates the net benefits (or costs) of a demand-side resource or program from the perspective of non-participating customers, and a cost of service test, which compares the utility cost of serving NEM customers with their actual bill payments. Though the estimates contained in this report are subject to certain methodological limitations, the analysis suggests that NEM generation currently results in a net cost of $79 to $252 million, with these additional net costs subsidized by other ratepayers (i.e., those not participating in NEM), reaching costs of $370 million to $1 billion per year in 2020 with a complete build out of systems to the 5 percent NEM program transition trigger level. The report also notes that the costs of NEM are largely a function of retail rate designs, and that any future changes to the rate structure would have a significant impact on the results. With regard to the cost of service analysis, the study finds that NEM customers appear to be paying slightly more than their full cost of service.[10]

AB 327 directs the Commission to "establish a transition period during which eligible customer-generators taking service under a NEM tariff or contract prior to July 1, 2017, or until the electrical corporation reaches its NEM program limit pursuant to subparagraph B) of paragraph (4) of subdivision (c) of § 2927, whichever is earlier, shall be eligible to continue service under the previously applicable NEM tariff for a length of time to be determined by the Commission." While AB 327 provides the Commission with broad authority to develop a transition period and (ultimately) a successor tariff, stating only that, in

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http://www.cpuc.ca.gov/NR/rdonlyres/75573B69-D5C8-45D3-BE22-3074EAB16D87/0/NEMReport.pdf.

[10] NEM Evaluation.

developing the transition period, the Commission "shall consider a reasonable expected payback period based on the year the customer initially took service under the tariff."[11] With reference to developing a successor to the NEM tariff, AB 327 provides that the Commission should meet several objectives. Three of the main objectives are to ensure that customer-sited renewable generation "continues to grow sustainably,"[12] to ensure that the new tariff "is based on the costs and benefits of the renewable electrical generation facility,"[13] and to "[e]nsure that the total benefits of the standard contract or tariff to all customers and the electrical system are approximately equal to the total costs."[14]

Consistent with these legislative mandates, this decision establishes the transition period and related transition rules for systems taking service under NEM tariffs before the transition to a new tariff. As required in statute, customers interconnecting small renewable systems on or after July 1, 2017, or sooner if an electrical corporation reaches its legislatively established NEM transition trigger level, will take service under the successor tariff to be established by this Commission by December 31, 2015.

3. Issues Before the Commission

As noted above, the primary issue resolved in this decision is how long a customer receiving service under NEM tariffs prior to July 1, 2017, or after the date an electrical corporation reaches its legislatively established NEM transition trigger level, whichever is earlier, will continue to be served under that tariff

[11] Pub. Util. Code § 2827.1(b)(4).

[12] Pub. Util. Code § 2827.1(b)(1).

[13] Pub. Util. Code § 2827.1(b)(2).

[14] Pub. Util. Code § 2827.1(b)(4).

before transitioning to the successor tariff contemplated in AB 327. This primary issue raises several implementation questions that must be resolved in order to ensure that utilities, customer generators, and others, have enough information to understand the coming transition and make informed decisions on their use of renewable distributed generation and the availability of NEM tariffs. These implementation questions, which are addressed in this decision, include the following:

1. Will all customers taking service under NEM tariffs transition to the successor tariff on the same date, or will the date vary based on when the system became operational?
    a. If the transition period is measured from the date the system became operational, what should be used as the start date?
    b. If the transition period is measured from the date the system became operational, will all systems have the same transition period, or will the length vary depending on the date of installation?
2. How should system modifications made after the implementation of the NEM successor tariff be transitioned?
    a. Should modifications be treated as part of the underlying system, or considered separately? If considered separately, how should they be treated?
    b. Should all modifications be treated the same way, or should maintenance and repairs be treated differently from expansions or major changes?
3. Should a system's transition status be transferable to a new customer or a new location?
4. How should energy storage systems coupled with NEM-eligible generation be transitioned to the successor tariff?
5. Should utilities be required to report progress towards the NEM transition trigger level, or otherwise ensure customers can easily access the proposed end date for current NEM tariffs, if it precedes July 1, 2017?

6. Should installers or utilities be required to disclose the NEM transition dates and details to customers before they install or interconnect a project served under NEM?

These issues are addressed in Section 5, below.

4. Summary of Party Positions

The comments received on the November 27, 2013, ACR generally fall into two groups: parties advocating for a relatively short transition time, and parties advocating for longer (or permanent) service under existing NEM tariffs.

4.1. Proposals Based on Reasonable Payback Period

Parties supporting relatively short transitions of four to twelve years after implementation of successor tariffs include the three large investor-owned utilities (IOUs) (PG&E, SCE, and SDG&E), The Utility Reform Network (TURN), and the Office of Ratepayer Advocates (ORA). These parties point to the direction in AB 327 that the Commission "consider a reasonable expected payback period based on the year the customer initially took service under" NEM,[15] and rely on analyses estimating reasonable payback periods for PV solar systems (the most common type of system served through NEM) installed over the last ten or more years. These parties define a reasonable payback period as the time it takes to recoup the initial investment of the customer (or third party under contract with the customer), and most suggest that their proposals will allow the average customer to achieve this payback. Depending on the cost of the customers' systems and the date those systems initially took service through NEM, some customers would have savings beyond this payback and others would not achieve full payback before transitioning to the successor tariff. ORA,

[15] Pub. Util. Code § 2827.1(b)(6).

TURN, and others also note that all current NEM customers would likely receive additional savings after they transition to the successor tariff.

According to the analyses sponsored by these parties, both the costs and payback periods for installed PV systems have been steadily decreasing, with average residential customers expected to recover the costs of systems installed since 2010 within 8 to 12 years. Typical commercial customers recover their initial investments in 8 to 18 years, according to these same studies.[16] Parties supporting relatively short transition periods for customers argue that a recovery period of between 4 and 12 years would allow the average customer to recover most or all of the original installation costs before transitioning onto the successor tariff. All five parties that support shorter transition periods suggest adopting a single date (or in the case of PG&E, a single year) to transition all customers. According to these parties, moving all customers at a single time is administratively simple for the utilities and understandable to customers, and PG&E, ORA, and TURN assert that this recognizes the declining costs of installing renewables over the last 10 or more years by giving people who installed earlier more time to recover their investments.

These parties focus on balancing the interests of participating and non-participating customers, by allowing participants to recoup their investments while minimizing the cost shift to non-participating customers. SCE, for example, cites language in AB 327 that states that successors to the NEM tariffs should be "based on the costs and benefits of the renewable electrical

[16] PG&E, Reply Comments, Appendix A; SCE, Reply Comments, Appendix A; and SDG&E Reply Comments, Appendix A. PG&E also cites several publically available sources that estimate payback periods for recently installed systems of between 4 and 11 years (PG&E Opening Comments at 6).

generation facility," and asserts that the NEM-related provisions of AB 327 are intended to "address the cost-shifting caused by NEM 1.0… while giving consideration to NEM 1.0 customers 'reasonable expected payback period.'"[17] These parties argue that the legislative intent, as shown in the statute itself and in legislative analyses accompanying the bill, was to lessen the burden on non-participating customers by reducing the cost shift from participating customers in many customer classes. SCE further suggests that the Commission's responsibility under AB 327 is to "weigh the reasonable expectations of participating customers against the burdens on non-participating customers when deciding on the length of an appropriate transition period," thereby "perform[ing] a balancing test that takes into account fairness to all customers."[18]

In addition to advocating for a transition period based on payback for the system, the IOUs argue that customers interconnecting their NEM-eligible systems between January 1, 2016 and the transition to the successor tariff should have a shortened transition period. The main argument against providing the otherwise applicable transition period to customers enrolling in NEM between January 1, 2016 and the implementation of a successor tariff is the concern that this would encourage a "gold rush," in which significant numbers of customers install systems just before the new tariff comes into effect, in order to take advantage of the long transition period.

Opponents of these viewpoints assert, in contrast, that the purpose of the transition requirement in AB 327 is to ensure fairness to existing NEM

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[17] SCE Opening Comments at 6, SCE Reply Comments at 6.

[18] SCE Reply Comments at 6.

customers.[19] In addition, parties including The Alliance for Solar Choice (TASC) note that AB 327 provides the Commission with discretion to consider additional factors beyond a reasonable payback period in setting the transition period, stating only that the Commission must "consider" reasonable payback period.[20]

Parties that support shorter transitions based on a reasonable payback period take varying positions on the different implementation issues raised in the ACR, such as the transition requirements for system modifications, the treatment of energy storage, and the transferability of the right to NEM tariff mechanisms during the transition period. The subsidiary issues, along with the major issue of the transition period, are discussed in more detail in Section 5, below.

4.2. Proposals Based on Expected Useful Life

Parties advocating for a longer transition period include parties representing renewable energy and energy storage advocates,[21] advocates for large commercial and agricultural customers,[22] and advocates for local governments and public entities such as school districts.[23] In general, these

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[19] *See*, for example, IREC Reply Comments at 2.

[20] TASC Reply Comments at 9; the Solar Energy Industries Association and the Vote Solar Initative (SEIA/Vote Solar) Reply Comments at 1-2.

[21] The California Center for Sustainable Energy (CCSE), The California Energy Storage Alliance (CESA), the California Solar Energy Industries Association (CalSEIA), the Interstate Renewable Energy Council, Inc. (IREC), Recolte Energy (Recolte), SEIA/Vote Solar, and TASC.

[22] The Agricultural Energy Consumers' Association (AECA), the California Climate and Agriculture Network (CalCAN), and the California Farm Bureau Federation (CFBF).

[23] The Local Government Sustainable Energy Coalition (LGSEC), and the Valley Center Municipal Water District, the City of Benicia, the Terra Verde Renewable Partners, LLC, the Lemon Grove School District, NLine Energy Inc., the Rancho California Water District, the Padre Dam Municipal Water District, and the San Diego Unified School

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parties suggest that customers taking service under NEM tariffs before the transition trigger level is reached (or July 1, 2017) should have access to the existing NEM structure for the expected (or in some cases, the actual) life of a system. Many of the parties supporting transition periods tied to the expected life of a system cite the Governor's signing message, which encourages the Commission to base the transition period on the expected life of a system, to support their proposals.[24] These proposals suggest a transition period in the range of 20-30 years as representing system life; CCSE, for example, suggests a 20-year transition period, while most solar advocates and representatives of large customers suggest 30-year transition periods. Charles Hewitt advocates for customers to maintain access to existing NEM tariff structures for the actual, not expected, system life, meaning such systems would be eligible for NEM as long as they continued to operate.

Unlike parties that advocate for shorter transitions based on a "reasonable payback period," these parties de-emphasize the language in AB 327 that directs the Commission to consider the "reasonable payback period" of the system. These parties note that the statutory language does not limit the Commission to considering only this one factor in setting the transition period, and provides the Commission with broad authority to develop transition timeframes.[25] In fact, NEM-PAC suggests that the legislature did not define "reasonable payback

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District, filing together as the Net Energy Meeting Public Agency Coalition (NEM-PAC).

[24] Governor's Signing Statement.

[25] *See*, for example, TASC Reply Comments at 9.

period" in statute, and asserts that it need not be defined as the "break even point" for the investment.[26]

Parties that advocate for longer transition periods based on the life of a system assert that customers decided whether to become customer generators based on the existing NEM rules, and argue that it would be unfair to "change the rules" on customers who acted in good faith and took actions consistent with state energy policy objectives. These parties suggest that the Commission should set a transition period that meets customers' expectation for system returns. In a related note, these parties raise the possibility that changing the NEM rules for current customers would undermine regulatory certainty in California energy policy and discourage customers and others from investing in renewable technologies. On this basis, all argue that expected useful life is more appropriate then reasonable payback period because it more accurately represents customers' expectations.

Advocates for longer transition periods generally oppose limiting the definition of a reasonable payback period to merely recovering the installation costs for the NEM-eligible system. Some parties, such as Recolte and TASC, characterize installation of solar or other renewable distributed generation facilities as an investment that should have a return. Similarly, NEM-PAC and LGSEC cite California Government Code Section 4217, which authorizes local agencies to purchase or contract for alternative (renewable) generation only if its governing body finds that doing so is in the best interests of the public agency

[26] NEM-PAC Reply Comments at 2-3.

and that the benefits will be greater than the costs.[27] These parties recommend a transition period based on the expected useful life, and suggest that it would be reasonable for the payback period to vary based on the type of technology used (for example, PV, wind, or fuel cell). In reply comments on the PD, AECA makes this argument specifically with respect to agricultural bioenergy projects, which it characterizes as "much more capital intensive than solar PV projects."[28] Similarly, NEM-PAC, for example, suggests that if the transition period is based on a "reasonable payback period," that payback period must be defined to include the expected return on investment.[29]

Many, but not all, of the parties that advocate for longer transition periods also advocate for inclusive policies that allow modifications and additions to transitioning systems to take service on the NEM structure. For example, IREC advocates that any modifications or additions to the system after the implementation of the NEM successor tariffs (if under 1 MW and sized to meet premises peak demand) should be eligible for the NEM tariff applicable to the transitioning system.[30] Among parties advocating for a shorter transition period, only SCE advocates for making modifications and additions eligible.

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[27] For example, California Government Code Section 4217.12(a)(1), which addresses circumstances under which government bodies may enter into energy service contracts, states: "the anticipated cost to the public agency for thermal or electrical energy or conservation services provided by the energy conservation facility under the contract will be less than the anticipated marginal cost to the public agency of thermal, electrical, or other energy that would have been consumed by the public agency in the absence of those purchases." Government Code Section 4213 establishes similar requirements for entering into a financing contract related to renewable generation.

[28] AECA Opening Comments on the PD at 5.

[29] IREC Opening Comments at 8. NEM-PAC Reply Comments at 2.

[30] IREC Opening Comments at 12.

Parties that oppose the use of the expected life as the basis for the transition period emphasize the language of AB 327 that requires the Commission to consider the reasonable payback period for NEM-eligible systems, and reject the claim that a transition period other than the expected life of the system will harm the market for solar and renewable generation.[31] Opponents of the expected life approach also question the assertion that customer generators could reasonably have expected that the existing NEM structure would remain in place for the life of their renewable generation systems.[32]

5. Discussion and Analysis

In establishing this transition period, we are mindful of the statutory language requiring us to consider a reasonable payback period, as well as the guidance provided in the Governor's signing statement suggesting a transition period based on the expected life of NEM-eligible systems. The following subsections address the major issues raised in Section 3, above, consistent with the guidance provided by the legislature and Governor, beginning with the transition period for existing customers taking service under NEM.

5.1. Transition Period for Customers Taking Service Prior to July 1, 2017 or the Trigger Date, Whichever is Earlier

5.1.1. Discussion

Parties present a wide range of proposals for the basic transition period required in AB 327. Based on the estimates provided by the IOUs in this

[31] *See*, for example, PG&E Reply Comments at 13-14.

[32] TURN Reply Comments at 4-5.

proceeding, it will take up to 18 years for customers from certain customer classes to recover their initial investment under the existing NEM structure.[33] For example, according to SCE's analysis, some small commercial customers that install a NEM-eligible PV system in the SCE territory will not achieve payback (reach a break-even point for their initial investment) until 2031.[34] Similarly, SDG&E's analysis shows that, on average, some of its NEM customers enrolled in Time of Use tariffs will not recoup the costs of systems installed in 2014 until 2030.[35]

Several parties that favor basing the transition period on the expected life of the equipment state that they relied on receiving the NEM tariff over the expected life of the system in deciding whether to invest in renewable distributed generation. In support of the use of the expected life of the equipment, several of the solar and customer groups note that the estimates of payback periods by each utility vary significantly, which raises concerns about the accuracy of those estimates.[36] These differences could reflect differences in electricity costs, climate, and system installation costs in the different utilities' service territories. At the same time, the degree of variation in these estimates may also reflect that fact that the utilities used different assumptions in their analyses. This highlights the fact that the accuracy of these estimates is limited by the source data and methodology used in their calculation. For example, the utility estimates cannot

[33] SCE Reply Comments, Appendix A at 5.

[34] SCE Reply Comments, Appendix A at 5.

[35] SDG&E Reply Comments at 11.

[36] CalCAN Supplemental Reply Comments at 3, CFBF Supplemental Reply Comments at 4.

account for future changes to the actual electric rates underlying the NEM structure, which the Commission is reviewing in Rulemaking (R.) 12-06-013, and will be developed in compliance with AB 327. This review is expected to result in significant changes to the residential rate structure,[37] which may reduce the monthly savings from NEM. In addition, as noted by CFBF, it is not clear whether the utilities' analyses include agricultural customers,[38] and the analyses do not appear to include the specific circumstances applicable to government agencies, which do not qualify for all of the same tax and depreciation benefits as commercial customer generators.[39] In addition, the analyses may not account for factors relevant to individual cases, such as reduced generation due to weather, shade, or other factors specific to a customer or location.

Several parties[40] note in comments that the transition period should also address issues of ratepayer equity. While there is little record in the Legislative bill analysis specifying the intent of the transition period, the fact that AB 327 explicitly requires the Commission to consider a reasonable expected payback period, rather than an unbounded length of time, may raise such ratepayer equity issues as a consideration. At the same time, AB 327 explicitly raises issues of treatment to existing customer-generators by requiring the establishment of a transition period, rather than simply allowing customers to be moved to the successor tariff as soon as it becomes available.

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[37] *See*, for example, Amended Scoping Memo issued in R.12-06-013 on January 6, 2014.

[38] CFBF Supplemental Reply Comments at 5.

[39] NEM-PAC Supplemental Reply Comments at 3-4.

[40] *See*, for example, PG&E, SDG&E, and TURN.

5.1.2. Conclusion

We are cognizant of the legislature's direction that we consider the reasonable payback period in setting the transition timeframe, and are persuaded that customers who invest in renewable distributed generation systems and participate in existing NEM tariffs should at least have an opportunity to recoup their initial investment in distributed renewable generation. In addition, we find that adopting 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. Also, as noted above, the large IOUs have provided a variety of analyses on the reasonable payback period for NEM-eligible systems installed over the last several years, and we have reviewed these studies in detail. Given both the limitations of existing estimates of the reasonable payback period, 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.

For this reason, we adopt a transition period of 20 years for customers enrolling in NEM tariffs before the implementation of the successor tariff. This transition period will apply to customers taking service on a NEM tariff authorized in Code Section 2827,[41] including the Multifamily Affortable Solar

[41] This decision does not address a transition period for customers on NEM tariffs specific to fuel cell generation, which are authorized in Code Section 2827.10.

Housing, Single-family Affordable Solar Houses, and Virtual Net Metering tariffs, prior to July 1, 2017, or the date on which a utility reaches its NEM transition trigger level, whichever is earlier. This length is consistent with the expected useful life of NEM PV systems (the majority of systems taking service under NEM) as reflected in several contexts, for example:

1. Most Residential Power Purchase Agreements;[42]
2. Some government Power Purchase Agreements; and[43]
3. Many third party financing agreements.[44]

This transition period is also consistent with the lifecycle estimate used for NEM-eligible projects in the NEM evaluation completed in October 2013. Among other evaluation methodologies, that report "evaluate[s] the lifecycle costs and benefits of NEM generators installed in 2012 over an assumed 20-year economic life (2012 to 2031)."[45] A 20-year transition period is also suggested as a reasonable approximation of the expected useful life of NEM-eligible systems by CCSE, which states that "[a] 20-year payback is consistent with the expected useful life of the system."[46]

In comments on the proposed decision, several advocates for using the expected useful life as the basis for the transition period assert that 25 years

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[42] TASC Opening Comments at 9 state that the "terms in those lease agreements and PPAs are typically set at 20 years, with options for the customer to extend the agreement up to 30 years."

[43] NEM-PAC Reply Comments at 4, CCSE Reply Comments at 9.

[44] SEIA/Vote Solar Opening Comments at 5.

[45] NEM Evaluation at 6, 23, 49, and 77.

[46] CCSE Opening Comments at 5.

should be considered the minimum useful life of the system,[47] and recommend that a period of 25 to 30 years best represents the life of a rooftop PV system. Nevertheless, given that widespread adoption of renewable distributed generation is a relatively recent occurrence and the rapid changes in related technology, it is difficult to predict how such systems will perform two decades or more after their installation. As a result, we find that it is reasonable to adopt a conservative, 20-year transition period consistent with record evidence on the minimum expected life of such systems.

CCSE also notes in its reply comments that a 20-year transition "appears to be a fair compromise among Parties proposals."[48] We agree. Based on the record before us, we find that 20 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, and most will receive some additional return on investment within this period of time. As discussed above, 20 years is also consistent with the guidance that NEM customers should remain on existing NEM structures for the expected life of their systems.

The 20-year transition will be measured from the year the individual system was interconnected, indicated by the date on which the customer completes and submits all information required to receive permission to operate

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[47] *See*, for example, IREC Opening Comment on PD at 1-2, which notes that PV panels, a major component of solar distributed generation systems, typically come with 25-year equipment warranties.

[48] CCSE Reply Comments at 5.

the system.[49] The transition period for a system will end at the end of the 20th year after interconnection. This ensures that all NEM customers, regardless of the year in which their system was installed, are treated consistently. Given that the vast majority of NEM installations occurred after 2006, we do not believe that basing the transition period on the year of interconnection will be administratively difficult for the utilities to implement, and note that the utilities already track and report the number of NEM interconnections per year as part of Energy Division's regularly issued NEM interconnection data requests. Given that the 20-year transition is expected to allow all customers to at least recoup their system installation costs, and that it should be administratively feasible to measure the transition for each customer from their date of interconnection, we find that it is unnecessary to begin the 20-year period for all customers on the same date.

In order to preserve the choices of transitioning customers, these customers will retain the ability to transition to the successor tariff before the end of their transition period, if they choose to do so. Customers who elect to move to the successor tariff prior to the expiration of their NEM transition period may not later move back to their previously applicable NEM tariff, and instead will forfeit continued eligibility for the NEM transition period. This transition framework balances the interests of participating and non-participating customers by gradually shifting customers to the successor tariff after they have received a

[49] Eligibility for the transition period is based on the date of submission of the documentation needed to complete a NEM interconnection application, including the final building inspection. Customers that complete their application prior to reaching the date that the successor tariff is implemented will be eligible for the transition period

Footnote continued on next page

reasonable return on their systems, or upon their request. Specifically, that fact that customers will move onto the successor tariff as they reach the end of their transition periods should help to reduce any cost-shifts from NEM customers to other customers under current NEM tariff mechanisms.[50]

We recognize, as stated by NEM-PAC and others, that some customers may have entered into PPAs or taken on financing terms that last more than the 20-year transition period established here. At the same time, as noted by TURN, ORA, and others, customers with systems that remain operational past their 20-year transition are likely to continue to receive benefits from their systems. At the least, these customers will continue to receive some value from electricity generated by their systems, whether it displaces electricity that would otherwise purchased from a utility, or is used in some other way.

As stated above, this transition period will apply to all customers taking service on NEM tariffs authorized in Code Section 2827 before the implementation of a successor tariff, which will occur either on July 1, 2017 or when each utility reaches its trigger level, whichever is earlier. We decline to adopt a shorter transition period for customers that enroll in NEM between January 1, 2016 and the implementation of a successor tariff. Though these

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once they receive their Permission to Operate letter. The date of that letter indicates the year in which a system was interconnected for the purposes of the transition.

[50] In comments on the proposed decision, the IOUs provide estimates of the magnitude of the cost shifts from NEM participants to non-participants. To the extent that these estimates are in the formal record of the proceeding, we note that estimates of the magnitude of the cost shift are dependent on many assumptions, including not only the rate design applicable to participants and non-participants, but also the avoided costs for customer generation, among other factors, and that using alternative assumptions could increase or decrease the cost shift estimates substantially.

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.

5.2. Treatment of System Modifications

5.2.1. Discussion

As with the other issues addressed in this decision, parties expressed a wide variety of views on the appropriate treatment of modifications or additions to systems eligible for the transition period adopted here, if those modifications are made after the implementation of the NEM successor tariff. CFBF and CESA propose that any modification to a system eligible for a transition period as defined in this decision should be served under the NEM tariff applicable to the original system, and remain eligible for that tariff through the original system's transition date.[51] SCE, AECA, CCSE, and IREC similarly recommend that this be the case as long as the total system capacity meets current NEM eligibility requirements: the total system generation capacity does not exceed 1 MW and is sized to not exceed annual onsite load.[52] Under the structure described in this decision, these proposals would result in additions remaining eligible until 20 years after the date of interconnection of the original system.

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[51] *See*, for example, CESA Opening Comments at 7, CFBF Opening Comments at 8.

[52] AECA Opening Comments at 4, IREC Opening Comments at 12, CCSE Opening Comments at 6.

In contrast, PG&E, TASC, SEIA, and Recolte recommend that modifications that do not materially increase the original system's production (for example, replacement of broken or damaged system components) should be served under the same tariff as the original system. For example, PG&E, SCE, and Recolte specifically recommend that any significant additions to a system's generation capability be metered separately from the original system and would be subject to the successor tariff, while the original system (even if parts are repaired or replaced) remain on the NEM tariff through the original transition date. In opposition to this, AECA notes that PG&E is the only utility that has a tariff that allows separate systems to interconnect. Parties that support the option of separately metering increased generation capacity also advocate for customers to have the option of transitioning their whole system to the successor tariff, rather than separately metering the new load.

Finally, SDG&E suggests that any modifications to the system, presumably including replacement of broken parts or other changes that do not significantly increase the system's production, should automatically require the system to transition immediately to the successor tariff. SEIA, CalSEIA, and AECA oppose this recommendation on the grounds that this would likely discourage repair and expansion of NEM-eligible systems, which would be contrary to state policy in favor of encouraging renewable generation.

5.2.2. Conclusion

We are persuaded that maintenance and repair of existing systems should not make systems ineligible for the otherwise applicable transition period. As several parties argue, this would likely discourage maintenance and repair of otherwise productive systems, and is not consistent with state energy policy. For the same reason, it is reasonable to allow replacement and repair of system parts

with comparable parts, even if those parts slightly increase a system's output due to increases in the efficiency of the equipment or other technological changes. On the other hand, allowing material additions to a system to be eligible on the same terms as the original system would circumvent the legislatively mandated NEM transition trigger level, and appears 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. For these reasons, we find that modification and repair of systems eligible for the 20-year transition period, including replacement of parts on those systems with comparable parts (even if they slightly increase system output), should be eligible for the same transition period as the original system; in other words, repairs and changes that have a non-material effect on generation output should neither reset nor automatically end the transition period.

With this in mind, we adopt a variation of the CCSE proposal for treatment of additions or modifications to transitioning systems. Additions or modifications to transitioning systems should remain eligible for the remainder of their transition period as long as the generation capacity is increased by no more than the greater of 10 percent of the system's capacity at the time the customer completes all application requirements to receive permission to operate (marking the beginning of the system's specific 20-year transition period) or 1 kW, not to exceed a total generation capacity of 1 MW, and is sized to meet but not exceed the customer's annual onsite load.

Capacity increases exceeding this amount will not be eligible for the transition period applicable to the existing system, since this would allow excess generation under NEM beyond that contemplated by legislature. This compromise should allow customers to maintain and repair existing systems,

without allowing indefinite increases of capacity above the NEM limit set by the state legislature. Customers making such changes or additions that exceed the limit should be able to either choose to meter the additions separately under the new tariff or move the whole system to take service under the successor tariff.

5.3. Transferability of Transitional Treatment

5.3.1. Discussion

AB 327 requires the Commission to establish a transition period for "eligible customer-generators taking service under a [NEM] tariff" before the implementation of a successor tariff. As with the other implementation issues discussed in this decision, parties expressed widely varying views on the implications of this provision for systems that are transferred from one customer or one location to another after the beginning of the transition period established in this decision. Parties that advocate for longer transition periods generally recommend that the transition period be applied to the system itself, rather than being limited to the time during which the originating customers owns or receives the benefits of the system. For example, CalCAN notes that many customers invest in solar distributed generation in part because doing so is expected to increase the value of their home or property, and that the loss of eligibility for the NEM tariffs would undermine this benefit. Similarly, Cal-SEIA advocates for applying the transition period to the physical system or meter number, not to the customer. According to these parties, the full NEM transition period would apply to a distributed generation system even if that system is sold or transferred to a new customer, as long as the system remains at the same location. CESA goes further, suggesting that the transition period should not only be transferable to a new customer, but should follow the physical equipment if the purchasing customer moves it to a new location.

The three large IOUs take the opposite view, asserting that the legislative intent of this provision is for the transition period to apply only to the initial customer-generator, not to the system. SDG&E states this position most clearly (and most strictly), asserting that the AB 327 "focuses on ensuring that solar investors are able to realize a reasonable payback period," and allowing the transition treatment to "survive the transfer of ownership… is clearly contrary to the legislative intent."

5.3.2. Conclusion

We are persuaded that it is reasonable for the full transition period to apply to generation systems installed prior to July 1, 2017 or the attainment of the trigger level, whether or not those systems are transferred to new owners. This treatment preserves the value of these systems, and ensures that the cost of system installation may be recovered on the terms expected when the system is purchased. As a result, systems that qualify to remain on their pre-existing NEM tariff for the transition period will remain eligible for the complete transition period if transferred to a new owner, operator, or utility account at the original location.

At the same time, we find that it would not be reasonable to allow customers that transfer their systems to a new location to continue to receive the benefits of the transition period. 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. Interconnection, even of existing equipment, at a new location would require entering into a new interconnection agreement. Because we are counting the system's transition period from the year of interconnection, and the transfer of an

existing system to a new location involves a new interconnection agreement, we consider the transfer of a system to a new location to be a new installation and would not qualify for a transition period after the implementation of the NEM successor tariff.

5.4. Treatment of Energy Storage Systems

There are still open questions in this proceeding addressing the treatment of energy storage systems when coupled with NEM-eligible generation facilities for the purpose of qualifying for NEM interconnection cost exemptions. The parties most interested in this issue are CESA and CCSE, both of which recommend that energy storage systems that are additions or enhancements to NEM-eligible systems should be transitioned on the same terms as the underlying renewable system. No parties expressed objections to this position.

Outstanding issues related the eligibility of energy storage systems paired with NEM-eligible generation facilities for NEM interconnection exemptions will be addressed in another decision, which we expect to issue in this proceeding in the near future. To the extent that energy storage systems are considered an addition or enhancement to a renewable electrical generation facility utilizing a NEM tariff, 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.

5.5. Report Progress Towards Transition Trigger Level

One party, SEIA, recommends that utilities should be required to report on their progress towards reaching the NEM transition trigger level in order to assist parties in determining whether their projects installed before July 1, 2017, are likely to be installed before the NEM transition trigger level is reached, and would therefore be eligible for NEM during the transition period. 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.[53] This leaves open the possibility that customers motivated to install their systems due to the terms of pre-transition NEM might not actually qualify for NEM by the time the system becomes operational because the transition trigger level has been reached.

As discussed above, state law requires that the transition trigger level must be calculated by the utilities using a uniform method approved by this Commission, but may not be less than the absolute amounts specified in statute. In order to ensure that there is no confusion about the calculation of the trigger limit, we adopt the method for calculating the non-coincident aggregate peak load previously specified in an ACR issued on September 4, 2012, in R.10-05-004, the predecessor to this proceeding. That ACR is attached to this decision as Attachment 1. In order to assist customers in making educated decisions about their possible eligibility for NEM, we find that it is reasonable to require the large IOUs to report their progress towards the NEM transition trigger level to the Commission on a monthly basis, as required by § 2827(c)(4)(C). At a minimum, the report will include the information required in statute, including updated information on progress toward the NEM limits based on operating solar energy systems and cumulative numbers of interconnection requests for NEM-eligible systems, as well as the amount remaining before the NEM transition trigger level

[53] For example, CFBF notes in its opening comments on the proposed decision that renewable energy generation projects for agricultural customers may require two years of planning and development before receiving approval to interconnect.

is reached. These monthly reports will also be posted on each utility's Web site along with other information about NEM. The large IOUs will work with energy division staff to develop the content and format for these monthly reports, as well as for an annual summary report to be served on the service list for this or a successor proceeding.

5.6. Disclosure Requirements

Another issue raised in the comments on the NEM transition period is whether solar installers should be required to disclose the terms and schedule for NEM eligibility and the NEM transition period. IREC and SEIA oppose this suggestion, arguing that such a requirement goes beyond the Commission's authority.

Solar installers have a legal[54] and ethical 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. Such disclosures provide customers with the information that they need to make educated decisions about their future electric service. Because of this, we expect solar installers to provide honest and complete disclosures on the NEM transition, and we encourage customers to report to the appropriate authorities any misleading or fraudulent information that may be provided to them.[55] At the same time, we require the large IOUs to post information on the NEM transition clearly on their Web sites

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[54] *See*, for example, Business and Professions Code Section 17500.

[55] Appropriate authorities may include, but may not be limited to, the California Department of Consumer Affairs, the State Attorney General's office, or local law enforcement authorities.

along with other information about NEM terms, eligibility, and progress towards the statutorily mandated transition trigger level.

6. Comments on Proposed Decision

The proposed decision of the Commissioner in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. Sixteen sets of opening comments on the proposed decision were filed on March 12, 2014,[56] and fourteen sets of reply comments were filed on March 17, 2014.[57] Several small technical and clarifying changes, mostly non-substantive, have been made to this decision in response to comments on the proposed decision.

In general, parties that supported basing the transition period on a reasonable payback period for the initial investment of the a renewable distributed generation system reiterated arguments made earlier in the proceeding that the legislative intent in adopting AB 327, as shown in the statute itself and in legislative analyses accompanying the bill, was to lessen the burden on non-participating customers by reducing the cost shift from participating customers in many customer classes. Based on this interpretation of AB 327, these parties suggest that the Commission is required to adopt a payback period shorter than that suggested in the proposed decision, either for all customers

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[56] The following parties or groups of parties filed opening comments: PG&E, SDG&E, SCE, ORA, TURN, NEM-PAC, LGSEC, CCSE, SEIA and TASC (jointly), CalSEIA, Vote Solar, CFBF, AECA, CalCAN, IREC, and the Silicon Valley Leadership Group.

[57] The following parties on groups of parties filed reply comments: LGSEC, CalCAN, GRID Alternatives, NEM-PAC, ORA, CCSE, IREC, AECA, CESA, SCE, TASC, CFBF, SEIA and CalSEIA (jointly), and PG&E.

(PG&E, SDG&E, SCE, and ORA) or for residential customers (TURN). These parties assert that failing to adopt a transition period consistent with the payback periods suggested in studies in the record of this proceeding constitutes legal error. In fact, AB 327 states that the Commission must "consider" a reasonable payback period in setting the transition period, but gives the Commission the authority to determine the transition period and does not preclude the Commission from considering other factors in doing so.[58]

Parties that initially supported a payback period based on the useful life of the system similarly reiterated arguments made earlier in the proceeding, generally advocating for a transition period longer than 20 years. These points have been addressed in the discussion sections, above. In particular, the public agency groups (NEM-PAC and LGSEC) once again note that public agencies that own their own renewable distributed generation systems do not receive all tax and other benefits available to other (residential and commercial) customers, and operate under different, and more stringent, decision-making constraints. While we understand that there are differences between the circumstances of public agencies and others, as discussed above, this is also true for every customer class and likely every individual customer. This request is, in essence, a request to

[58] Several parties attempted to include along with their opening comments on the PD letters from state legislators and local officials expressing support for those parties' specific positions or expressing opinions on the legislative intent behind AB 327. These letters constitute extra-record material, and as such were not accepted for filing and cannot be relied on in the Commission's final decision. For the purposes of this decision, those letters have the same status as the many other informal communications on this matter that the Commission's Public Advisor and other staff have received from individuals and groups expressing their opinions on AB 327 and the NEM transition. Those letters and communications will be included in the correspondence portion of the file for R.12-11-005.

provide public agencies with a longer transition period in recognition of the possibility that they may have a longer payback period for their systems, or differ from other customers in other relevant ways. But as discussed above, this decision considers multiple factors, not just the reasonable payback period, in setting a transition period. Rather than calculate an individual payback period for each customer, or even each customer class, this decision adopts a consistent transition period for all customers. To single out public agencies for a longer payback period is inconsistent with the concept of a single transition period for all customers, and would add additional complexity to the administration of the transition period.

7. Assignment of Proceeding

Michael R. Peevey is the assigned Commissioner and Katherine MacDonald and Jessica T. Hecht are the assigned Administrative Law Judges in this proceeding.

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 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-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. 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. It is reasonable to require the large IOUs 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. 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)(6) 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 years from the date of interconnection of a renewable generation system is consistent with Pub. Util. Code § 2827.1(b)(6).

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

4. 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. 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 they are connected.

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

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

O R D E R

IT IS ORDERED that:

1. Renewable generation systems installed by customers of Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company taking service under a Net Energy Metering (NEM) tariff or contract 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 tariff structure for 20 years from the original year of interconnection of the renewable distributed generation system, except as otherwise provided in this decision.

2. Renewable generation systems eligible for the 20-year transition period in Ordering Paragraph 1 above may be moved to the successor tariff before the

expiration of the system's transition period upon request of the customer-generator. Customers who elect to move to the successor tariff prior to the expiration of their NEM transition period may not later move back to their previously applicable NEM tariff, and instead will forfeit continued eligibility for the NEM transition period.

3. Renewable generation systems eligible for the 20-year transition period adopted in this decision that are modified or repaired shall remain eligible for the remainder of their original transition period, as long as the modifications or repairs do not increase the system's generation by more than the greater of 10 percent of the system's capacity at the time the customer completes all application requirements to receive permission to operate (marking the beginning of the system's specific 20-year transition period) or 1 kilowatt, not to exceed a total generation capacity of 1 MW, and are sized to meet but not exceed the customer's annual onsite load.

4. Customers making modifications to Net Energy Metering-transition eligible systems that increase generation capacity by more than the greater of 10 percent of the capacity installed before the transition to the successor tariff or 1 kilowatt, may either choose to meter the additions separately under the successor tariff or elect for the whole system to take service under the successor tariff.

5. Renewable generation systems eligible for the 20-year transition period adopted in this decision shall not lose eligibility if transferred to a new owner, operator, or utility account at the original location.

6. To the extent that eligible energy storage systems are granted interconnection exemptions under Net Energy Metering, they shall be treated in the same way, and subject to the same transition period, as the underlying

renewable generation system to which they are connected. The eligibility of storage systems for such exemptions will be determined through a separate decision in this proceeding.

7. Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company shall report their progress towards the Net Energy Metering (NEM) transition trigger level to the Commission on a monthly basis, as required by Public Utilities Code Section 2827(c)(4)(C). At a minimum, the report shall include the information required in statute, including updated information on progress toward the NEM limits based on operating solar energy systems and cumulative numbers of interconnection requests for NEM-eligible systems, as well as the amount remaining before the NEM transition trigger level is reached. These monthly reports shall also be posted on each utility's Web site along with other information about NEM. The large investor-owned utilities shall work with the Commission's Energy Division staff to develop the content and format for these monthly reports, as well as to develop an annual summary report to be served on the service list for this or a successor proceeding.

8. Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company are directed to post information on the Net Energy Metering (NEM) transition clearly on their Web sites along with other information about NEM terms, eligibility, and progress towards the statutorily mandated transition trigger level.

9. The Commission expects solar installers to provide honest and complete disclosures on 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.

10. Within 45 days of the issuance of this decision, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company shall each file a Tier 2 Advice Letter revising their Net Energy Metering (NEM) tariffs to comply with this decision.

11. Rulemaking 12-11-005 remains open.

This order is effective today.

Dated _____, at San Francisco, California.

ATTACHMENT 1

MP1/sbf 9/4/2012

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 10-05-004 (Filed May 6, 2010)

ASSIGNED COMMISSIONER'S RULING PROVIDING INSTRUCTIONS ON CALCULATION OF NON-COINCIDENT AGGREGATE CUSTOMER PEAK DEMAND PURSUANT TO ORDERING PARAGRAPH 3 OF DECISION 12-05-036

In Decision (D.) 12-05-036, the Commission directed that Southern California Edison Company (SCE), San Diego Gas & Electric Company (SDG&E) and Pacific Gas and Electric Company (PG&E) calculate their respective caps on participation in the Net Energy Metering (NEM) program as five percent of aggregate customer peak demand, which is defined as the highest sum of all customers' non-coincident peak demands that occurs in any calendar year. (D.12-05-036 at Ordering Paragraph (OP) 1.) The decision directed Energy Division to hold a workshop to discuss methods for estimating the individual peak demands of customers for which the utilities lack demand data in order to establish a consistent methodology for calculating non-coincident aggregate customer peak demand. Following the workshop, Energy Division provided the Assigned Commissioner and Administrative Law Judge (ALJ) a memo with recommendations on a methodology for the calculation of non-coincident aggregate customer peak demand. (See Attachment A to this ruling.)

As directed by OP 3 of D.12-05-036, this ruling provides instructions to SCE, SDG&E and PG&E (collectively, "the utilities") regarding the methodology that the utilities should use to calculate non-coincident aggregate customer peak demand. The utilities should apply this methodology when revising their NEM tariffs to comply with OP 4 of D.12-05-036.

Methodology for Calculating Non-Coincident Aggregate Customer Peak Demand

The attached memo from Energy Division to ALJ Dorothy Duda and Scott Murtishaw (Advisor to Commissioner Peevey) provides four recommendations for consistent calculation of non-coincident aggregate customer peak demand by the utilities. I agree with the recommendations and analysis provided by the Energy Division memo. Therefore, I instruct the utilities to do the following when calculating non-coincident aggregate customer peak demand:

1) The utilities should use load research data to calculate non-coincident aggregate peak demand

Non-coincident peak demand should be calculated using load research studies to estimate load profiles by customer class. These load research studies should be designed using standard statistical sampling techniques to select representative load research samples. The utilities should continue to use the load research meters installed to collect interval data from the samples, and may supplement this data with smart meter data as it becomes available to improve the estimation of the load profiles.

2) The utilities should use a four-year moving average based on 2007-2010 annual load research data

A four-year moving average of the most recently available annual non-coincident peak load data is appropriate in order to avoid significant annual changes in the NEM cap that may result from weather or economic variability.

Therefore, when filing their Advice Letters for the 2012 NEM cap calculation, the utilities should use the average of 2007-2010 annual load research data.

3) The calculation should be updated annually but may not decrease below the most recent level determined

To account for changes in annual estimates of non-coincident peak demand, the utilities should update their respective NEM caps annually by October 1. Beginning on October 1, 2013, and every year thereafter, the utilities should file Advice Letters to calculate their respective NEM caps based on the four-year average of the most recently available annual non-coincident peak load data, which for 2013 will consist of 2008-2011 non-coincident peak demand data.

If the estimate for non-coincident aggregate peak demand increases in a given year, the NEM cap will increase. However, if the estimate for non-coincident aggregate peak demand decreases in a given year, the NEM cap should remain at the previously determined level in order to provide market certainty about the capacity available under the NEM cap.

4) The utilities may use 15- or 30-minute interval data to calculate non-coincident aggregate customer peak demand in 2012, but must use 15-minute interval data for the purposes of calculating non-coincident aggregate customer peak demand in subsequent years

Because 15-minute interval data is not consistently being used by the utilities in their load research studies, the utilities should be allowed the option of using 30-minute interval data when calculating the NEM cap in 2012. For all subsequent years, the utilities should use 15-minute interval data, and may continue to use load research meter data and/or smart meter data where available.

The utilities should use the four instructions above when updating their NEM tariffs to comply with OP 4 of D.12-05-036. That same OP directs the

utilities to file their respective advice letters within 120 days of the effective date of D.12-05-036, although OP 8 allows me to modify that date if needed. The utilities shall file the Advice Letters described in OP 4 of D.12-05-036 within 30 days of the date of this ruling.

IT IS RULED that:

1. Southern California Edison Company (SCE), San Diego Gas & Electric Company (SDG&E) and Pacific Gas and Electric Company (PG&E) shall comply with the four instructions in this ruling to calculate non-coincident aggregate customer peak demand for purposes of setting their Net Energy Metering (NEM) program caps.

2. SCE, SDG&E and PG&E shall use the methodology and instructions set forth in this ruling when revising their NEM program tariffs in compliance with Ordering Paragraph (OP) 4 of Decision (D.) 12-05-036.

3. The utilities shall file the advice letters described in OP 4 of D.12-05-036 within 30 days of this ruling.

Dated September 4, 2012, at San Francisco, California.

/s/ MICHAEL R. PEEVEY
Michael R. Peevey
Assigned Commissioner

ATTACHMENT A

State of California

M e m o r a n d u m

Date: July 11, 2012

To: Dorothy Duda and Scott Murtishaw

From: Energy Division – Ehren Seybert, Gabe Petlin

Subject Methodology for Estimating Non-Coincident Peak Demand for the Net Metering Cap, Pursuant to D. 12-05-036, OP 2.

Background and overview

Net energy metering (NEM) allows customers who install small (1MW or less) distributed generation facilities to receive full-retail credit for power generated by their onsite system and fed back to the utility. Pursuant to Public Utilities Code 2827, the net metering program cap is defined as 5 percent of a utility's "aggregate customer peak demand." In May 2012, the CPUC adopted decision (D.)12-05-036 which clarifies "aggregate customer peak demand" as the sum of individual customers' non-coincident peak demands. D.12-05-36 also directs Energy Division to convene a public workshop with the large investor-owned utilities (IOUs) - Southern California Edison Company (SCE), San Diego Gas & Electric Company (SDG&E), and Pacific Gas and Electric Company (PG&E) - in order to "discuss methods for estimating the individual peak demands of the customers for which the utilities lack demand data and establishing a consistent methodology for calculating non-coincident aggregate customer peak demand" and, within 60 days of the effective date of the decision, to provide the assigned Commissioner and Administrative Law Judge with a recommendation on the methodology for calculating non-coincident aggregate customer peak demand.[1]

Pursuant to D.12-05-036, Energy Division held a workshop on June 25, 2012, to discuss methods for estimating individual non-coincident peak demand. Based upon the presentations and comments received during the workshop, Energy Division recommends the following methodology for calculating non-coincident aggregate customer peak demand for the purposes of the NEM program cap:

[1] D.12-05-036, Ordering Paragraph (OP) 2 and OP 3.

1. The IOUs should use data from their annual load research studies to calculate non-coincident aggregate customer peak demand.

2. The IOUs should use a 4-year moving average of annual load research data to avoid frequent changes in the NEM cap, beginning with an average from 2007 to 2010.

3. The calculation should be updated annually on October 1st, and may not decrease below the most recent level determined to help maintain market certainty.

4. The IOUs may use 15- or 30-minute interval data to calculate non-coincident aggregate customer peak demand in 2012, but must use 15-minute interval data for the purposes of calculating non-coincident aggregate customer peak demand in subsequent years.

The recommendations, and supporting rationale for each recommendation, are discussed in more detail below.

Recommendation 1: The utilities should use load research data to calculate non-coincident aggregate peak demand.

For a given year, the total of non-coincident aggregate peak demand for all customers in each IOU's service territory is defined as the sum of each customer's maximum demand in that year. For each IOU, this value represents the maximum demand for the service territory that would occur if all customers use their maximum load at the same time. The total non-coincident peak demand value is an estimated value calculated in each IOU's annual class load research studies, where the calculations are based on samples for the rate classes that are not 100 percent metered. These load research studies support rate design and revenue allocation in General Rate Cases, as well as the Energy Commission's Load Data Delivery. PG&E, SCE and SDG&E also used load research data to estimate non-coincident aggregate customer peak demand for a recent Energy Division data request in March 2012.

In the workshop, the IOUs reported that sample sizes for load research data vary from 5,804 customers to 29,000 customers. The utilities reported that samples of this size provide a high level of precision when estimating non-coincident peak demand. The availability of more interval data will help enhance the sampling design and sample size to ensure that the estimated load profiles have a 90 percent confidence level.

Non-coincident peak demand should be calculated using load research studies to estimate load profiles by customer class. These load research studies should be designed using

standard statistical sampling techniques to select representative load research samples. The IOUs should continue to use interval meters and load research meters installed to collect interval data from the samples, and may supplement this data with smart meter data as it becomes available to improve the estimation of the load profiles.

Recommendation 2: The utilities should use a four-year moving average based on 2007-2010 annual load research data.

D. 12-05-036 directs each IOU to file a Tier 2 advice letter (AL) to comply with the new NEM cap calculation methodology within 120 days of the effective date of the decision. Currently, PG&E and SCE have load research data available through 2010; SDG&E expects to have 2010 load research data available by August of this year.

Based upon the annual non-coincident load data provided by the utilities, staff believes that a four-year moving average of the most recently available non-coincident peak load data is appropriate in order to avoid significant annual changes in the NEM cap that may result from weather or economic variability. Therefore, when filing their ALs for the 2012 NEM cap calculation, staff recommends using the average of 2007-2010 annual load research data.

Recommendation 3: The calculation should be updated annually and may not decrease below the most recent level determined.

To account for changes in annual estimates of non-coincident peak demand, the calculation should be updated annually by October 1st. Beginning on October 1, 2013, and every year thereafter, the IOUs should be ordered to file ALs to calculate their respective NEM caps based on the four year average of the most recently available annual non-coincident peak load data, which for 2013 will consist of 2008-2011 non-coincident peak demand data.

If the estimate for non-coincident aggregate peak demand increases within a given year, the NEM cap will increase. However, if the estimate for non-coincident aggregate peak demand decreases in a given year, the NEM cap should remain at the previously determined level. Staff believes this is necessary in order to help maintain market certainty.

Recommendation 4: The utilities may use 15- or 30-minute interval data to calculate non-coincident aggregate customer peak demand in 2012 but must use 15-minute interval data for the purposes of calculating non-coincident aggregate customer peak demand in subsequent years.

Currently, all IOUs perform load research studies using load research meters with either 15-minute or 30-minute interval data, and some IOUs are beginning to incorporate smart

meter data. The primary difference between load research meters and smart meters is that load research meters are programmed to collect data at 15- or 30-minute intervals. However, smart meters may be remotely programed to collect 15-minute interval data, and could also be used to collect load research data. To a certain point, the availability of more interval data will enhance the sampling design and sample size to ensure that the estimated load profiles have the desired levels of precision. Moving from 30-minute to 15-minute interval data may further increase the precision levels of the data. All of the IOUs stated that they plan to supplement their load research sample data with smart meter data.

Because 15-minute interval data is not consistently being used by the IOUs in their load research studies, Energy Division staff believes the IOUs should be allowed the option of using 30-minute interval data when calculating the NEM cap in 2012. For all subsequent years, the IOUs should use 15-minute interval data and may continue to use load research meter data and/or smart meter data where available.

(END OF ATTACHMENT A)

(END OF ATTACHMENT 1)