

Decision 18-02-008 February 8, 2018

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Develop a Successor to Existing Net Energy Metering Tariffs Pursuant to Public Utilities Code Section 2827.1, and to Address Other Issues Related to Net Energy Metering.

Rulemaking 14-07-002

**DECISION GRANTING THE PETITION FOR MODIFICATION OF
DECISION 16-04-020 REGARDING THE NET ENERGY METERING BILL
CREDIT ESTIMATION METHODOLOGY FOR GENERATING FACILITIES
PAIRED WITH SMALL STORAGE DEVICES**

Summary

This decision grants a petition for modification of Decision 16-04-020, for the purpose of modifying the bill credit estimation methodology for net energy metering-eligible generating facilities paired with small storage devices.

This proceeding remains open.

1. Background

In Decision (D.) 16-04-020, the Commission established a bill credit estimation methodology for net energy metering (NEM)-eligible generating facilities paired with small storage devices.¹ The adopted methodology requires

¹ NEM tariffs enable customers who generate their own energy to serve their energy needs directly onsite and to receive a financial credit on their electric bills for any surplus energy fed back to their utility.

a customer-specific estimation for each calendar month, using the customer's specific information and the Expected Performance Based Buy down (EPBB) calculator.

On August 28, 2017, Pacific Gas and Electric Company (PG&E) filed and served a petition for modification of D.16-04-020, to modify the bill credit estimation methodology (Petition), on behalf of Southern California Edison Company (SCE), San Diego Gas & Electric Company (SDG&E) and itself (together, "Petitioners"). The Petition requests the Commission modify D.16-04-020 to allow the electric investor-owned utilities (IOUs) to estimate bill credits for NEM-eligible facilities paired with small storage by using a single per-kilowatt (kW) profile for each climate zone, in place of the customer-specific estimation using the EPBB calculator; this proposal is consistent with an approach the Interstate Renewable Energy Council (IREC) recommended during the Commission's deliberation of a bill credit estimation methodology, leading up to D.16-04-020.²

The Petition identifies several reasons for requesting the proposed modification: the cost and complexity of implementing the adopted methodology had been underestimated; and it is frequently impossible to perform the required estimation. The Petition elaborates on the latter reason by noting a time period during which the California Solar Incentive (CSI) program administrators did not accept new solar installation applications but the Commission had not yet directed the electric IOUs to continue collecting the

² Rulemaking (R.) 12-11-005 *Comments of the Interstate Renewable Energy Council, Inc. on the Assigned Commissioner's Ruling Regarding the Development of an Estimation Methodology for Net Energy Metering Paired Storage Devices*, filed November 20, 2014, at 5-7.

information necessary to perform the customer-specific calculation.³ This period varied for each electric IOU, but ranged from several months to over one year.⁴ In such situations, the Petition reasons that “the person applying for interconnection (typically the storage vendor) would be the person who would have to provide the missing data to perform the EPBB calculation, and who likely would not have that information.”⁵ In support of their proposed alternative estimation, the Petitioners assert the proposed estimation is at least as beneficial to participating customers as the estimation methodology adopted in D.16-04-020, even if it generates a marginal decrease in the amount of energy that can receive NEM bill credits in a given month. This is because, the Petitioners assert, the amount of energy that can receive NEM bill credits under the proposed modified estimation will always exceed the actual amount exported in a given month, except potentially in the scenario where a customer has no load during sunshine hours for an entire month.

On September 27, 2017, the California Solar Energy Industries Association (CalSEIA) filed and served a response to the Petition (Response); no other parties responded to the Petition. Although CalSEIA does not object to the methodology

³ The CSI program administrators are PG&E, SCE and the Center for Sustainable Energy (CSE), which administers the CSI program in SDG&E’s service territory.

⁴ Each CSI (General Market) program administrator closed the program to new applications at different times, from mid-2013 for PG&E to late 2015 for CSE (in SDG&E’s territory). See https://www.californiasolarstatistics.ca.gov/reports/monthly_stats/. Decision 14-11-001 directed the electric IOUs to collect solar system statistics, much of which they previously collected through the CSI incentive application process, through their respective NEM interconnection application processes. The electric IOUs began implementing D.14-11-001 in 2015.

⁵ Petition, at 5.

adopted in D.16-04-020, it largely supports the Petition and requests the Petition's proposed modifications to D.16-04-020 be revised as follows:

- To specify the units of the production factors, as kilowatt-hours (kWh) per kW. CalSEIA expresses concern that the proposed production factor as a "scalable per kW profile" is not sufficiently clear, and instead recommends "standard production factor in units of kWh/kW."
- To specify in the Findings, Conclusions and Orders the modeling assumptions that inform the proposed methodology. CalSEIA requests that the Findings, Conclusions and Orders language explicitly state the IOUs will assume optimal tilt and azimuth; high efficiency panels and micro-inverters that are designed to match those panels; ZIP codes with high solar penetration and high insolation; and minimal shade.
- To specify the appropriate solar module and corresponding inverter. CalSEIA's Response first notes a likely typographical error in the Petition's proposed assumed solar module, *i.e.*, SunPower 372, which CalSEIA states should be SunPower 327. Following from this, CalSEIA recommends the appropriate inverter should be the integrated inverter the SunPower 327 has been sold with for the past year, *i.e.*, model number SPR-E20-327-C-AC.
- To provide for updates to the solar module and inverter assumptions periodically. CalSEIA further notes the SunPower 327 may not be available for purchase indefinitely, and therefore recommends the assumption be updated every three years via a Tier 1 advice letter.
- To review the production factors to be used by SCE and SDG&E. CalSEIA recommends the Commission verify that the production factors that SCE and SDG&E will use, which were not included in the Petition, are substantially equivalent to those for PG&E.

On October 2, 2017, Petitioners filed and served a reply to CalSEIA's Response (Joint Reply). The Joint Reply states that Petitioners communicated with CalSEIA regarding its proposed clarifications and revisions, and revises the Petition's proposed modifications to D.16-04-020 to address and reflect CalSEIA's Response. The revised proposed modifications in the Joint Reply are consistent with CalSEIA's Response.

2. Compliance with Rule 16.4 of the Commission's Rules of Practice and Procedure

The Petition states the Petitioners initially filed and served a nearly identical petition in R.12-11-005, pursuant to Rule 16.4 of the Commission's Rules of Practice and Procedure.⁶ The assigned Administrative Law Judge (ALJ) in R.12-11-005 rejected without prejudice that earlier petition, but directed Petitioners to refile and reserve a petition in this proceeding (R.14-07-002).⁷ Given that Petitioners timely filed a petition in R.12-11-005, and that petition is substantively the same as this Petition (filed on August 28, 2017), we will treat the Petition as timely filed.

⁶ Rule 16.4(c) of the Commission's Rules of Practice and Procedure states "(c) A petition for modification must be filed and served on all parties to the proceeding or proceedings in which the decision proposed to be modified was made." D.16-04-020 was issued in R.12-11-005 on April 28, 2016. PG&E, SCE and SDG&E filed and served the *Petition of Pacific Gas and Electric Company (U 39 E), Southern California Edison Company (U 338 E) and San Diego Gas & Electric Company (U 902 M) for Modification of Decision (D.) 16-04-020 to Simplify the Net Energy Metering Bill Credit Estimation Methodology for Generating Facilities Paired With Small Storage Devices*, in R.12-11-005 on April 17, 2017.

⁷ R.12-11-005 *E-mail Ruling Directing to Refile Petition for Modification in Rulemaking 14-07-002*, filed August 17, 2017.

3. Discussion

The Petitioners' stated reason for modifying the adopted bill credit estimation methodology – that the proposed methodology would be simpler and less burdensome to implement – is a reasonable ground for granting the Petition. Petitioners do not cite or otherwise offer any information to quantify or demonstrate the cost and complexity of implementing the methodology adopted in D.16-04-020. Therefore we have no basis to find or conclude that the cost and/or complexity of implementing the adopted methodology are excessive or otherwise unreasonable. Even so, it is clear the proposed methodology enables the IOUs to avoid having to perform a separate calculation for every system, and thereby avoid expending the time and labor associated with such calculations. For systems lacking the necessary information due to the data collection gap described in the Petition, Petitioners did not offer any evidence and we otherwise have no reason to believe – that storage vendors are incapable of obtaining the required information from the solar vendor/installer, even in situations where the solar system was installed well before the storage device. However, our interest in market facilitation/technology adoption leads us to disfavor requiring storage vendors to carry out this task. Because the proposed methodology is simpler for both the IOUs and storage vendors/installers than the methodology adopted in D.16-04-020, we will grant the Petition as modified by the Joint Reply, except as specified in the following section (Section 3.1).

3.1. Proposed Modifications to D.16-04-020

The Petition proposes modifications to Section 5, the Findings of Fact, Conclusions of Law, and Orders and Appendix B of D.16-04-020. Consistent with CalSEIA's Response to the Petition, the Petitioners' Joint Reply proposes

revised modifications to Section 5, the Findings of Fact, Conclusions of Law and Orders and Appendix B of D.16-04-020.

The Joint Reply proposes that Section 5 (Discussion of Proposed Amendments to Method 2) of D.16-04-020 be modified as follows (additions in italics, deletions in strikeout):

IREC also proposes simplifying the monthly output estimation methodology by basing all paired systems' generation estimates on a single per kW profile for each climate zone based on a south-facing array, or by eliminating any limit on storage device exports, given how unlikely it is for customers to attempt arbitrage on a regular basis. IREC argues that this proposed simplification will minimize IOU administrative resources and avoid the need for the IOUs to calculate a monthly output estimation for each NEM customer's paired system based on its specific location and characteristics. *An option to allow the IOUs to base the generation estimate on a single monthly kWh per kW profile for each climate zone is reasonable and the IOUs may implement it. This estimate should be based on 1) optimal tilt and azimuth; 2) high efficiency panels and micro-inverters that are designed to match those panels; 3) zip codes with high customer adoption; and 4) minimal shading.* ~~We disagree with IREC's other proposed simplifications including eliminating the cap on exports and standardizing generation estimates based on a single south-facing system profile for each climate zone, since there may be unanticipated consequences if the estimation methodology is standardized for all systems in a given climate zone. As such, the Commission declines to adopt IREC's proposed modifications.~~

Although we will adopt a methodology that standardizes generation estimates based on a single monthly kWh per kW profile for each climate zone, we remain concerned about unanticipated consequences of standardizing the

estimation methodology for all systems in a given climate zone.⁸ We also do not agree with IREC's proposal to eliminate the cap on exports. Therefore we do not adopt all of the above-proposed modifications to Section 5; the final language we will adopt is reflected in Appendix A of this decision. Should the IOUs encounter other challenges in implementing the proposed methodology, we expect them to bring such issues forward, as they have done in this situation, for the Commission and parties to address.

Notwithstanding the above discussion, the Joint Reply including CalSEIA's proposed clarifications and revisions, which improve the accuracy and transparency of Petitioners' proposed alternative method, is reasonable. The Joint Reply proposes the following Findings of Fact and Conclusion of Law be added to D.16-04-020:⁹

Proposed additional Findings of Fact:

- X. *A generation estimate consisting of a single monthly kWh per kW scalable profile for each climate zone is a reasonable estimate of the generation output from the solar generator.*
- Y. *The generation estimate should be updated from time to time to reflect changing efficiencies of modules and inverters. The update can be accomplished through a Tier I Advice Letter that notifies the CPUC and stakeholders, including a description of the assumptions used in the estimate.*

⁸ See D.16-04-020, at 24-25.

⁹ CalSEIA's January 26, 2017 comments on the proposed decision note that the proposed additional Conclusion of Law, as reflected in the Joint Reply, omits "high insolation". The Petitioners did not object to CalSEIA's request to include "high insolation" in the proposed additional Conclusion of Law.

Proposed additional Conclusion of Law:

- X. *It is reasonable to allow the IOUs to base the generation estimate on a single monthly kWh per kW scalable profile for each climate zone using standard inputs to the EPBB calculator that are applied consistently to all customers for each calendar month. This estimate should assume 1) optimal tilt and azimuth; 2) high efficiency panels and micro-inverters that are designed to match those panels; 3) zip codes with high customer adoption; and 4) minimal shade.*

The Joint Reply also proposes to modify Conclusions of Law 1 and 11 and Ordering Paragraph 6 to include additional language that implements the proposed alternative estimation:

Proposed additions to Conclusions of Law:

1. It is reasonable to find that NEM solar PV generating facilities paired with storage devices 10 kW or less may use the estimation methodology referred to as Method 2 in the November 4, 2014 ACR, which caps maximum allowable NEM bill credits based on a monthly output profile, *or on a single monthly kWh per kW scalable profile for each climate zone.*
11. The IOUs should update their billing and information technology systems within 180 days to implement the estimation methodology adopted in this decision, *or an estimation methodology creating a single monthly kWh per kW scalable profile for each climate zone.*

Proposed addition to Ordering Paragraph 6:

6. Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company shall update their billing and information technology systems within 180 days to implement the estimation methodology adopted in this Decision, *including a description of any estimation methodology based on a single per kW scalable profile for each climate zone.*

We will adopt the proposed modifications to the Findings, Conclusions, Orders and Appendix B of D.16-04-020 as reflected above and in Appendix A of the Joint Reply.¹⁰

4. Conclusion

It is reasonable to grant the Petition of PG&E, SCE and SDG&E to modify D.16-04-020, as modified by the Joint Reply to the Response of CalSEIA, except as discussed in Section 3.1 of this decision.

5. Reduction of Comment Period

This is an uncontested matter in which the decision grants the relief requested. Accordingly, pursuant to Public Utilities Code Section 311 and Rule 14.6(c)(2) of the Commission's Rules of Practice and Procedure, we reduce the period for public review and comment to 15 days. On January 26, 2018, PG&E, SCE, SDG&E jointly filed comments; and CalSEIA filed comments. No parties filed reply comments.

The Joint Utilities request clarification that the adopted revision to Ordering Paragraph 6 of D.16-04-020 commences upon the adoption of this decision granting the Petition, and that this schedule will supersede the original schedule dates for implementation. This request is reasonable and we confirm that Ordering Paragraph 6 of D.16-04-020 shall commence upon the adoption of this decision granting the Petition.

CalSEIA notes that the proposed additional Conclusion of Law, as reflected in the Joint Reply, omits "high insolation." The Petitioners did not

¹⁰ The Joint Reply also includes a proposed additional ordering paragraph, which we incorporate as an order (Ordering Paragraph 2) that shall take effect upon adoption of this decision. In response to CalSEIA's comments on the proposed decision, we include "high insolation" in the proposed additional Conclusion of Law.

object to CalSEIA's request to include "high insolation" in the proposed additional Conclusion of Law. CalSEIA's request is reasonable and we have revised the proposed decision to include "high insolation" in the proposed additional Conclusion of Law.

6. Assignment of Proceeding

Martha Guzman Aceves is the assigned Commissioner and Jessica T. Hecht, Mary F. McKenzie and Valerie U. Kao are the assigned ALJs in this proceeding.

Findings of Fact

1. Decision 16-04-020 requires the electric IOUs to estimate bill credits for each calendar month for NEM-eligible generating facilities paired with small storage devices, using customers' specific information and the EPBB calculator.
2. The electric IOUs did not collect customers' specific information, which is necessary for performing the required estimation of bill credits, during the time period when the CSI program had ceased to accept new applications but the Commission had not yet ordered the electric IOUs to continue collecting the necessary information. This period varied for each electric IOU, but ranged from several months to over one year.
3. The Petitioners proposed an alternative estimation method that would use a single monthly profile for each climate zone.
4. The proposed alternative estimation method is simpler and less costly for the IOUs to implement and for storage vendors to comply with.
5. CalSEIA proposed clarifications and revisions to the Petition's proposed modifications of D.16-04-020 and the Petitioners agreed to review their proposal consistent with CalSEIA's request.

Conclusions of Law

1. We should allow the electric IOUs to use a standardized generation estimate based on a single monthly profile for each climate zone, to estimate bill credits for NEM-eligible facilities paired with small storage systems.
2. We remain concerned about unintended consequences of standardizing the generation estimation based on a single monthly profile for each climate zone, but we prefer to facilitate technology adoption over retention of a more costly and more complex estimation methodology.
3. We should not make requested modifications to Section 5 of D.16-04-020 as requested by CalSEIA.
4. CalSEIA's proposed clarifications and revisions to the Findings of Fact, Conclusions of Law, and Ordering Paragraph 6 improve the accuracy and transparency of the proposed alternative method.
5. We should require the specified modifications to the Findings of Fact, Conclusions of Law, and Ordering Paragraph 6 as recommended by CalSEIA and reflected in the Joint Reply.
6. Ordering Paragraph 6 of D.16-04-020 should commence upon the adoption of this decision granting the Petition.

O R D E R

IT IS ORDERED that:

1. Decision 16-04-020 is modified as set forth in Appendix A of this decision.
2. Within 30 days of the effective date of this order, the electric investor-owned utilities (namely, Pacific Gas and Electric Company, Southern California Edison Company and San Diego Gas & Electric Company) must each

file a Tier 1 advice letter to modify their respective net energy metering tariffs in compliance with this decision.

3. Ordering Paragraph 6 of Decision 16-04-020 shall commence upon the adoption of this decision granting the Petition.

4. Rulemaking 14-07-002 remains open.

This order is effective today.

Dated February 8, 2018, at San Francisco, California.

MICHAEL PICKER

President

CARLA J. PETERMAN

LIANE M. RANDOLPH

MARTHA GUZMAN ACEVES

CLIFFORD RECHTSCHAFFEN

Commissioners

Appendix A

Changes to D.16-04-020

Discussion of Proposed Amendments to Method 2

Starting on Page 22, amend as follows (additions in italics, deletions in strikeout):

IREC also proposes simplifying the monthly output estimation methodology by basing all paired systems' generation estimates on a single per kW profile for each climate zone based on a south-facing array, or by eliminating any limit on storage device exports, given how unlikely it is for customers to attempt arbitrage on a regular basis. IREC argues that this proposed simplification will minimize IOU administrative resources and avoid the need for the IOUs to calculate a monthly output estimation for each NEM customer's paired system based on its specific location and characteristics. *An option to allow the IOUs to base the generation estimate on a single monthly kWh per kW profile for each climate zone is reasonable and the IOUs may implement it. This estimate should be based on 1) optimal tilt and azimuth; 2) high efficiency panels and micro-inverters that are designed to match those panels; 3) ZIP codes with high customer adoption and high insolation; and 4) minimal shading. While we accept IREC's suggestion to standardize generation estimates, we disagree with IREC's other proposed simplifications including of eliminating the cap on exports, and standardizing generation estimates based on a single south-facing system profile for each climate zone, since* We also note there may be unanticipated consequences if the estimation methodology is standardized for all systems in a given climate zone. As such, the Commission declines to adopt *all of* IREC's proposed modifications.

Findings of Fact

Starting after Finding of Fact 25, add the following Findings of Fact:

26. *A generation estimate consisting of a single monthly kWh per kW scalable profile for each climate zone is a reasonable estimate of the generation output from the solar generator.*

27. *The generation estimate should be updated from time to time to reflect changing efficiencies of modules and inverters. The update can be accomplished through a Tier 1 Advice Letter that notifies the CPUC and stakeholders, including a description of the assumptions used in the estimate.*

Conclusions of Law

Amend Conclusions of Law 1 and 11 as follows:

1. It is reasonable to find that NEM solar PV generating facilities paired with storage devices 10 kW or less may use the estimation methodology referred to as Method 2 in the November 4, 2014 ACR, which caps maximum allowable NEM bill credits based on a *monthly* output profile, or on a *single monthly kWh per kW scalable profile for each climate zone*.

11. The IOUs should update their billing and information technology systems within 180 days to implement the estimation methodology adopted in this decision, or *an estimation methodology creating a single monthly kWh per kW scalable profile for each climate zone*.

Starting after Conclusion of Law 25, add the following Conclusion of Law:

12. *It is reasonable to allow the IOUs to base the generation estimate on a single monthly kWh per kW scalable profile for each climate zone using standard inputs to the EPBB calculator that are applied consistently to all customers for each calendar month. This estimate should assume 1) optimal tilt and azimuth; 2) high efficiency panels and*

micro-inverters that are designed to match those panels; 3) ZIP codes with high customer adoption and high insolation; and 4) minimal shade.

ORDER

Amend Ordering Paragraph 6 as follows:

6. Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company shall update their billing and information technology systems within 180 days to implement the estimation methodology adopted in this Decision, *including a description of any estimation methodology based on a single per kilowatt scalable profile for each climate zone.*

(END OF APPENDIX A)