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)

CLEAN COALITION REPLY COMMENTS ON ASSIGNED COMMISSIONER'S RULING REGARDING THE DEVELOPMENT OF AN ESTIMATION METHODOLOGY FOR NET METERING PAIRED STORAGE DEVICES PURSUANT TO ORDERING PARAGRAPH 6 OF DECISION 14-05-033.

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CLEAN COALITION COMMENTS ON ASSIGNED COMMISSIONER'S RULING REGARDING THE DEVELOPMENT OF AN ESTIMATION METHODOLOGY FOR NET METERING PAIRED STORAGE DEVICES PURSUANT TO ORDERING PARAGRAPH 6 OF DECISION 14-05-033.

I. INTRODUCTION

The Clean Coalition submits the following reply comments on the Assigned Commissioner's Ruling ("ACR") Regarding the Development of an Estimation Methodology for Net Metering Paired Storage Devices Pursuant to Ordering Paragraph 6 of Decision 14-05-033, dated November 4, 2014.

The Clean Coalition is a California-based nonprofit organization whose mission is to accelerate the transition to local energy systems that deliver cost-effective renewable energy, strengthen local economies, foster environmental sustainability, and enhance energy security and reliability. The Clean Coalition drives policy innovation to remove barriers to procurement, interconnection, and realizing the full potential of integrated distributed energy resources, such as wholesale distributed generation, advanced inverters, demand response, and energy storage. The Clean Coalition also designs and implements programs for utilities and state and local governments, including demonstrating that local renewables can provide at least 25% of the total electric energy consumed within the distribution grid, while maintaining or improving grid reliability. The Clean Coalition participates in numerous proceedings in California agencies and before other state and Federal agencies throughout the United States.

II. COMMENTS ON ESTIMATION METHODOLOGY

a. Methodology # 2 Provides the Greatest System Benefits.

The ACR proposes two methods for estimating a limit on the amount of Net Energy Metering ("NEM")-eligible generation from a small (less than 10 kW) NEM generation facility paired with energy storage. In D.14-05-033, the California Public Utilities Commission ("the Commission") cited its policy that NEM benefits should not be credited for any non-NEM eligible generation.[1] Rather than order the installation of costly metering equipment that would

[1] *See* D.14-05-033, p. 19, Conclusion of Law 10.

ensure that energy storage would not be used to shift non-NEM eligible generation onto NEM credited export, the Commission proposed that an estimation methodology be uses to establish a limit for NEM credits.[2] The Clean Coalition appreciates the Commission's use of a cost effective methodology to fulfill its policy goal. Installation of costly metering equipment would not provide a net benefit, especially for smaller facilities, when an estimation methodology would essentially fulfill the same purpose. The Commission should continue to seek to maximize the benefits from its NEM program, while minimizing unnecessary costs and barriers.

A number of parties support the use of Estimation Methodology # 1, which estimates the maximum generation from a NEM generation facility based on hourly estimates, citing the greater accuracy of Methodology # 1 in estimating the actual output of NEM generation, due to its use of more granular hourly intervals.[3] However, such granular accuracy does not, in this instance, appear to provide any real additional benefit, but may instead impose restrictions that reduce the value of these systems to ratepayers. To begin with, there are currently very few significant opportunities for a NEM generation facility paired with storage to be able to profit by using energy storage to take advantage of the difference in rates between on peak and off peak. As the Interstate Renewable Energy Council points out, only for 4 hours on 9-15 days per year under Pacific Gas & Electric's Smart Rate program does it make economic sense to use energy storage to arbitrage rates, given all the costs involved.[4] Moreover, it could be argued that the use of energy storage to shift energy, even brown energy, from off-peak periods to critical peak periods provides a great benefit to the energy grid.

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[2] *See* D.14-05-033, pp. 19-20, p. 36, Conclusions of Law 11, 12, p. 39 Order 6.

[3] *See* Comments of Southern California Gas Company and San Diego Gas & Electric Company on Assigned Commissioner's Ruling Regarding the Development of an Estimation Methodology for Net Energy Metering Paired Storage Devices Pursuant to Ordering Paragraph 6 of Decision 14-05-003 ("SoCalGas/SDG&E Comments"), p. 2; Pacific Gas and Electric Company's Opening Comments on the Assigned Commissioner's Ruling Regarding the Development of an Estimation Methodology for Net Energy Metering Paired Storage Devices Pursuant to Ordering Paragraph 6 of Decision 14-05-033 ("PG&E Comments"), p. 3; Comments of Southern California Edison Company on the Assigned Commissioner's Ruling Regarding the Development of an Estimation Methodology for Net Energy Metering Paired Storage Devices Pursuant to Ordering Paragraph 6 of Decision 14-05-003 ("SCE Comments"), p. 4.

[4] *See* Comments of the Interstate Renewable Energy Council, Inc., on the Assigned Commissioner's Ruling Regarding the Development of an Estimation Methodology for Net Metering Paired Storage Devices ("IREC Comments"), pp. 3-4.

The Commission should not seek to protect against possibilities that could occur only under highly attenuated circumstances. Either estimation methodology performs the essential function establishing the general limit of NEM-eligible generation, although no estimation methodology can guarantee that NEM-paired energy storage will export stored grid energy. For example, SoCalGas/SDG&E points out that *theoretically*, under either Methodology #1 or Methodology #2, a NEM customer still has the ability to game the system.[5] It is true that estimation methodologies, by their nature, cannot provide absolute protection against NEM-paired storage exporting grid energy. Rather than seeking protection against highly unlikely, attenuated occurrences,[6] the Commission should instead approve the methodology that provides the greatest benefits, to both the NEM customer and the system.

As pointed out by Clean Coalition in opening comments, and by many other parties, *Method #2: Establishment of a Maximum Monthly Output Cap* is preferable as an estimation methodology, as a NEM associated storage facility will have a greater opportunity to utilize its capacity in support of efficient grid operation. This methodology allows for NEM generation facilities with storage to provide more benefits to the electricity grid. Several parties present similar scenarios, where a NEM facility paired with storage charges its batteries using solar generation during mid-day and then exports this NEM-eligible generation to the grid later in the day, when the sun no longer shines.[7] However, as SolarCity points out, such exporting of stored energy could be limited by Methodology # 1, as its hourly estimation of solar generation could limit any export after the sun goes down. The more granular methodology could also limit exports resulting from a day that experienced solar generation higher than the norm. In seeking to ensure that NEM credits are not available to non-NEM generation, the Commission should not also limit the benefits that a NEM

[5] *See* SoCalGas/SDG&E Comments, p. 2.

[6] For example, SoCalGas/SDG&E provides the example of a NEM customer charging their battery at super off-peak from the grid, and then exporting from the battery, even if the solar generation is consumed by on-site load. *See* SoCalGas/SDG&E Comments, p. 2. However, there would be little incentive for a customer to do this, when they could simply export their solar generation during on-peak hours, and use their storage for on-site load.

[7] *See* Opening Comments of SolarCity Corporation on the Assigned Commissioner's Ruling Regarding the Development of an Estimation Methodology for Net Energy Metering Paired Storage Devices Pursuant to Ordering Paragraph 6 of Decision 14-05-003 ("SolarCity Comments"), p. 4; Comments of the California Energy Storage Alliance on the Assigned Commissioner's Ruling Regarding the Development of an Estimation Methodology for Net Energy Metering Paired Storage Devices Pursuant to Ordering Paragraph 6 of Decision 14-05-003, p. 2.

facility paired with storage could provide. Methodology # 2 is preferable as it provides the flexibility for a NEM facility to benefit the energy grid.

b. Customers Understanding of Either Methodology Will Be Similar.

Some parties state a preference for Methodology # 1, stating that this methodology is less complex and more understandable for customers.[8] However, in reality, both methodologies will present similar challenges to customer understanding. To begin with, NEM customers will need to understand the underlying need for an estimation methodology to limit their NEM credits. The most difficult component of customer understanding is likely to be this initial step. If a customer understands that their NEM export will be limited by an estimation methodology, it would take considerable inquiry by the customer to understand how *either* of the estimation methodologies operate. The calculations for reaching the estimates are actually much more complex for Methodology # 1, as they involve many more steps. However, many customers will likely not seek to understand the full formulas of the estimation methodologies. Simply understanding that the limits are in place to prevent arbitrage using stored grid energy is the most important factor. Most customers will not understand the full nuts and bolts of the formula, simply seeking to know how their NEM credits are limited on a practical basis.

A total monthly limit on export is just as understandable, if not simpler to understand, than an hourly limit on export. Methodology # 1 requires much greater diligence from customers, as they must ensure, on an hourly basis, that their NEM exports do not exceed the limits.[9] Under Methodology # 2, a customer need only generally know that they cannot be credited for energy in excess of their own production, and they will be free to utilize their storage to maximize the use of solar generation. If they happen to exceed the monthly limits, the exports will be a free benefit to the energy grid.

The formulas and processes of either of the estimation methodologies will only be investigated by the most diligent NEM customers. However, the greater flexibility for exporting NEM energy

[8] *See* PG&E Comments, pp. 3-4; SCE Comments, pp. 4-5.

[9] PG&E proposes an estimation methodology based on 15 minute intervals. *See* PG&E Comments, p. 4. Such granular estimates provide no flexibility at all for customers to use their storage to benefit the system.

provided by the monthly limit is easily understandable by any customer and should lead to greater benefits from NEM generation paired with storage to the energy grid.

III. CONCLUSION

The Clean Coalition appreciates the Commission's work in establishing cost effective solutions for crediting NEM generation and storage. Under the existing NEM rules and procedures, Methodology # 2 provides for the most opportunity for benefits to the electricity grid.

Respectfully submitted,

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