BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Policies, Procedures and Rules for the California Solar Initiative, the Self-Generation Incentive Program and Other Distributed Generation Issues.	Rulemaking 12-11-005 (Filed November 8, 2012)

COMMENTS OF THE UTILITY REFORM NETWORK REGARDING THE INTERCONNECTION OF ENERGY STORAGE SYSTEMS PAIRED WITH RENEWABLE GENERATORS ELIGIBLE FOR NET ENERGY METERING

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Pursuant to directions in the October 17, 2013 Assigned Commissioner's Ruling ("ACR"), as modified by the Assigned ALJ via email on October 24, 2013, the Utility Reform Network ("TURN") respectfully submits these comments concerning the issues identified in the ACR.

I. INTRODUCTION

TURN appreciates that the Assigned Commissioner's Ruling attempts to provide clear guidance so as to expedite the installation of combined storage/generation systems while "preserving the integrity of NEM." TURN offers limited responses at this stage, and we look forward to reviewing the responses of the utilities and storage providers.

The exemption from various charges is based on the recent CEC definition of RPS-eligible renewable electric generation facilities. However, this definition is not controlling for purposes of the NEM definition of a renewable electrical generation facility. TURN does not *per se* oppose the exemption of paired storage from various fees and costs; however, the Commission must balance non-NEM ratepayer interests by imposing a limit on potential revenue losses, to be evaluated annually, and should terminate the exemption automatically at the end of 2015 unless reauthorized by the Commission.

II. COMMENTS ON EXEMPTION FROM FEES AND CHARGES

The ACR proposes that any storage device paired with renewable NEM-eligible systems be exempt from interconnection application fees, supplemental review fees for interconnection, standby charges, and the costs of any distribution system upgrades. The ACR proposes that the utilities collect data on lost revenues and submit a report by June 30, 2015. The ACR also proposes that absent any Commission action by December 31, 2015, these exemptions would continue indefinitely.[1] Given that there were hundreds of SGIP applicants for storage systems in queue by July 2013,[2] and an unknown number of non-SGIP storage projects, this amounts to a minimum three-year pilot test with no firm end date.

A. Storage Systems Are Heavily Subsidized Through SGIP, and NEM Causes Increased Costs to Non-Participants

It is important to recognize that, as demonstrated by the recent NEM cost effectiveness report submitted by this Commission to the Legislature, net energy metering creates a significant cost shift from participants to non-participants.[3] Furthermore, utility ratepayers are significantly subsidizing energy storage

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[1] ACR, p. 8.

[2] ACR, p. 4.

[3] CPUC, "California Net Energy Metering Ratepayer Impacts Evaluation," October 2013. Available at http://www.cpuc.ca.gov/NR/rdonlyres/6A08D3C5-778B-43A2-80DF-1652968C1C78/0/FinalNEMReport.pdf. The cost shift was already $79-252 million in 2012, and projected to grow in the future.

systems under SGIP, both as stand-alone projects and in combination with solar systems.[4]

Since avoided interconnection fees and supplemental review fees are likely only a small part of the NEM shift, TURN does not oppose a pilot program to accelerate the development of the paired storage/generation market. However, such a pilot must not be open-ended. It would be poor public policy to subsidize SGIP storage systems with tens of millions of dollars per year, but then to additionally subsidize distribution upgrade costs for those systems, rather than reducing distribution costs.

B. The Proposed Exemptions Are Not Required By Statute

The basis for the Commission's proposal rests on the fact that the California Energy Commission has determined that integrated energy storage may be an "enhancement," and directly connected storage may be an "addition" to an RPS-eligible renewable electricity generation facility, as defined in §25741(b)(1) of the Public Resources Code. The ACR proposes to "give storage devices meeting the Guidebook requirements the same benefits available to renewable generating facilities under NEM tariffs until, at a minimum, December 31, 2015."[5]

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[4] For example, a perusal of the September 2013 SGIP budget report just for PG&E indicates that the vast majority of the $60 million in reservations for 2012 and 2013 are for advanced energy storage systems, with the majority of the funding going to Tesla or Stem Inc.

[5] ACR, p. 1.

The proposal in the ACR represents a discretionary action to extend a subsidy under NEM. The definition of a "renewable electrical generation facility" eligible for net energy metering treatment in § 2827(b)(11)[6] of the Public Utilities Code is distinct from the corresponding definition in the Public Resources Code. The NEM code specifically does **not** refer to the actual definition of a renewable generation facility in the Public Resources Code, but instead refers to the "renewable sources listed" in the RPS code. In other words, it identifies the renewable fuel sources as the basis for NEM eligibility, but does not include the entire definition of a generation facility in the Resources Code, including the phrase "and any additions or enhancements." The Legislature could have simply referred to the actual definition if they intended to use the identical definition. Under standard canons of statutory construction, the exclusion of language in the Public Utilities Code is presumed to be intentional.[7] Indeed, the PU Code definition specifically excludes certain small hydroelectric generation from NEM eligibility, even though this limitation is not present in the Public Resources Code.

[6] The ACR refers to PU Code § 2827(b)(5), which was the section prior to modification by AB 327. However, the text of both sections is exactly the same.

[7] When specific language is included in one section of statute but excluded in another, the presumption is that this exclusion is intentional. See, for example, *Keene Corp. v. United States*, 508 U.S. 200, 208 (1993).

C. The Exemptions Should be Reevaluated Annually and Terminate Automatically by the End of 2015 Unless Extended

TURN has not had an opportunity to evaluate the potential cost ramifications of this proposal, so it is difficult for us to make unqualified recommendations at this time.[8] The ACR notes that there were about 667 active SGIP incentive applications for storage systems, including about 319 systems paired with generation facilities, as of July 2013.[9]

TURN's initial assumption is that properly sized and configured storage systems, especially small residential systems, would not result in greater potential distribution upgrade costs; however, TURN has not evaluated storage charge/discharge characteristics sufficiently to reach conclusions on this issue. Moreover, TURN assumes that storage located behind a single inverter, especially for small residential systems, would be less likely to create costs related to interconnection and/or supplemental review.

TURN generally supports the promotion of combined storage technologies, since in theory paired storage has the potential to deliver value both to the customer and to the grid, for example by discharging during peak load conditions. However, at the same time TURN is concerned about a potential increase in cost-shifting from NEM to non-NEM customers, especially if the storage system is using grid energy for charging and if distribution system upgrade costs exist. The Commission must balance these interests, and TURN is

[8] Though TURN is a party to both R.11-09-011 and R.12-11-005, TURN has no record of receiving service of the 10/17/2013 ACR.

[9] ACR, p. 4.

concerned that the ACR tips too far in favor of the NEM customer-generator and the storage provider.

The fact that storage batteries would be larger for commercial customers, and would have the potential to provide tariff benefits by reducing demand charges, leads to particular concern about cost-shifting due to larger commercial paired installations.

Thus, TURN recommends that the exemptions proposed in the ACR be more circumscribed as follows:

- The utilities should provide an estimate of avoided costs, segregated by type and customer class, by March 31, 2014 for 2013 lost revenues and by March 31, 2015 for 2014 lost revenues;
- If the lost revenues in either year exceed a cap of $10 million, the program should terminate by the following June 30.
- The exemptions should terminate automatically at the end of 2015. Any reauthorization should follow a review of the relevant data, with an opportunity for comments from stakeholders.

III. COMMENTS ON METERING REQUIREMENTS TO PRESERVE NEM INTEGRITY

The discussion in Section 3.2 explains that the utilities have "hypothesized" that storage devices paired with NEM-eligible generation, for a customer on a time-of-use tariff, could store grid energy during off-peak periods and discharge the energy during peak periods, thus generating NEM credits by recycling grid

energy.[10] The ACR appropriately posits that storage systems "should be configured and metered in order to ensure that NEM credit can only be generated by the eligible renewable electric generation facility."

TURN has not researched battery operation characteristics sufficiently to reach conclusions regarding the circumstances in which batteries could charge during off-peak using grid energy and discharge during peak periods. TURN does agree, however, that this is a scenario that warrants careful consideration to prevent unfair billing credits.

The ACR apparently concludes that metering requirements of the NEM Multiple Tariff can avoid any such problem, but the ACR explains that a potential problem may exist when the storage and generation systems are located behind a single inverter, apparently due to the lack of direct current meters meeting net generation output metering requirements.[11] The ACR asks a number of questions concerning this issue. TURN offers the following preliminary responses to the specific questions posed in Section 3.2.

Question 1

The question asks whether estimated generation should be used as a means to limit NEM export credits. TURN suggests that additional data on the record is needed to determine whether estimated generation for different technologies is accurate enough to act as a limit. E3 has apparently collected an

[10] ACR, p. 5.
[11] ACR, p. 6.

extremely comprehensive database of metered solar generation by half-hour increments. TURN recommends that the Commission seek input from Energy Division staff and E3 as to whether the database is sufficiently robust to estimate output for different locations and system characteristics. TURN assumes that output from residential solar systems could be quite variable due to local building orientation, roof slope and shading. Any "estimated NEM generation" should be calculated so as to account for individual system characteristics.

Question 2

TURN has no comment at this time.

Question 3

Preliminarily, TURN agrees that a customer on a non-time-varying rate would not be able to net credits through arbitrage between recharge and discharge times. However, there are other possible ways in which storage could be utilized to disproportionately reduce bills in a manner that might be inconsistent with the purposes of NEM.

For example, battery storage is already used by commercial customers as a method of reducing peak load and thus reducing demand charges. This service could likewise be accomplished by storage combined with customer-generation. A residential customer could conceivably control battery discharge towards the end of a billing cycle to avoid higher tier rates, though TURN presumes such battery operation would be unusual and probably unlikely to present a significant violation of NEM.

IV. OTHER ISSUES

TURN does not offer comments on the other issues identified in the ACR, but looks forward to reviewing the comments of other parties.

November 1, 2013

Respectfully submitted,

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