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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 (Filed July 10, 2014)

THE ENERGY FREEDOM COALITION OF AMERICA'S OPENING COMMENTS ON REVISED PROPOSED DECISION GRANTING PETITION FOR MODIFICATION OF DECISION 14-05-033 REGARDING STORAGE DEVICES PAIRED WITH NET ENERGY METERING GENERATING FACILITIES

Jason B. Keyes
KEYES & FOX LLP
436 14th Street, Suite 1305
Oakland, CA 94612
Telephone: (510) 314-8203
E-mail: jkeyes@keyesfox.com

Counsel to the Energy Freedom Coalition of America.

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Pursuant to Rule 14.3 of the California Public Utilities Commission's Rules of Practice and Procedure, the Energy Freedom Coalition of America (EFCA) submits these opening comments addressing Administrative Law Judge (ALJ) Kao's December 28, 2018 Revised Proposed Decision (PD) partially granting the September 1, 2017 Petition for Modification filed by the California Solar and Storage Association (CALSSA). Through its petition, CALSSA sought changes to Decision (D.) 14-05-033 to address ongoing concerns and challenges associated with the configuration requirements the Decision established for storage systems paired with net energy metering (NEM) participating solar energy systems.

The specific underlying concerns motivating CALSSA's petition include both the absence of a metering solution for direct current (DC) -coupled storage systems where the storage system is greater than 10 kilowatts (kW) in size, as well as recognition that for alternating current (AC) -coupled systems the available metering options impose significant costs on project developers, as measured in both time and money, and ultimately on customers. While EFCA supported the thrust of the PD issued earlier in this docket, on October 5, 2018, in comments we raised a number of concerns. EFCA sincerely appreciates the revisions reflected in

the revised PD, which largely, if not entirely address the core concern EFCA had raised previously.

The instant PD's reliance on a national or utility-established standard as the means of validating that a NEM-paired storage system can operate in a grid-only charging mode or in a non-export mode represents a critical improvement from the prior PD. Further, by eliminating the prior PD's distinction between software and firmware, terms that were never clearly defined, EFCA believes the revised PD provides a viable approach that more accurately reflects the technology-agnostic lens through which system functionality should be evaluated. Whether a system is able to circumscribe its operations consistent with a no-grid charging or no-export limitation by leveraging software or firmware should not matter; the only thing that matters is that the system does, in fact, conform to those operational restrictions.

I. INTRODUCTION

D.14-05-033 established certain requirements for storage systems paired with NEM-eligible generating facilities (GFs). These requirements were implemented specifically to ensure that the addition of a storage system did not compromise the NEM program by facilitating or enabling customers to receive NEM credit for energy that originated from the grid, recognizing that storage systems could potentially be charged from the grid or from the NEM-eligible GF with which it is paired. Should a customer charge their storage system from the grid, and subsequently export that energy to the grid, the Commission sought to take steps to ensure that NEM credits were only provided for NEM-eligible energy.

The fundamental issue of both NEM and non-NEM eligible resources behind the same meter and being able to appropriately distinguish the origin of any exports pre-exists the advent of storage. To that end, the requirements the Commission ultimately adopted in D.14-05-033

largely borrowed from the existing NEM tariff provisions for Multiple Tariff Facilities (NEM-MT), by requiring NEM-eligible GFs paired with storage devices over 10 kW, to either install:

(1) A non-export relay on the storage device;

(2) An interval meter for the NEM-eligible generation, meter the load, and meter total energy flows at the point of common coupling; or

(3) An interval meter directly to the NEM-eligible generator(s).[1]

Additionally, for smaller systems, defined as those with storage devices of 10 kW and under, in lieu of the third option above, the Commission established an estimation-based approach, which obviated the need for additional metering.[2]

As developers gained experience with this framework, a number of shortcomings have become increasingly apparent, specifically for systems with storage devices greater than 10 kW. First, for DC-coupled systems, there is not currently a utility-approved metering solution that would allow these systems to avail themselves of the third option identified above. For AC-coupled systems, while there is a technical solution, the additional metering[3] adds additional and non-trivial costs and also results in significant delays in project development. For these reasons, EFCA strongly supports the revised PD's additional options beyond the existing approaches to address the concerns regarding NEM integrity.

EFCA believes there is significant potential to rely on the software or firmware controls of inverter-based systems to either ensure that a storage system charges only from solar or that the storage system does not export to the grid. Provided that these conditions are satisfactorily met, NEM integrity would be assured. EFCA thus appreciates and supports the revised PD's

[1] D.14-05-033, Ordering Paragraph 9, p. 40.
[2] D.14-05-033, Ordering Paragraph 5, p. 39 (with estimation methodology to be subsequently established).
[3] Most developers rely on the third option identified in D.14-05-033, specifically deploying a net generation output meter (NGOM) to directly measure the output of the NEM-generator with which a storage system is paired.

determinations that operational controls, certified to a national or utility-established standard, can be used as an alternative to metering solutions to address NEM-integrity concerns. EFCA further supports the revised PD's adoption of the approach to assessing the size of the storage system in the context of DC-coupled systems based on the lesser of the continuous output capability of the storage system or the inverter power rating.

While EFCA strongly supports the revised PD, there are three additional recommendations/clarifications that EFCA hopes the Commission will consider and incorporate into the revised PD to strengthen it further.

- The revised PD should direct the utilities to allow project developers to leverage the identified operational controls as an alternative to the deployment of a net generation output meter (NGOM) in all circumstances where storage is paired with any type of NEM-eligible generation.
- The "lesser of" methodology adopted in the revised PD to establish the capacity of storage devices in DC-coupled systems should also be applied to AC-coupled systems.
- The revised PD's provisions regarding the use of operational controls in lieu of a NGOM should extend to NEM-MT systems where a NEM-eligible GF is paired with a storage device with rated capacity greater than 150% of the GF's rated capacity.

EFCA has included a redlined version of the revised PD in Appendix A attached to these comments. These redlines reflect all of the changes to the revised PD to reflect EFCA's recommendations. In addition, we have included a redline of the revised PD's proposed changes to D.14-05-033 in Appendix B, to reflect all of EFCA's proposed changes.

II. DISCUSSION

A. The revised PD should direct the utilities to allow project developers to leverage the identified operational controls as an alternative to the deployment of a NGOM in all circumstances where storage is paired with any type of NEM-eligible generation.

D.14-05-033 is broadly applicable to NEM-eligible GFs paired with storage devices, as reflected in the decision's title; it is not limited to only "solar plus storage" systems. CALSSA's petition for modification focused on solar plus storage systems, and both the October 5, 2018 PD and the December 28, 2018 revised PD reflect CALSSA's focus. Unfortunately, by its title and its proposed edits, the revised PD may be viewed as limited to solar plus storage systems.[4] There is no reason to only revise D.14-05-033 with respect to storage paired with one type of NEM-eligible GF. EFCA regrets that it did not recognize and raise this point earlier, in comments on the October 5, 2018 PD, but hopes that the Commission will recognize that a few simple changes can more clearly make the revised PD broadly applicable.

There are a number of scenarios where developers deploying storage systems are required to deploy a NGOM solution to address concerns regarding NEM integrity. The prototypical example is storage paired with solar. However, NGOMs are also, for all practical purposes, required in any case where a storage system is paired with a NEM resource or resources regardless of resource type. For example, both wind and fuel-cell generators are eligible to participate in NEM and thus, when paired with storage systems raise similar NEM integrity concerns, necessitating the deployment of an NGOM. EFCA believes that in these cases, projects should also be able to leverage operational controls in lieu of deploying additional

[4] The revised PD indicates at p. 4 that it equates "GFs with NEM-PS devices" with "solar plus storage systems." EFCA is suggesting that the original language be retained to avoid the interpretation that only solar systems are being addressed.

metering. Similarly, in instances where there are multiple NEM generators at the host site where storage is also being deployed, operational controls again should be an allowable alternative.

To effectuate broader applicability of the use of operational controls, EFCA suggests that revisions to D.14-05-033 retain that decision's language regarding "NEM-eligible GFs paired with storage devices," rather than using the shorthand of "solar plus storage systems." To reflect this broader applicability, the end of title of the revised PD should be changed to the language at the end of the title of D.14-05-033: ". . . for Storage Devices Paired with Net Energy Metering Generating Facilities." EFCA has proposed changes to the revised PD and to D.14-05-033 in Appendices A and B to make these changes.

B. The "lesser of" methodology adopted in the revised PD to establish the capacity of storage devices in DC-coupled systems should also be applied to AC-coupled systems.

The revised PD adopts the recommendation to assess the capacity of a storage device paired with solar based on the lesser of the storage device's maximum continuous discharge capacity or the inverter nameplate rating. Although this issue is particularly salient for DC-coupled systems, similar issues motivating the request to shift away from exclusive reliance on the inverter's nameplate capacity can arise for AC-coupled systems. For example, depending on inverter availability and standard sizes, there are instances where the inverter associated with a storage device in an AC-coupled configuration may be larger than the discharge capability of the storage device itself. In such circumstances and under the current methodology of relying on the nameplate rating of the inverter to assess the size of the storage device, a storage device may be unreasonably found to violate the 150% threshold in D.14-05-033 (for storage device capacity as a percentage of GF capacity) even though the capacity of the storage device, as measured by its maximum continuous output rating is below this threshold.

The same logic underlying the revised PD's determinations on this issue with respect to DC-coupled systems is equally valid for AC-coupled systems and therefore should also apply to AC-coupled systems. Reflective of EFCA's first recommendation, this extension of the "lesser of" methodology to AC-coupled systems should cover storage paired with any type of NEM-eligible GF. The language in Appendices A and B reflects this extension of the "lesser of" methodology to storage AC-coupled with any NEM-eligible GF.

C. The revised PD's provisions regarding the use of operational controls in lieu of a NGOM should extend to NEM-MT systems where a NEM-eligible GF is paired with a storage device with rated capacity greater than 150% of the GF's rated capacity.

D.14-05-033 established that to be treated as a NEM system, the capacity of a storage device paired with a NEM-eligible GF cannot exceed 150% of the GF's rated capacity. In practice, there are customers that want a NEM-eligible GFs paired with larger storage devices, and those systems are processed under the NEM-MT provisions, treating the storage device as a non-NEM "generator" paired with a NEM-eligible GF.

EFCA is not proposing to alter the 150% threshold, but does suggest that the revised PD extend the use of operational controls in lieu of a NGOM to systems with larger storage devices. For exactly the same reason that operational controls can assure NEM integrity for systems complying with the 150% limit, operational controls can assure larger storage devices are not charging from the grid or are not exporting to the grid. This extension of the revised PD to NEM-MT systems with larger storage devices is reflected in EFCA's proposed language in Appendices A and B.

III. CONCLUSION

EFCA appreciates the opportunity to submit these opening comments on the revised

Proposed Decision, which effectively addresses the core concern that EFCA raised with respect to the earlier PD issued in this proceeding. As discussed in detail above, EFCA encourages the Commission to expand and clarify the scope of project scenarios that may avail themselves of the opportunity to leverage operational controls in lieu of deploying and NGOM, to cover systems with other NEM-eligible generating facilities, systems with multiple types of generating facilities, and systems with larger storage devices. Additionally, the Proposed Decision should be modified to ensure that the approach to assessing the size of a storage device it approves for DC-coupled systems, namely using the lesser of the maximum continuous discharge rating of the storage system or the inverter's nameplate capacity, is also approved for AC-coupled systems.

Respectfully submitted,

s/ Jason B. Keyes

Jason B. Keyes
KEYES & FOX LLP
436 14th Street, Suite 1305
Oakland, CA 94612
Telephone: (510) 314-8203
Email: jkeyes@keyesfox.com

Counsel to the Energy Freedom Coalition of America

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APPENDIX A

Proposed Changes to the Revised Proposed Decision

Title:

DECISION GRANTING PETITION FOR MODIFICATION OF DECISION 14-05-033 REGARDING ~~SOLAR PLUS STORAGE SYSTEM~~STORAGE DEVICES PAIRED WITH NET ENERGY METERING GENERATING FACILITIES

[and change title in Table of Contents]

Page 18:

CALSSA, CESA and EFCA's comments suggest the distinction between firmware- and software-based options is not as critical as the fact that both options are control-based, i.e., the use of equipment (whether firmware-based or software-based) to conform to either a "no grid charging" or a "no storage export" use case. We are persuaded by the comments of CALSSA, CESA and EFCA that, in lieu of metering requirements, it is reasonable to approve control-based options that have certified to a national standard or a utility- approved interim testing procedure. Rather than limiting the opportunity to leverage certified operational controls to the narrow case of solar combined with storage systems, we believe that in all circumstances where storage is deployed with NEM-eligible generation (e.g. wind and fuel cell generators), that developers should be allowed to use operational controls in lieu of deployment of a NGOM. Included within these circumstances, storage devices with capacity greater than 150% of the GFs with which they are paired, processed as NEM-Multiple Tariffs systems, may use operational controls in lieu of NGOM deployment.

Page 20:

3.2. Determining System Size of DC-Coupled Solar Plus Storage Systems

We approve CALSSA's proposal, as modified in its comments on the original proposed decision, for specifying the way in which storage system size should be measured in DC-coupled systems. We additionally approve utilization of this approach for assessing the size of AC-coupled systems recognizing that similar issues may occur where the inverter associated with a given storage device may exceed the maximum continuous discharge capability of the storage device.

Customer-generators have the option to install a NEM-eligible facility with a greater capacity than the paired storage device. In DC-coupled arrangements, where both the NEM-eligible facility and the paired storage device share one inverter, the inverter's rated capacity may exceed the storage device's capacity. In AC-couple arrangements, it is reasonable to assume that similar circumstances may arise, where for various reasons, such as equipment availability and standard storage unit sizes, the inverter nameplate capacity may materially exceed the maximum continuous discharge capability of the storage device with which its paired. Therefore, it is reasonable in such arrangements, for both DC-coupled and AC-coupled systems, to measure

paired storage device capacity as the lesser of the shared inverter's nameplate capacity and the storage device's maximum continuous discharge capacity listed on the device's technical specifications sheets. If that metric is not included, the electric IOUs may rely on the inverter nameplate rating.

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Finding of Fact 4

4. CALSSA's petition for modification of D.14-05-033 proposes several alternative compliance options for large NEM-eligible facilities paired with energy storage~~, or large solar plus storage systems~~.

New Finding of Fact 8

Currently, in any circumstance where a storage system is deployed with NEM-eligible generation, with the exception of solar paired storage systems where the storage device is less than 10 kW, developers are subject to the requirements identified in D.14-05-033 or the requirements pursuant to the Multiple Facilities Provisions of their NEM tariffs which mandate that that they deploy a non-export relay or additional metering.

New Finding of Fact 9

Because of standard equipment sizes, it is conceivable that in the context of AC-coupled systems, the inverter nameplate capacity may exceed the storage device's capacity.

Page 23:

Conclusion of Law 3

For storage devices paired with NEM-eligible generating facilities, it~~It~~ is reasonable to measure and determine storage system size in both DC-coupled ~~solar plus storage systems~~ and AC-coupled systems as the lesser of the ~~shared~~ inverter's nameplate capacity and the storage device's maximum continuous discharge capacity listed on the device's technical specifications sheets. If that metric is not included, the electric IOUs may rely on the inverter nameplate rating.

New Conclusion of Law 4 *[and renumber current COL 4 as COL 5]*

It is reasonable to expand the use of power control-based options, in lieu of the otherwise applicable requirements pursuant to D.14-05-033 and/or the NEM-multi-tariff provisions on which the D.14-05-033 requirements are based, in any instances where a storage system is paired with NEM-eligible generation.so long as those control-based options have been certified to a national standard or utility-approved interim testing procedure.

Ordering Paragraph 1.a

We approve power control-based options for ensuring net energy metering (NEM) credit accrues only to NEM-eligible generation ~~in large solar plus storage systems~~ where a non-export relay or additional metering would otherwise be required, so long as the control configuration is certified to a national standard or utility-approved interim testing procedure. Power control-based options include using equipment that prevents electricity to be exported from the storage device to the grid, and using equipment that prevents electricity imported from the grid to charge the storage device.

Ordering Paragraph 1.b

We approve, as modified herein to include AC-coupled systems, the proposal of the California Solar & Storage Association, as modified in Section 3.2 of this decision, for specifying the way in which storage system size should be determined in direct current-coupled and alternating current-coupled solar plus storage systems.

Page 24:

Ordering Paragraph 4

Within 45 days after the issue date of this decision, Pacific Gas and Electric Company ~~(the IOUs)~~, Southern California Edison Company and San Diego Gas & Electric Company (the IOUs) must each submit a Tier 2 advice letter modifying their respective net energy metering tariffs and interconnection agreement forms, as applicable, to implement the power control-based options ~~for complying with Decision 14-05-033's~~ as discussed in this decision and reflected in the this decision's changes to D.14-05-033 ~~requirements~~ for NEM generating facilities paired with energy storage devices. These advice letters must also specify that direct current coupled and alternating current coupled solar plus storage systems' size will be determined as the lesser of the nameplate capacity of the inverter with which a storage system is associated ~~shared inverter's nameplate capacity~~ and the storage device's maximum continuous discharge capacity listed on the device's technical specifications sheets. If that metric is not included, the electric IOUs may rely on the inverter nameplate rating.

APPENDIX B

Proposed Changes to the Revised Proposed Decision's Changes to D.14-05-033

Black text is as it appears in the revised PD's Appendix A (plain text is language in D.14-05-033, italicized and underlined text is revised PD's additions, and strikethrough is revised PD's deletions, except that strikethrough of italics in red are EFCA's deletions of revised PD's additions)
Red text, italicized and underlined, is EFCA's proposed additions to the revised PD's changes
Red text, italicized, underlined, and struck through, is EFCA's proposed deletions of language that the revised PD added to D.14-05-033
Red text, underlined and struck through, but without italics, is EFCA's proposed deletions to the original language in D.14-05-033 (only one instance)
Red text, not italicized or underlined, is EFCA's additions to directions regarding what changes are being made

The intent of these changes is that red text could be made black to show all changes to D.14-05-033 that EFCA recommends, including those already in the Dec. 28, 2018 revised PD's changes.

Section 6.2.3 Discussion of Metering Requirements

Starting on Page 21, amend as follows (additions in italics and underlined, deletions in strikeout):

~~Although w~~*W*e recognize that ~~certain single inverter large GFs with NEM- paired storage devices~~*NEM-eligible GFs paired with storage devices by direct current,* ~~*or*~~ *including DC-coupled solar plus storage systems,* may not be able to accommodate the metering requirements as described above*, and that in certain configurations, the metering requirements described above are unnecessary for NEM-eligible GFs paired with storage devices by alternating current, including AC-coupled solar plus storage systems*~~, we choose not to provide an alternative metering solution for such configurations at this time. Therefore, all large NEM-paired storage GFs shall conform to the metering requirements described above~~. *For* ~~*these*~~ *both DC-coupled and AC-coupled NEM-eligible GFs paired with storage devices, we will authorize power control-based options for ensuring NEM credit accrues only to NEM-eligible generation* ~~*in*~~ *for large* ~~*solar plus*~~ *NEM-eligible GFs paired with storage* ~~*systems*~~ *devices so long as the control configuration is certified to a national standard or utility- approved interim testing procedure. Power control-based options include using equipment that prevents electricity to be exported from the storage device to the grid, and using equipment that prevents electricity imported from the grid to charge the storage device.*

Small NEM-eligible GFs with paired storage devices (at 10 kW ~~(AC)~~ or less maximum discharge capacity) may, at the system owner's option, adhere to the metering requirements prescribed for large NEM-paired storage GFs when it is technically feasible to do so. ~~*In*~~ *For both DC-coupled and AC-coupled NEM-eligible GFs paired with ~~solar plus~~ storage ~~systems~~ devices, storage device capacity should be determined as the lesser of the storage device's continuous discharge capacity and the nameplate capacity of the inverter that is shared with the NEM-eligible GF. Continuous output of a storage device should be determined by referring to the device's technical specifications sheet. If that metric is not included, the electric IOUs may rely on the inverter nameplate rating.*

We note that the configurations of NEM Aggregation (NEM-A) and NEM Multiple Tariffs (NEM-MT) are special conditions under the general NEM tariff; therefore, any changes to storage requirements under the NEM tariff that are adopted in this decision would necessarily apply to NEM-A and NEM-MT because they are part of the NEM tariff.

Findings of Fact

Include new Findings of Fact 16, 17, and 18 as follows:

16. *Small NEM-eligible GFs, ~~or~~ including small solar plus storage systems, are NEM-eligible GFs paired with storage sized at 10 kW or less. Large NEM-eligible GFs, ~~or~~ including large solar plus storage systems, are NEM-eligible GFs paired with storage sized larger than 10 kW. ~~In AC-coupled solar plus storage systems, storage device capacity is determined as the (AC) maximum discharge capacity. In~~ For both DC-coupled and AC-coupled ~~solar plus storage systems~~ NEM-eligible GFs paired with storage devices, storage device capacity is determined as the lesser of the storage device's maximum continuous output rating and the nameplate capacity of the inverter that is shared with the NEM-eligible GF. Continuous output of a storage device is determined by referring to the device's technical specifications sheet.*

17. A customer pairing a NEM-eligible GF with a storage device with rated capacity exceeding 150%of the GF's rated capacity may interconnect the paired system and net meter the GF under the terms of the NEM-Multiple Tariffs (NEM-MT).

18. NEM Aggregation (NEM-A) and NEM Multiple Tariffs (NEM-MT) are special conditions under the general NEM tariff; therefore, any changes to storage requirements under the NEM tariff that are adopted in this decision, including those allowing the use of operational controls in lieu of a NGOM, apply to NEM-A and NEM-MT because they are part of the NEM

tariff.

Conclusions of Law

Amend Conclusions of Law 1, 8, 9, 10, 11, 12, 14 and 15 as follows:

1. NEM-paired storage systems should be configured and*/or* metered in such a way as to ensure that NEM credit can only be earned by eligible renewable electric generation.

8. NEM-paired storage systems with storage devices sized at 10 kW or smaller*, as determined pursuant to Finding of Fact 16,* should have no requirement to be sized to the customer demand or the NEM generator.

9. NEM-paired storage systems with storage devices sized larger than 10 kW*, as determined pursuant to Finding of Fact 16,* should have a maximum output power no larger than 150% of the NEM generator's maximum output capacity.

10. Qualified NEM-paired storage systems should be configured and*/or* metered in order to ensure that NEM credit can only be earned by the eligible renewable electric generation.

11. It is reasonable to adopt simpler and more cost-effective sizing and metering requirements to ensure NEM integrity for systems sized at 10 kW or less*, as determined pursuant to Finding of Fact 16*.

12. Small NEM eligible GFs ~~(with storage sized at 10 kW (AC) or less)~~*, as determined pursuant to Finding of Fact 16,* should be permitted to use an estimation methodology based on a presumed generation profile of the GF's NEM generator to validate the eligible NEM credits accrued to the GF.

14. Qualifying large NEM-eligible GFs ~~(with paired storage systems larger than 10 kW (AC))~~*, as determined pursuant to Finding of Fact 16,* should be required to*: 1)* adhere to metering requirements similar to those in the NEM-MT tariff*; 2) use equipment that prevents electricity to be exported to the grid from the storage device; or 3) use equipment that prevents electricity to be imported from the grid to charge a storage device* to ensure that only NEM eligible generation receives NEM credit. NEM-eligible GFs with storage devices sized at 10 kW or less*, as determined pursuant to Finding of Fact 16,* should have the option to adhere to the metering requirements prescribed for large NEM-paired storage GFs when it is technically feasible to do so.

15. The NEM Tariff should be modified to incorporate the sizing and metering

requirements described in this decision for NEM-paired storage systems, both for ~~systems with storage devices greater than 10 kW (AC) maximum discharge capacity and those sized at or below 10 kW (AC) maximum discharge capacity~~ *large NEM-eligible GFs and small NEM-eligible GFs, as defined and determined pursuant to Finding of Fact 16,* upon Commission approval of an estimation methodology based on a presumed generation profile of eligible NEM generators. This modified tariff should apply to NEM-paired storage systems interconnected under the NEM Tariff.

Include new Conclusions of Law 26, 27, and 28 as follows:

26. *For systems interconnecting under net energy metering aggregation (NEM-A), electricity exported to the grid from a paired ~~solar~~ NEM-eligible GF and storage system will generate NEM credits for the NEM-A arrangement, and operational controls may be used in lieu of NGOMs for storage devices in a NEM-A configuration to the extent that operational controls are allowed for use in a non-NEM-A configuration.*

27. For systems interconnecting under NEM-Multiple Tariffs (NEM-MT), electricity exported to the grid from a paired ~~solar~~ NEM-eligible GF and storage system will generate NEM credits for the NEM-MT arrangement, and operational controls may be used in lieu of NGOMs for storage devices in a NEM-MT configuration to the extent that operational controls are allowed for use in a non-NEM-MT configuration.

28. The term "NEM-eligible GF" throughout this decision includes NEM-eligible systems incorporating multiple GFs, such as a system that includes both wind and solar facilities.

Ordering Paragraphs

Amend Ordering Paragraphs 3, 4, 5, 6, 8 and 9 as follows:

3. Net Energy Metering (NEM)-paired storage systems with storage devices sized at 10 kilowatts ~~alternating current~~ or smaller*, as determined pursuant to Finding of Fact 16,* shall have no requirement to be sized to the customer demand or the NEM generator.

4. ~~For~~ Net Energy Metering (NEM)-paired storage systems with storage devices larger than 10 kilowatts ~~alternating current~~*, as determined pursuant to Finding of Fact 16,* shall have a maximum output power no larger than 150% of the NEM-eligible generator's maximum output capacity.

5. Small Net Energy Metering (NEM)-eligible generating facilities, ~~those with NEM-paired storage devices sized at 10 kilowatts alternating current or less~~ *as determined pursuant to Finding of Fact 16*, shall utilize an estimation methodology based on a presumed generation profile of the generating facility's NEM generator as adopted by the Commission subsequent to this decision.

6. The Commission shall issue a separate ruling in this proceeding, Rulemaking 12-11-005, describing the process for finalizing the presumed generation profile based estimation methodology for eligible Net Energy Metering (NEM) generators to be incorporated into a revised NEM tariff for *small* NEM-eligible generating facilities with NEM paired storage devices ~~sized at 10 kilowatts alternating current or less~~*, as determined pursuant to Finding of Fact 16*.

8. *Small Net Energy Metering (*NEM*)*-eligible ~~systems with storage devices sized at 10 kilowatts alternating current or less~~*GFs, as determined pursuant to Finding of Fact 16,* may, at the system owner's option, adhere to the metering requirements prescribed for NEM-paired storage systems larger than 10 kW when it is technically feasible to do so.

9. Large Net Energy Metering (NEM) paired storage systems, those with NEM-paired storage devices larger than 10 kilowatts ~~alternating current~~*, as determined pursuant to Finding of Fact 16,* shall be required to: 1) install a non- export relay on the storage device(s); 2) install an interval meter for the NEM- eligible generation, meter the load, and meter total energy flows at the point of common coupling; ~~or~~ 3) install an interval meter directly to the NEM-eligible generator(s)*; 4) use equipment that prevents electricity to be exported from the storage device to the grid; or 5) use equipment that prevents electricity imported from the grid to charge a storage device.*

END OF APPENDIX B