SB 2836

WRITTEN ONLY

TESTIMONY OF CARLITO P. CALIBOSO
CHAIRMAN, PUBLIC UTILITIES COMMISSION
DEPARTMENT OF BUDGET AND FINANCE
STATE OF HAWAII
TO THE
SENATE COMMITTEE ON ENERGY AND ENVIRONMENT
FEBRUARY 4, 2010

MEASURE: S.B. No. 2836
TITLE: Relating to Net Energy Metering

Chair Gabbard and Members of the Committee:

DESCRIPTION:

This bill would by statute increase the maximum allowable generating capacity of an eligible customer-generator from 50 kilowatts to 100 kilowatts, increases the total allowable rated generating capacity produced by eligible customer-generators from 0.5% to 3% of a utility's peak demand or 15% of peak circuit demand for all distribution level circuits of 12kV or lower.

POSITION:

The Public Utilities Commission ("Commission") believes that this bill is unnecessary as the Commission is already undergoing a detailed analysis of the issues involved in Net Energy Metering and related matters, and provides the following comments.

COMMENTS:

- On March 13, 2008, pursuant to the authority granted in §269-101.5, HRS, in Docket 2006-0084, the Commission approved, by order, an increase of the maximum size of a customer-generator from 50 to 100 kilowatts, and an increase in the system cap from 0.5% to 1.0% of system peak demand. (The individual customer-generator size limit remained 50 kilowatts in the Kauai Island Utility Cooperative ("KIUC").

- On December 26, 2008, the Commission, by order, increased the system caps for MECO and HELCO to 3.0% of system peak demand, and allowed for a further increase to 4.0 % when approved net-metering applications approach the 3.0% cap. It has not yet been necessary to increase the system cap for HECO.

- On January 7, 2010, the parties in Docket 2006-0084 presented a stipulation to move toward a 15% circuit-based threshold, in which further integration studies would be required before allowing additional generation once the threshold is reached. The threshold would not operate as a cap per se, but would also take under consideration other distributed resources that fall under other programs, such as Feed-In Tariffs. The stipulation also proposes to remove the Net Energy Metering system caps, with the adoption of the circuit-based threshold and applicable reliability standards. Note that the proposal in this bill is to establish a 15% circuit cap on Net Energy Metering, where such a strict cap is not proposed to the Commission in Docket 2006-0084.

- To co-exist on an integrated system with other system resources, the multiple programs must follow a consistent set of measures for monitoring, performance and assessment in order to determine overall system-wide impacts and to successfully move away from discrete program caps. The Commission's investigations include the review of such an integrated system.

- Thus, the Commission is already undergoing detailed analysis of these issues, while the proposal in this bill seeks to make decisions on these issues without a full and complete record. While the proposals in this bill are likely well intentioned, it may be counter-productive because it would undermine all of the work and analysis that the parties to the Commission dockets and the Commission have already undertaken.

Thank you for the opportunity to testify.

Testimony before the
Senate Committee on

Energy and Environment

S.B. 2836 -- Relating to Net Energy Metering

Thursday, February, 4, 2010
3:00 pm, Conference Room 225

By Arthur Seki
Director, Renewable Technology
Hawaiian Electric Company, Inc.

Chair Gabbard, Vice-Chair English and Members of the Committee:

My name is Arthur Seki. I am the Director of Renewable Technology for Hawaiian Electric Company. I am testifying on behalf of Hawaiian Electric Company (HECO) and its subsidiary utilities, Maui Electric Company (MECO) and Hawaii Electric Light Company (HELCO).

We recognize the Legislature's strong interest in seeing more renewable energy development in the State and are committed not only to supporting renewable energy development but also to conservation and energy efficiency practices to reduce the State's dependence on imported oil.

S.B. 2836 is not necessary given the fact that the Net Energy Metering (NEM) program parameters have been already established by the PUC, which varies for each utility in the state.

We strongly support the continued role of the PUC and the regulatory review process to examine these program design details. This is especially important given the complexity of the technical, cost, and regulatory policy issues associated with net metering and other renewable energy development mechanisms administered by the PUC.

Thank you for the opportunity to testify.

LINDA LINGLE
GOVERNOR

JAMES R. AIONA, JR.
LT. GOVERNOR

STATE OF HAWAII
OFFICE OF THE DIRECTOR
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS
335 MERCHANT STREET, ROOM 310
P.O. Box 541
HONOLULU, HAWAII 96809
Phone Number: 586-2850
Fax Number: 586-2856
www.hawaii.gov/dcca

LAWRENCE M. REIFURTH
DIRECTOR

RONALD BOYER
DEPUTY DIRECTOR

TO THE SENATE COMMITTEE ON ENERGY AND ENVIRONMENT

THE TWENTY-FIFTH LEGISLATURE
REGULAR SESSION OF 2010

TUESDAY, FEBRUARY 4, 2010
3:00 P.M.

TESTIMONY OF DEAN NISHINA, EXECUTIVE DIRECTOR, DIVISION OF CONSUMER ADVOCACY, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, TO THE HONORABLE SENATOR MIKE GABBARD, CHAIR, AND MEMBERS OF THE COMMITTEE

SENATE BILL NO. 2836 - RELATING TO NET ENERGY METERING

DESCRIPTION:

This measure proposes to modify Hawaii Revised Statutes ("HRS") Section 269-01.5 to:

- Increase the maximum allowable generating capacity of an eligible customer-generator from 50 kilowatts ("kw") to 100 kw; and
- Increase the total allowable rated generating capacity of eligible customer-generators from 0.5% to 3% of a utility's peak demand or 15% of peak circuit demand for all distribution-level circuits.

In addition, modifications are proposed to HRS Section 269-104 to be consistent with the proposed revisions to HRS Section 269-101.5.

POSITION:

The Consumer Advocate offers comments.

COMMENTS:

This measure proposes to make certain changes to the law related to net energy metering and the eligible customer-generators. The proposed changes are generally in alignment with stipulations between the HECO Companies and the Consumer Advocate that are currently pending or have already been approved by the Hawaii Public Utilities Commission ("Commission"). For the committee's convenience, attached is a copy of the stipulation most recently submitted to the Commission between the HECO Companies and the Consumer Advocate regarding net energy metering, which was filed with the Commission on January 7, 2010. This stipulation has not yet been approved by the Commission.

If the proposed measure is adopted as is, it might create an unintended effect. As noted in the attached stipulation, there is movement towards removing system wide caps pending the establishment of certain reliability standards and other related regulatory action. Thus, if the stipulation is adopted and this measure is approved, there may be a potential conflict.

Thus, given the activity occurring and actions being taken by the parties in proceedings before the Commission related to net energy metering, I request that the committee consider allowing this matter to follow its course before the Commission.

Thank you for this opportunity to testify.

January 7, 2010

FILED
2010 JAN -7 P 4:17
PUBLIC UTILITIES COMMISSION

The Honorable Chairman and Members of the
Hawaii Public Utilities Commission
465 South King Street
Kekuanaoa Building, 1st Floor
Honolulu, Hawaii 96813

Subject: Docket No. 2006-0084 – Net Energy Metering Law Investigation
Stipulation on the Hawaiian Electric Companies' Net Energy Metering System Cap

Decision and Order No. 24089, filed March 13, 2008 in the above subject docket, approved among other things, the stipulation between the Hawaiian Electric Companies,[1] the Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs ("Consumer Advocate"), the Hawaii Renewable Energy Alliance and the Hawaii Solar Energy Association filed on September 17, 2007. The stipulation states that proposed changes to any of the existing Net Energy Metering ("NEM") thresholds would be in a form of a stipulation between the utility and the Consumer Advocate that would be filed with the Commission for approval[2].

The Hawaiian Electric Companies and the Consumer Advocate respectfully file for Commission approval the enclosed stipulation, which memorialize the agreements reached between the Hawaiian Electric Companies and the Consumer Advocate on the proposed changes to the NEM system caps for the Hawaiian Electric Companies. (See Exhibit 1.)

Sincerely,

DARCY L. ENDO-OMOTO
Vice President
Hawaiian Electric Company, Inc.
Hawaii Electric Light Company, Inc.
Maui Electric Company, Limited

DEAN NISHINA
Executive Director
Division of Consumer Advocacy
Department of Commerce and Consumer Affairs

cc: Warren Bollmeier II
Rick Reed/Mark Duda
Erik Kvam
Kent Morihara/Kris Nakagawa

[1] Hawaiian Electric Company, Inc. ("Hawaiian Electric"), Hawaii Electric Light Company, Inc. ("HELCO"), and Maui Electric Company, Limited ("MECO") are collectively referred to as the "Hawaiian Electric Companies" or the "Companies".

[2] See page 9, bullet 5 of Decision and Order No 24089 in Docket 2006-0084, dated March 13, 2008.

HAWAIIAN ELECTRIC COMPANIES
STIPULATION ON NET ENERGY METERING SYSTEM CAP

Background

On March 13, 2008, the Public Utilities Commission ("Commission") issued Decision and Order No. 24089 in Docket No. 2006-0084 which approved the stipulation filed by Hawaiian Electric Company, Inc. ("Hawaiian Electric"), Hawaii Electric Light Company, Inc. ("HELCO"), Maui Electric Company, Limited ("MECO"), the Department of Commerce and Consumer Affairs, Division of Consumer Advocacy ("Consumer Advocate"), Hawaii Renewable Energy Alliance ("HREA"), and Hawaii Solar Energy Association ("HSEA") on September 17, 2007 with regard to Net Energy Metering ("NEM"). For the purposes of this document, Hawaiian Electric, HELCO, MECO, the Consumer Advocate, HREA, and HSEA are collectively referred to as the "Parties."

In Decision and Order No. 24089, the Commission approved the increase of: 1) the maximum size of the eligible customer-generator that qualifies for a NEM arrangement from 50 kW to 100 kW; and 2) the system cap from 0.5% to 1.0% of system peak demand. In addition, the Commission approved, for the Hawaiian Electric grid, reservation of 40% of the 1.0% system peak demand for small systems that have a NEM generator size of 10 kW or less, leaving 60% of the 1.0% system peak demand for systems with a NEM generator size over 10 kW. For the HELCO and MECO grids, the Commission approved reservation of 50% of the 1.0% system peak demand for small systems that have a NEM generator size of 10 kW or less, leaving 50% of the 1.0% system peak demand for systems with a NEM generator size over 10 kW.

The Commission also approved the process that any future potential increases to the maximum size of eligible NEM generators and the system cap would be analyzed in each electric

utility's integrated resource planning ("IRP") process. The Commission directed that if the utility and advisory group members reach agreement to change any of the existing thresholds, a request in the form of a stipulation between the utility and the Consumer Advocate should be filed with the Commission, subject to Commission approval.

On December 3, 2008, stipulations were filed between HELCO and the Consumer Advocate and MECO and the Consumer Advocate on the proposed changes to the NEM system cap limits from 1.0% to 3.0% of system peak demand for both HELCO and MECO. The maximum size of the eligible customer-generator remained unchanged at 100 kW. HELCO and MECO agreed to reserve 40% of the 3.0% system peak demand for small systems that have a NEM generator size of 10 kW or less, leaving 60% of the 3.0% system peak demand for systems with a NEM generator size over 10 kW, which is the same as Hawaiian Electric's current NEM allocation. In addition, HELCO and MECO agreed to increase the system cap from 3.0% to 4.0% of system peak demand at the point when approved NEM applications equal or exceed 75% of the then existing 3.0% of system peak demand cap for either ≤10 kW systems or > 10 kW systems. HELCO and MECO will reserve 30% of the 4.0% system peak demand for small systems that have a NEM generator size of 10 KW or less, leaving 70% of the 4.0% system peak demand for systems with a NEM generator size over 10 kW. Potential increases to the maximum size of eligible NEM generators and to the system cap in excess of 4.0% would be analyzed in each electric utility's IRP process, as provided for and approved in Decision and Order No. 24089.

On December 26, 2008, the Commission issued an Order Approving, in Part, and Denying, in Part, Stipulations filed on December 3, 2008 ("Order"), among other things approving the increased NEM limits for HELCO and MECO and denying the proposal to

consider future increases to HELCO's and MECO's NEM limits in their respective IRP process[1]. In addition, the Parties were to inform the Commission of any new review process for considering any future increases to the NEM limits for the Hawaiian Electric Companies and to submit a stipulated proposed plan to address the Hawaiian Electric Companies' and Consumer Advocates NEM Agreement, as set forth in the Energy Agreement.

On August 14, 2009, the Hawaiian Electric Companies and the Consumer Advocate submitted their proposed plan to Address NEM ("Proposed Plan"), as set forth in the Energy Agreement. The NEM agreement as set forth in the Energy Agreement states in pertinent part that:

> *The parties are in agreement that there should be no system-wide caps on net energy metering at any of the Hawaiian Electric utilities. Instead, the parties agree to the following:*
>
> - *Distributed generation interconnection will be limited on a per-circuit basis, where generation (including PV, micro wind, internal combustion engines, and net metered generation) feeding into the circuit shall be limited to no more than 15% of peak circuit demand for all distribution level circuits of 12kV or lower;*
> - *New DG requests shall be processed and interconnected on a first-come, first-served basis unless the Commission specifies some other method;*
> - *For those circuits where interconnection requests (particularly for PV) approach the 15% limit, the utility will perform and complete within 60 days after receipt of an interconnection request, a circuit-specific analysis to determine whether the limit can be increased.* ***

Energy Agreement Section 19, Net Energy Metering (NEM).

---

[1] Consistent with the Energy Agreement among the Governor of the State of Hawaii, the State of Hawaii Department of Business, Economic Development and Tourism, Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs, and the Hawaiian Electric Companies ("Energy Agreement"), signed on October 20, 2008, and pursuant to a request by the Hawaiian Electric Companies and the Consumer Advocate, the commission closed Docket No. 2007-0084 (Hawaiian Electric's IRP-4). In addition, the commission sua sponte closed Docket No. 04-0046 (HELCO's IRP-3) on November 26, 2008, and Docket No. 04-0077 (MECO's IRP-3) on December 8, 2008.

The Hawaiian Electric Companies propose to move forward on the planned removal of the system-wide caps for NEM, however as stated in the Proposed Plan, there needs to be a formal process identified and in place to assess and routinely review the changes on distribution circuit demand and aggregated impact of distributed generation connected at the distribution level on the overall system for each of the Hawaiian Electric utility's grids. As stated in the Proposed Plan for NEM, removal of system-wide caps needs to be assessed and reviewed in order to ensure circuit reliability, safety and overall grid stability on all the grids.

Protection Provisions in NEM

The original intent of the NEM cap was to provide a protective provision to ensure that the overall reliability of the grid would not be negatively impacted by any large aggregate of "as-available" NEM resources connected at the distribution level. As cited in the Hawaiian Electric Companies' response to TPL-IR-11 in the Feed-in Tariff ("FIT") proceeding, Docket No. 2008-0273, filed on March 13, 2009, high amounts of intermittent resources like PV, will have an adverse electrical impact due to the fact that the grid controls and circuit protection schemes were not designed to accommodate significant levels of bi-directional energy generation across distribution circuits. This fundamental shift in the use of the distribution circuits to deliver energy from a central station generation to loads and now to also transmit energy from loads back into the grid, requires system-level changes and measures (in the form of protection provisions or standards) be implemented and maintained to continue fostering a reasonable growth of customer-sited renewable energy resources.

Since the signing of the Energy Agreement in October 2008, there have been a number of developments and changes in system conditions that warrant additional overall system-wide review and care in the practice of setting or removing any caps for an individual procurement

mechanism (i.e. NEM, FIT, PV Host, etc). Section 19 of the Energy Agreement states that "NEM currently provides an interim measure to encourage the installation of and pay for renewable energy generated from customer-sited systems, generally PV systems" and "...parties agree that NEM will be replaced with an appropriate "feed-in-tariff (FIT)". However, on September 25, 2009 the Commission issued a Decision and Order in the FIT proceeding ("FIT D&O") stating that NEM and FIT will continue to co-exist for some time along with other existing complementary mechanisms for procuring and encouraging renewable resources. Additionally, these co-existing programs would not be replaced or markedly affected by FIT, a program that offers a program to procure smaller distributed renewable resources which could inadvertently compete with NEM for limited space on the circuits to accommodate such distributed resources. As mechanisms to foster renewable development, these individual programs all have merit for targeting respective markets. However, to co-exist on an integrated system with other system resources, the multiple programs must follow a consistent set of measures for monitoring, performance and assessment in order to determine overall system-wide impacts and to successfully move away from the management of discrete program caps.

Basis to Move Forward

Consistent with the concepts set forth in the FIT D&O and the discussions in the FIT workshops, the Hawaiian Electric Companies are pursuing a number of steps to implement consistent measures which advocate standards and a transparent process to assess overall grid reliability and impacts due to emerging resources on the grid. The Proposed Plan provided by the Company (August 14th, 2009) described some of the components to address NEM, including

- Adoption of a 15% per circuit distribution generation trigger for conducting further circuit-level impact studies as part of a Rule 14H modification,

- Removal of individual program caps (i.e. NEM) in favor of more overall system-wide assessments, and
- Use of Locational Value Maps ("LVM"), a component of a formal Clean Energy Scenario Planning ("CESP") framework as an indicator of circuit penetration levels.

As part of the FIT, the Company is pursuing development of Reliability Standards to formalize system operational requirements to ensure overall system reliability, manageability and security of the grid. These Standards along with Rule 14H Interconnection Standards form a set of measures by which all resources interconnecting to the island grids must conform to and satisfy. These measures are the basis by which the Company will be able to assess the system as a whole versus in parts, which has sometimes been the result of the rapid deployment of multiple renewable procurement programs. This consolidation of measures into a consistent set of Standards will increase transparency as well as focus efforts when changes are required. The move toward a more strategic integrated assessment approach (basis and process) provides additional advantages for optimizing the overall manageability of resources (central station to customer-based resources) as well as to better position the island grids to be able to assess and adopt new technologies for managing intermittency.

Reliability and Interconnection standards shall provide the basis by which protection measures on system reliability are maintained and periodically reviewed. The Company may use the CESP Advisory Committee and the minimum quarterly meetings proposed in the Company's CESP Framework to seek input and present updates to the Reliability and Interconnection standards. Overall system level caps can be derived based on these protection measures and re-evaluated. As such, the goal is to move away from setting caps on each individual procurement program (etc. NEM, FIT, PV Host) and instead evaluate the system level impact of resources

interconnected at the distribution level and those that are connected at the sub-transmission and/or transmission level, depending on the applicable island grid.

Implementation

As the development of initial Standards (basis) are scheduled to be completed in 2010, provisions must be considered to maintain existing caps and limits until a timely transition is made. Modifications to the Rule 14H Interconnection Standards will be filed in January 2010 and the establishment of Reliability Standards in February 2010 -- both are envisioned to capture the initial grid reliability components and recommendations discussed above, and applicable to NEM.

Until a decision has been made by the Commission to adopt the Rule 14H modifications, existing NEM system-wide caps should remain in place in the interim. As indicated by HELCO's targeted study[2], at an advanced stage of renewable energy penetration, small penetrations at the distribution level could have major impacts on overall grid reliability and responsiveness even during normal operations. As such, removal of NEM provisions intended to provide additional system protection (i.e. caps), reflected in Section 19 of the Energy Agreement, needs to be planned, assessed and reviewed in the context of the whole system in order to ensure circuit reliability, safety and grid stability[3].

---

[2] See Attachment 1 of August 14, 2009 filing in Docket No. 2006-0084.

[3] Other relevant timeframes associated to development of Standards and CESP Process

- Rule 14 H Proposed Modification Filing – January 2010
- Preliminary LVM – December 2009, complete
- Initial Baseline Reliability Standards – February 2010
- CESP Framework Filing – Summer 2010

Stipulation

The following sets forth the NEM limits agreed upon by the Hawaiian Electric Companies and the Consumer Advocate, along with the process to adjust NEM limits and the review and integration of changes to NEM limits with the proposed CESP process.

Hawaiian Electric Companies' Proposed Changes to NEM Limits

The Hawaiian Electric Companies will remove the NEM system caps with the adoption of the Rule 14H modifications and the establishment of Reliability Standards (anticipated to be filed on February 4, 2010 in Docket No. 2008-0273). The maximum size of the eligible customer-generator that qualifies for a NEM arrangement remains unchanged at 100 kW.

Proposed modifications to the maximum size of eligible NEM generators and to the system cap would be considered and reviewed in each of the Hawaiian Electric Companies' respective CESP processes[4]. In the interim, prior to the establishment of a CESP Advisory Committee, it is proposed that requests to modify the NEM limits, if any, be addressed and reviewed by the Parties to the NEM docket.

The Hawaiian Electric Companies will continue to provide an annual report on the progress of meeting the renewable portfolio standards ("RPS") that includes the estimated amount of renewable energy provided through the NEM program, including system sizes and total contribution as a percentage of the net peak of the system.

The Hawaiian Electric Companies will report to their respective CESP Advisory Committees (when established), the Consumer Advocate, and the Commission when NEM participation affects or is anticipated to impact system reliability, system safety, and/or power quality, as well as when NEM participation requires necessary changes to the utility

[4] See October 27, 2009 letter from Hawaiian Electric to the Commission in Docket No. 2006-0084.

interconnection standards in Rule No. 14. Also, the economic impact of NEM systems will continue to be discussed in future general rate case applications. Currently, the economic impact of NEM systems at Hawaiian Electric for test year 2009 is discussed by Peter Young in HECO T-22 in Docket No. 2008-0083, HELCO for test year 2010 is discussed by Peter Young in HELCO T-19 in Docket No. 2009-0164, and in MECO for test year 2010 is discussed by Peter Young in MECO T-20 in Docket No. 2009-0163.

In the annual NEM report, the Hawaiian Electric Companies will include estimates of the rate and revenue impact of current NEM participation.

HAWAII RENEWABLE ENERGY ALLIANCE
46-040 Konane Place #3816, Kaneohe, HI 96744 -- Telephone/FAX: 247-7753 – Email: wsb@lava.net

TESTIMONY OF WARREN BOLLMEIER ON BEHALF OF THE HAWAII RENEWABLE ENERGY ALLIANCE BEFORE THE SENATE COMMITTEE ON ENERGY AND ENVIRONMENT

SB 2836, RELATING TO NET ENERGY METERING

February 4, 2010

Chair Gabbard and Vice-Chair English and members of the Committee, I am Warren Bollmeier, testifying on behalf of the Hawaii Renewable Energy Alliance (HREA). HREA is an industry-based, nonprofit corporation in Hawaii established in 1995. Our mission is to support, through education and advocacy, the use of renewables for a sustainable, energy-efficient, environmentally-friendly, economically-sound future for Hawaii. One of our goals is to support appropriate policy changes in state and local government, the Public Utilities Commission and the electric utilities to encourage increased use of renewables in Hawaii.

The purposes of SB 2836 are to: (i) Increase the maximum allowable generating capacity of an eligible customer-generator from 50 kilowatts to 100 kilowatts; and (ii) Increase the total allowable rated generating capacity produced by eligible customer-generators from 0.5% to 3% of a utility's peak demand or 15% of peak circuit demand for all distribution level circuits of 12kV or lower.

HREA supports this measure and In support we offer the following comments and recommendations:

1. 100 kW C-G Limit. The limit for HECO has already been raised to 100 kW by PUC Order, while the limit for KIUC remains at 50 kW. Thus, this measure would memorialize the PUC Order for HECO and increase the CG for KIUC;

2. 3% or 4% System Limits vs. 15% Criteria. Similarly, by PUC Order (following a stipulation among the Parties in the Net Metering docket), the system limits for MECO & HELCO were increased to 3% and will increase to 4% over time. By this measure, system penetration would be increased to 3% for KIUC. We note that Parties and HECO are in general agreement that large CGs don't pose technical interconnection issues per say. In our opinion, three issues remain to be resolved:

    a. Should net metering remain to be an option for new CGs and up to what size, in addition to options for other agreements, such as Feed-In Tariffs and Schedule Q contracts?

    b. How can we increase circuit limits beyond the current proposed 15% level by HECO and is their a hard upper limit?

    c. Can we establish consensus as to the economic impacts of net metering, e.g., is there a significant cost born by non-participating ratepayers for net metering?

3. Recommendation. While we believe the PUC has the authority to order the changes proposed in the measure, we see value in codifying the continuation of net metering and urging swifter resolution of the issues. That said, HREA could live with increasing the system limits to 5% and the circuit limits to 30%.

Thank you for this opportunity to testify.