

SB 1456

**TESTIMONY OF CARLITO P. CALIBOSO
CHAIRMAN, PUBLIC UTILITIES COMMISSION
DEPARTMENT OF BUDGET AND FINANCE
STATE OF HAWAII
TO THE
SENATE COMMITTEES ON ENERGY & ENVIRONMENT
AND
COMMERCE & CONSUMER PROTECTION
FEBRUARY 3, 2011**

MEASURE: S.B. No. 1456
TITLE: Relating to Energy.

Chairs Gabbard and Baker and Members of the Committees:

DESCRIPTION:

This bill establishes the Hawaii Electricity Reliability Council to develop and implement grid reliability and interconnection standards.

POSITION:

The Commission does not object to this bill at this time. It may be beneficial to establish such an entity, but we would like more time to evaluate the proposal more thoroughly.

COMMENTS:

The Commission agrees that resolving grid reliability and interconnection issues will be critical to achieving State clean energy objectives. An independent, properly funded body with the authority and technical expertise to set standards and enforce them could help the State move more quickly toward those objectives.

Reliability standards are currently being developed as part of the Commission's feed-in tariff proceeding. The structure for the development of the standards includes a working group, a technical support group, an independent technical review committee and an independent facilitator. An entity such as the proposed Reliability Council would serve a similar function.

The Commission is uncertain whether attaching the proposed Reliability Council to the Commission for "administrative purposes" is proper because the Commission may not have the capability to provide all of the administrative supervision and support required by law. See HRS section 26-35.

Thank you for the opportunity to testify.

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To: Senate Committees on Energy and Environment
and on Commerce and Consumer Protection

From: Cathy L. Takase, Acting Director

Date: February 3, 2011, 2:45 p.m.
State Capitol, Room 225

Re: Testimony on S.B. No. 1456
Relating to Energy

Thank you for the opportunity to submit testimony on S.B. No. 1456, which would establish a Hawaii Electricity Reliability Council.

OIP takes no position on the creation of the council. However, OIP suggests a clarification to the provision beginning at line 17 of page 6, which permits the council to go into closed session "to receive information that is proprietary or confidential to a particular enterprise or the disclosure of which might be harmful to the business interests of the enterprise." OIP suggests that the provision specifically refer to the protection of confidential business information under the Uniform Information Practices Act, to make clear that this allows the council to keep confidential the same sort of information that it could keep confidential in response to a record request. Specifically, the provision should read "to receive confidential business information or trade secrets that would be protected from disclosure under section 92F-13."

Thank you for the opportunity to testify.

**Hawaiian Electric Company, Inc.
Testimony on S.B. 1456**

**Senate Committee on Energy & Environment
February 3, 2011, 2:45 p.m.**

Chair Baker, Chair Gabbard, Vice Chair Taniguchi, Vice Chair English and Committee members:

My name is Leon Roose and I am the Manager of System Integration, at Hawaiian Electric Company, Inc. Hawaiian Electric Company, Maui Electric Company, Limited, and Hawaii Electric Light Company, Inc. (hereinafter collectively the "Companies") agree that effective grid reliability standards and requirements, interconnection requirements for generation and electric customer facilities connected at both the distribution and transmission levels on the grids operated by the Companies, and operating requirements and procedures are all important to meeting clean energy goals embodied in state policy and embraced by the Companies.

Grid reliability and interconnection requirements

In the case of the individual isolated island grids in Hawaii, effective grid reliability standards and interconnection requirements applicable to each of the systems already exist and are embodied within the Public Utilities Commission ("PUC") General Orders, utility tariffs such as the standards for the *Interconnection of Distributed Generating Facilities Operating in Parallel with the Company's Electric System* (Rule No. 14H) and *Net Energy Metering* (Rule No. 18), numerous generation, transmission and distribution planning criteria for each of the systems, and requirements embodied in power purchase agreements between a utility and a generation facility, each of which are approved by the PUC.

The PUC currently has the authority and ability to establish service and reliability standards through its General Orders and various decisions and orders via established regulatory proceedings. The PUC also has the authority to require and oversee technical studies relating to the integration of renewable energy in Hawaii, as it is currently doing as part of the Feed-in Tariff ("FIT") docket. With these measures already in place, this bill would inject another layer of complexity, unnecessary redundancy and additional cost to the current regulatory structure.

NERC Standards are not applicable to the integration of renewable energy resources on Hawaii's isolated island grids

NERC evolved to ensure reliability amongst the North American interconnected transmission grids. In the case of Hawaii and Alaska, our systems are not connected to other neighboring utility systems. The actions of the operation of our island power systems do not affect the reliability of neighboring utilities via an interconnection and thus, are not included under the jurisdiction of this entity.

NERC defines the reliability requirements for planning and operating the North American bulk power system (i.e. at the bulk transmission system level, related transmission interconnections with other utilities and generation resource interconnections to a utility's

bulk transmission system). NERC's intent is to provide planning and operating standards that enable the reliable interoperation between interconnected operating utilities and generation resources that comprise the bulk power system. Fundamentally lacking such interconnections, reliance on NERC standards in Hawaii is misplaced.

Although not under NERC direction, we are under the authority of the PUC. The Commission effectively examines issues such as the performance of the utilities in meeting reasonable reliability requirements, requirements placed upon generation resources connecting to the utility grid, and considers other critical factors such as the costs incurred by ratepayers as a result of the interconnection and integration of generating resources. As noted previously, the PUC approves interconnection requirements embodied in tariffs and contractual terms embedded within power purchase agreements approved by the Commission.

At present, NERC (and FERC) have focused authority over the interconnected transmission systems. NERC standards do not cover generation resources interconnected to the distribution systems of individual utilities. Requirements for the interconnection of distributed generation resources are therefore left to the utilities and their local regulating bodies. As such, the NERC reliability and interconnection standards are not applicable and do not provide meaningful direction to issues associated with the interconnection of distributed resources to the Companies' respective distribution systems. In approving utility tariffs associated with the standard interconnection of distributed renewable energy resources on the island grids, the PUC has effectively used its regulatory authority in the form of docketed proceedings (e.g. Rule No. 14H docket; FIT docket) providing full due process and opportunity for participation and input by interested stakeholders.

To the degree this legislation proposes to develop "standard" interconnection requirements for large generation resources to be connected to the transmission system of the Companies, it is noted that NERC does not define such standard interconnection agreements. It is the industry norm to evaluate transmission interconnections on a project basis to consider the point of interconnection and the generator characteristics and impact to grid reliability and operation. This level of technical analysis is even more essential for the small isolated systems of the Hawaiian Islands due to the greater impact any individual project has on the overall system.

Senate Bill 1456 also extends beyond the focus of power system reliability and the role of NERC in the planning and operation of the interconnected bulk transmission system in North America. The envisioned Hawaii electricity reliability council would to a significant degree assume much of the control, but not the related responsibility and obligations of the utility to plan and operate the power system. This council would decide, in its sole discretion, the interconnection requirements for generation resources on both the transmission and distribution systems. In this form, it appears that the proposal would bypass critical processes that are essential to ensuring the power systems are planned and operated prudently, including a balancing of economic factors which are essential to ensuring a sustainable system and managing the impact on all customers served. These cost issues are as important as the technical considerations. Examinations of the impact on ratepayer costs, evaluation of the overall system plan, and the mechanisms by which cost impacts are to be considered in the council's decisions are not addressed in this bill. It is also not described how purchase power prices or other energy purchase

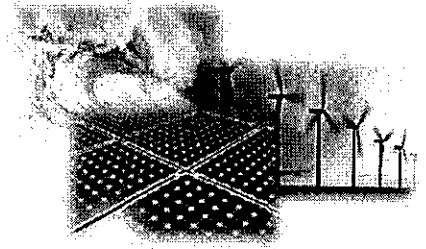
provisions would be determined, as those economic implications must be considered in the balance.

Funding and capability limitations of a Hawaii electricity reliability council

If this bill were enacted, there is significant doubt that a non-compensated council could attract members with the requisite time, experience and expertise to develop the envisioned reliability and interconnection standards, and implement the required assessments for all generator interconnection requests across each of the Hawaii utility systems. The bill contemplates a far reaching role for the council in that it "shall undertake technical studies necessary to evaluate compliance of the requested interconnection with the interconnection standards", and "shall retain final authority to approve or deny, at its sole discretion, any request to interconnect to the electric system." This expansive and continuous scope of responsibility will require significant time commitment by council members and significant expense. The funding to conduct the required technical studies and an effective standards development and implementation process are not addressed in the bill.

As is stands today, the public utilities that provide electric service in Hawaii, with the oversight of the PUC, are each responsible for the safe, reliable, and cost effective delivery of power to its customers. This bill would shift much of that responsibility to a council which would appear to lack the critical funding to secure qualified members in the first instance, lack the needed funding to develop the desired standards for each of the utility grids affected, and lack the time and funds to follow through with the evaluations and process steps in the review and approval of all interconnections requests in the state.

Accordingly, the Companies conclude that the creation of the council as envisioned in this bill is unnecessary and diverts scarce resources, particularly in the current economic environment, to efforts that are duplicative of existing utility and PUC initiatives.



**SENATE COMMITTEE ON COMMERCE AND CONSUMER PROTECTION
SENATE COMMITTEE ON ENERGY AND ENVIRONMENT**

February 3, 2011, 2:45 P.M.

Room 225

(Testimony is 3 pages long)

TESTIMONY IN STRONG SUPPORT OF SB 1456

Chairs Baker and Gabbard and members of the Committees:

The Blue Planet Foundation strongly supports SB 1456, a measure to establish formal, objective, and verifiable reliability and interconnection standards for Hawaii's electricity grids. This measure will help to ensure electricity grid stability and reliable power while enabling private clean energy producers to access Hawaii's power grids.

Achieving the preferred system of energy self-sufficiency for Hawaii—one where wind and solar are no longer considered "alternative" energy—requires intelligent, transformative policy. Fortunately, Hawaii can model policy after solutions adopted elsewhere to help clear the myriad institutional, regulatory, and financial barriers blocking Hawaii's clean energy future. A new approach to provide independent oversight of grid reliability and interconnection is one such policy tool to help accelerate the transition to Hawaii's clean energy future.

Hawaii's electricity today is largely produced by central station power plants that distribute power to customers. This paradigm is changing, however, as more customers produce their own power from clean energy sources and distributed sources of power come online. But access to the electricity grid is largely controlled by a single utility—and that utility receives scant financial benefit in plugging into clean energy sources, particularly if those sources are widely distributed.

Today's policy should contemplate tomorrow's innovations. This is best achieved by replacing utility control of grid access with control by a neutral entity tasked with establishing reliability and interconnection rules that encourage clean energy development in all appropriate forms. Such a third-party oversight model for grid access has succeeded elsewhere in democratizing power production. House Bill 1518 establishes an independent Hawaii Electricity Reliability Council

tasked with developing formal, objective, verifiable standards for grid interconnection that will apply to all producers of clean energy who wish to access the electricity grid.

The need for formal reliability standards in Hawai'i

Hawai'i's main utility is the only major electric utility system in the United States that is not subject to any formal and transparent bulk power electric reliability standards. Hawai'i was exempted from federal mandatory electric reliability standards applicable to all mainland electric utilities established by the North American Electric Reliability Corporation (NERC) and approved by the Federal Energy Regulatory Commission (FERC). Today there are no reliability standards upon which to objectively assess impact of additional renewable energy projects, such as new distributed solar projects.

Hawai'i's main utility's systems are not currently planned and operated according to NERC-equivalent reliability standards. Virtually all electric systems in the continental United States operate under NERC reliability standards. Hawai'i's utility's systems are basically the same as other United States systems operating under NERC reliability standards insofar as all systems must maintain adequate voltage, balance supply and demand in real time, and maintain system stability. The experience of the Electricity Reliability Council of Texas and New Zealand demonstrates that formal reliability standards are appropriate and utilized not only in North America, but on isolated electric grids similar to those in Hawai'i.

Historically, a compelling need did not exist for formal bulk power electric reliability standards in Hawai'i, as Hawai'i was not electrically interconnected with the mainland, nor were individual island grids interconnected to each other. But with the increase in distributed power systems, the need for reliability and interconnection standards is clear.

Formal bulk power electric reliability standards and measures are essential to objectively assess grid reliability impacts for any electric utility and to insure reliable grid operation. The standards will:

- Provide an objective basis by which to measure the level of and trend in system reliability in general; and
- Provide an objective basis to measure the reliability impacts, if any, of incorporating increasing quantities of intermittent renewable energy resources.

Due to the absence of formal reliability standards, the Hawai'i's main utility is at present under no requirement to publish official reports concerning compliance with standards. Reporting on compliance with formal reliability standards will allow verification and increased knowledge and understanding about reliability issues by the Public Utility Commission (PUC) and stakeholders.

Hawai'i's clean energy transformation requires formal and transparent bulk power electric reliability standards. Since the potential exists for trade-offs between system reliability and greater utilization of renewable energy, it is essential to have bulk power electric reliability

standards in place to provide a benchmark to measure over time the impacts of additional renewable energy integration. Further, formal and transparent electric reliability standards provide the reliability and operational rules of the road for various stakeholders: utilities, independent power producers, renewable energy developers, regulators, and others.

The deficiency in the current process

In 2010, the PUC established the Reliability Standards Working Group (“Working Group”) to examine proposed limits to clean integration in response to the feed-in tariff proposal. This Working Group has been active for almost a year, but it is unlikely that the outcome of the Working Group will produce the formal, objective, robust reliability standards needed to provide grid stability while enabling Hawaii’s clean energy future.

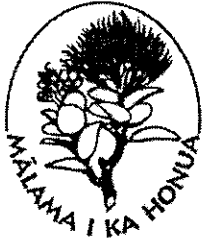
Critical tasks and functions of the Working Group are delegated to what is called the Technical Support Group. The Technical Support Group is to provide recommendations to the Working Group based on study findings. It is to review the scope of work and the output of technical studies. The utility, rather than an independent entity, is to “chair” the Technical Support Group. The Technical Support Group’s functions and interactions with the Working Group, and access to data, raise “black box” concerns about the process in setting reliability standards.

Unlike the Working Group, the reliability standard approach contemplated in HB 1518 is modeled after the successful NERC process. The process used by NERC to establish and maintain bulk power reliability standards is open, transparent and utilizes significant stakeholder involvement to develop and modify the standards. The hallmark of the NERC standard-setting process is that an entity other than the local utility manages the process and maintains an open and transparent process with substantial stakeholder participation. This also ensures that interested parties that may make important substantive contributions to the standards and capacity determinations are not excluded from the process.

Further, an independent process provides a sound basis not only for developing formal reliability standards, but also for using such standards to objectively and accurately determine the capacity of the utility’s systems to accept variable energy resources now and in the decades to come as Hawai’i transitions to a clean energy economy.

Blue Planet supports the Hawai’i Electricity Reliability Council as structured and funded in SB 1456. Please forward this critical policy dedicated to a robust, modern power system that fosters innovation and puts Hawaii’s clean, indigenous, and renewable energy sources to work for Hawaii’s people. ***We are more than happy to work with these committees to draft amendments to clarify or restructure this measure to achieve the same outcomes.***

Thank you for the opportunity to testify.



Sierra Club Hawai'i Chapter

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SENATE COMMITTEE ON COMMERCE AND CONSUMER PROTECTION SENATE COMMITTEE ON ENERGY AND ENVIRONMENT

February 3, 2011, 2:45 P.M.
(Testimony is 1 page long)

TESTIMONY IN SUPPORT OF SB 1456

Aloha Chair Baker, Chair Gabbard, and Members of the Committees:

The Sierra Club of Hawai'i supports Senate Bill 1456, which creates a council to develop grid reliability and interconnection standards.

One of the biggest stumbling blocks towards transitioning to distributed generation has been the resistance of utilities to allow distributed power to connect to the grid. For example, last year HEI imposed a moratorium on any additional distributed power to come online in Maui because of purported concerns about grid stability. It was only after a group of environmental organizations and solar companies protested did HEI change its position.

HEI over-utilizes the concern of grid instability as a justification to hold up rapid deployment of distributed power. While in some circumstances grid stability may be a legitimate concern, it's difficult to take these statements at face value when the utility has a conflict of interest. They are direct competitors to any distributed power source.

This measure has the potential to create an objective board to address the amount of renewable power that can or cannot come onto the grid. By taking this responsibility away from the utility, we can obtain some assurance that these numbers will be based in science and not corporate self-interest.

We respectfully ask for the Committees to move this bill forward. Mahalo for the opportunity to testify.